



# WOOL PRESS

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**Saturday 11th April 1998**

**PLUS ALL THE REGULAR FEATURES AND MORE!**

*The Wool Press is published by the Department of Agriculture. Editor: Mrs Charlene Rowland.*

## EDITORIAL

Happy New Year. This is the last Wool Press I will be doing for a while, as I am off to Tasmania on the 4th February to do a spot of training and hopefully (Tristar permitting) I will be back at work in the middle of June. Julie Fisher-Smith and Lilian Wallace will be doing the next four issues of the Wool Press.

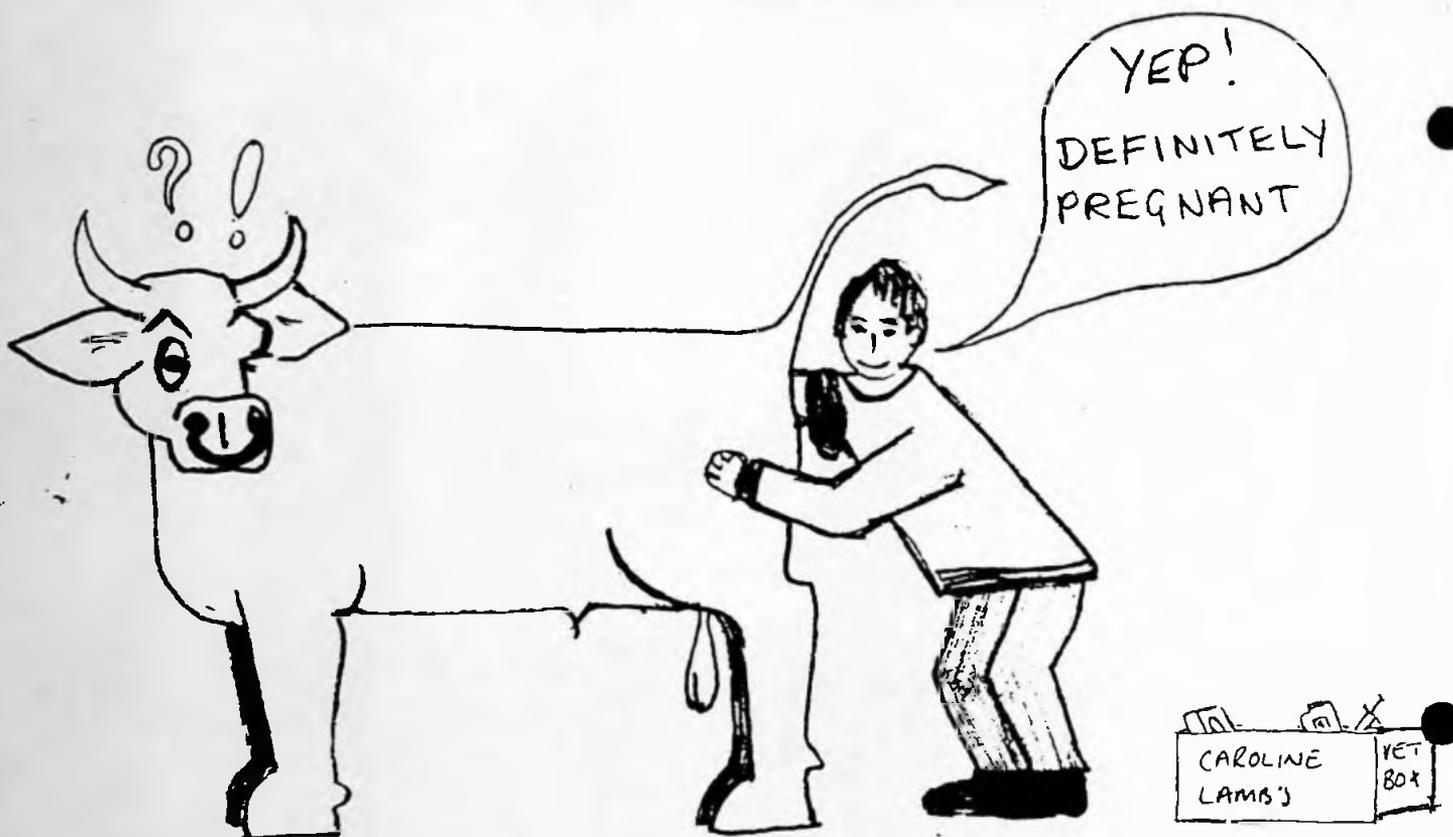
We have two new faces around the building once again - Diana Berntsen-McGill has started the Hydatid eradication campaign and Grant Munroe is the new Forestry Technician.

Robin Thompson and family have arrived back, and we wish them all the best in their new home. Bob will also be back in the Falklands around the 26th January. Mandy McLeod will be in the UK for a few weeks at the end of January/February.

Congratulations to Maggie and John, who got married over the festive season.

The Farm Management Handbook is also included in this envelope. If anyone should have any queries, I'd be grateful if you would let me know so that I can rectify any mistakes. The Department's Annual Report is back on the printing stand once again. Hopefully a copy should be issued to all at the end of January.

Caroline has left us and we hope this cartoon will remind her of the wet day she had at Brenton Loch!



### THIS MONTHS CONTRIBUTORS

Sean Miller	Sheep Husbandry Officer, DoA
Ailsa Heathman	Farm/Owner, Estancia
Doug Cartridge	Wool Adviser, DoA
Robin Thompson	Beef Specialist, DoA
Elaine Turner	Rincon Grande Farm
Andrew Coe	Senior Veterinary Officer, DoA
Caroline Lamb	Veterinary Officer, DoA
Cameron Bell	Veterinary Officer, DoA
Nigel Knight	Farm/Owner, Coast Ridge Farm

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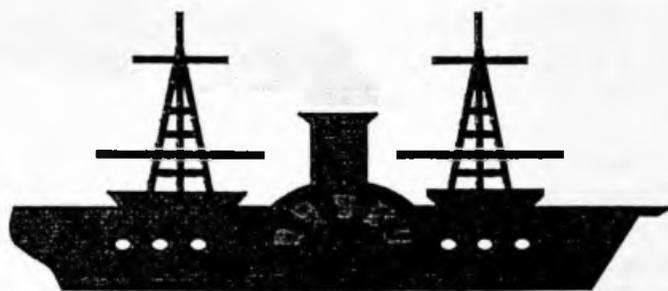
# Polwarth National Stud Flock

Venue: **Saladero**

Sale starts 12 mid-day

Approximately 55 Pure-bred Polwarth Rams  
+ 5 Polwarth X Comeback Shearling Ewes  
+ 6 Polwarth X Comeback Ewe Hoggets

Port Howard



Brenton Loch

Tamar F.I.

A ferry service, aboard MV Tamar, will depart Port Howard at 7.00 a.m on the morning of the sale destined for Brenton Loch, arriving 10.00 a.m. Tamar F.I. will depart Brenton loch at 4.00 p.m that same day for the return trip to Port Howard with passengers and their sheep purchases. Passengers are restricted to a maximum of 30 so bookings will be taken on a 'first come first served' basis however intending purchasers will be given priority.

**Contact Julie Fisher-Smith at the Department of  
Agriculture to book your berth as soon as possible.**

## GOOD BYE

*From Caroline Lamb*

Thank goodness! That's the last time I'll get those dreaded words yelled at me as I wander up the corridor - "Have you finished your Woolpress article yet?"

Still, it seems hard to believe that it is over 2 years since I landed in the Falklands. I can still remember my first day in this country - it began with an icy blast whipping down the aisle when the Tristar door was opened and snow swirled into the cabin. On stepping onto the gangway step that bleak landscape that is MPA greeted me, dusted in snow and this is in the last week of October. I must admit to some wonder at what sort of Antarctic wasteland I had arrived at!

As I guess most people in camp will know by now, I'm not exactly resistant to the cold (that bluish tinge to my lips appearing as if by magic at even the slightest chilly breeze is a bit of a give-a-way) and the prospect of 2 years in snow did not appeal. However, as I am now well aware, the climate can change as rapidly as FIG's road-building priorities so it wasn't too long before some summer days raised my spirits.

The last 2 years have been quite an experience - and obviously I still have a bit to learn after 7 boggings on a trip to Volunteer Point last weekend. I suppose that must indicate I haven't quite got that camp-driving knack just yet! Oh well, at least I can now extract myself from most bog-holes - though the easier option of summoning help is my personal preference and my thanks go to all those who have helped me out (literally!).

Apart from boggings, I have several other memorable occasions to take with me - watching a horse at Spring Point flying over the hill with a twitch hanging off its nose, throwing a horse just to get a sedative into it, an escaping cat on a FIGAS plane and many more that I'm sure (or is that hope?) will be unique to the Falklands.

As for living here (as distinct from work) I will recall several things the friendliness and hospitality of people in the Camp, the novelty of having to butcher an entire lamb or piece of beef for a years supply, milk in plastic bags and, of course, the speed limit!

So all in all, a fun couple of years with the added pleasure of participating in such events as the Island Games. However, its time to move on and see another part of the world - just where I'm not entirely sure yet. I plan to head home for a few weeks holiday, and then perhaps up to Britain for 6 months or so of locums. After that, who knows! Whatever it is, you can be sure I will never join the MAF!

I would like to welcome Cameron to the zoo and wish him all the best.

I thank everyone who has made my time here so memorable and wish you all a very Happy and Prosperous New Year!

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### WANTED URGENTLY

For a Honda 300 Big Red four wheeler

Cover final gearcase and case comp. final gear

Contact: Ian and Mark Gleadell, East Bay Farm

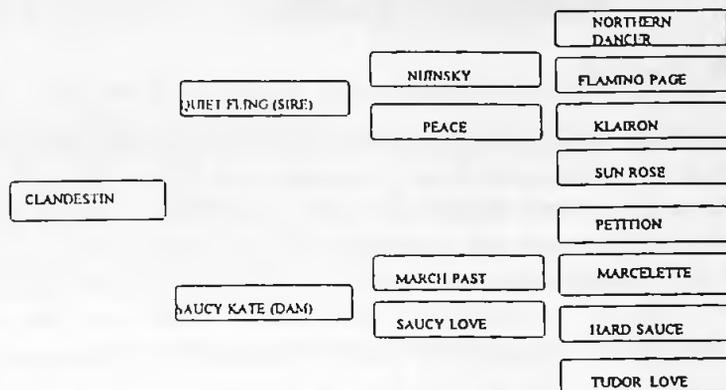
If you can help

Telephone No. 42003

## CLANDESTIN

*By Elaine Turner of Rincon Grande Farm*

CLANDESTIN born 5th April 1979 and owned by Ron and Diana Turner of Rincon Grande Farm.



Sadly the 10/12/97 saw the death of one of the most influential stallions in the Falkland Islands. Clandestin was put to sleep late that night on the vet. Andrew Coe's instruction. Clandestin was suffering from a suspected cracked pelvis, although it could have been a tumour in his spine. We will never know.

Luckily for horse owners in the Falklands, in 1984 on Ron and Diana's instructions, Mr William Morrison bought Clandestin in a horse sale at Ascot, England. Before the sale Clandestine had been racing in Ireland and also in France, taking many prizes. Clandestine was also tried at steeple chasing and was found to be just as successful at this.

From Ascot Clandestin did a months quarantine before making the long journey to the Falklands on the A.E.S. looked after all the way by William. He then spent a week in Stanley before being led off horse back to Rincon Grande by Arthur Turner and accompanied by William.

There were no mares put to Clandestin in his first year as Diana felt he should have a year to get the feel of the Falkland. That was the only year that he did not have any mares put to him.

Since then Diana and Ron have generously let people put mares to him, often not even charging for the foals.

If we look at horse racing today, Clandestin blood lines shine through, with his daughters Ensconce, Kaluah, Miss Money Penny and Tarkin, Trapalanta and Holiday Romance being some of the best race horses in the Falklands. Also Ensconce, Tarkin, Holiday Romance and his grandson Cajan Moon have taken the best looking horse prize.

It was a very sad day the day Clandestin died but through his sons, daughters, granddaughters and grandsons he will live on in the Falklands for many years to come.

Listed are some of Clandestin's daughters, sons, granddaughters and grandsons.

Name		Owner	Name		Owner
Ensconce	Daughter	K. Whitney	Shaka	Son	L. Riddell
Darcy	Daughter	L. Riddell	Magic	Grand Son	S. Halford
Mirror	Grand daughter	S. Halford	Nina	Daughter	S. Halford
Miss Money Penny	Daughter	R. Binnie	Holiday Romance	Daughter	G. Bulter
Chico	Son	J. Bulter	Butterfly	Daughter	E. Valesquez
Clandestin 2	Son	Evan Valesquez	Shasa	Son	Raymond Evans
Shalako	Son	Raymond Evans	Kaluah	Daughter	N. Morrison
Desert Storm	Daughter	N. Morrison	Erika	Daughter	M. Evans
Tarkina	Daughter	D. Turner	Tarkin	Son	A. Turner
Trapalanta	Son	T. Warbrick	Tarkorna	Son	A. Warbrick
City Slicker	Son/Halfbred	A. Warbrick	Doven Rose	Daughter/Halfbred	D. Turner
Ginny Lynn	Daughter	D. Turner	Apollo	Grand Son	L. Warbrick
Llamtara	Grand Son	T. Warbrick	See Me Do It	Grand Daughter	E. Turner
Tartina's Foal	Grand Daughter	D. Turner	Rosette's Foal	Grand Daughter	A. Warbrick
Miss Sarajevo	Grand Daughter	R & F Rozee	Snow Bride	Daughter	N. Bowles
Archer	Son	O. Summers	Cajan Moon	Grand Son	M. Evans
Moon Trader	Grand Son	M. Evans	Nevada	Grand Daughter	M. Evans
River Dance	Grand Son	M. Evans	Pasha	Grand Son	E. Goss
Murribigiewaler	Grand Daughter	E. Goss	Wild Rose	Grand Daughter	L. Butler

I'm sure there are some that have been missed, for this I apologise. Thank you to everyone who supported Clandestin by putting mares to him.

## POSITION VACANT

### **FARMER'S WIFE (Grade 1)**

**OUTLINE:** This is a senior management position for which the applicant must possess outstanding organisation and communication skills together with high levels of initiative, self-motivation and the ability to work as part of a team. She must be able to plan and implement a wide variety of processes and programmes, develop resources and strategies, and provide efficient and reliable back-up services as well as on-going operational and administrative support - all with a minimum of supervision. Expertise in the area of industrial relations is also necessary as is the knowledge of how to handle under-age staff.

**DUTIES AND RESPONSIBILITIES:** The successful applicant must be of sunny and gentle disposition, attractive in appearance, and capable of lifting a bag of wheat in one hand and two unshorn goat wethers in the other. She must also be able to spend at least 14 hours a day on her feet and remain patient and smiling even when the blisters have burst. She will be expected to draft, drench and drove all day, then bath the kids, check the homework, feed the chooks, chop the wood, take in the washing, cook the meal - and appear five minutes later for a little drink before dinner looking like the front cover of Vogue. Temperament is particularly important in this position and the applicant must possess the capacity to remain calm and serene through flood, fire and footrot. As well as proficiency in all areas of household management, some extra culinary skills are required for this position. These include an encyclopediac knowledge of how to make a six-tooth edible, and the ability to produce a sumptuous repast out of absolutely nothing on those occasions when there are suddenly 10 extra for lunch and the cupboard is bare. The successful applicant in this position will find it necessary, because of time pressures, to undertake many different tasks concurrently. Thus she must possess enough motor skills and eye-hand co-ordination to be able to change a nappie, mix a batch of scones and answer the telephone - all at the same time. As well, cleanliness and neatness of workmanship are an advantage, especially on those inevitable occasions when she will have to change a tyre while wearing tennis gear, push a car out of a bog in a dinner dress and pull a calf out in a nightie.

**QUALIFICATIONS:** In order to take up this position, the successful applicant must have a thorough knowledge of carpentry, plumbing, mechanics, veterinary science, landscape gardening, interior decorating, hotel management, accountancy, law, medicine, child psychology, and diplomacy - just for starters. Other necessary skills she will acquire on-the-job. Applicants also need a fully endorsed licence to drive a car, truck, tractor, motor bike, ride-on mower, pram and billy cart.

### **SALARY AND REMUNERATION:**

Wages: none

Overtime: none

Weekend penalty rates: none

Sickness benefits: none

Holiday pay: none

Long service leave: none.

**FRINGE BENEFITS:** Despite all, amongst its practitioners, this position rates an astonishingly high level of job-satisfaction. In fact most wouldn't swap it for the world!

## HYDATID UPDATE

*By Andrew Coe*

As most of you are no doubt aware, Diana Berntsen-McGill will be joining the Department of Agriculture in the New Year to work on the Hydatid eradication programme.

What is she going to be doing and how will it affect you?

As I see it, Diana will have three main roles to play as follows:

1. Making use of the information in the questionnaire that you all completed during the winter, she will over the next three years try to inspect at least 100 sets of sheep offal from every farm in the Falklands. On some farms this can be done at the time of mass culls, on others it will mean repeated visits throughout the year to inspect offal's from sheep killed for mutton and dog meat. The object of this is to identify any farms that still have a problem with Hydatid cysts in offal so that we can intensify efforts on those farms to resolve the problem. If no such farms are found well... hooray, we are winning the battle Island wide.
2. To supervise the correct pilling of dogs on farms island wide as frequently as possible. In order to enable this to be done it is likely that we will divide the Islands into several regions which will pill their dogs on different weeks. We will of course inform you of this if and when it happens. In the meantime, pill your dogs on the announced day as usual.
3. To monitor regularly the use of killing houses/pens, satisfactory disposal of offal, the confinement of dogs and the conditions in which dogs are kept. In doing this it will be the Hydatid Eradication (Dogs) Order 1981 legislation (copies available on request) that will apply.

This is a three year post, at the end of which I hope we will be closer to achieving the object of Hydatid eradication Islands wide or at the very least will know where any problems exist. Its success lies with the willing co-operation of you the farmer, so please give Diana your full support.

## QUALITY SCHEME IN THE FALKLANDS

*Source: Wool Record*

Farmers in the wind-swept Falkland Islands are proceeding with their own "Falkland Wool Quality Scheme", in common with producers in parts of Argentina and Chilean Patagonia, who share a similar climate and are themselves taking part in clip-preparation programmes aimed at obtaining the best possible prices.

Falkland farmers have had a mild winter but are now experiencing a cold spring - right at lambing time (writes our South American Correspondent).

# AUSTRALIAN WOOL PRODUCTION RESEARCH

by Sean Miller

Some of you may have heard of the Kondinin Group in Australia. This Group was established several years ago by farmers in Australia for the purpose of evaluating everyday farming equipment, ideas, and research so that farmers could make more informed decisions about the products they purchase and use, and the information that is available to them.

Mandy McLeod recently obtained copies of many of Kondinin's reports for our library, and they cover topics as diverse as sheep and cattle yard design, fencing methods, comparisons of four wheelers, etc..

In one such report, the broad subject of Merino breeding was examined and some interesting facts were presented. Some of the more interesting of those follow.

\* According to studies comparing the value of different strains of Merino wethers run together under the same commercial conditions, some sheep are worth up to £7 more than others (best group of sheep cutting 4.1 kg clean @ 21 microns compared to the worst group cutting 3.6 kg @ 25 microns). Apply this over a flock of 5000 sheep and the advantage adds up to £35,000 every year!

\* Compared to the milk and poultry industries, wool producers have lagged behind in making use of measured genetic selection. For example, milk yield, protein and fat content of dairy cattle has increased by at least 1% every year for the last 15 years. In 1988 in the poultry industry a meat chicken took 52 days to reach 2.1 kg on 4.41 kg of feed. By 1995 the same weight was reached in 41 days on just 3.73 kg of feed.

\* The potential genetic gain available to farmers is up to a 2% increase in production each year. However, the Australian industry has averaged just 0.4% per year since 1946.

\* A flock of sheep has been run by CSIRO (the Commonwealth Scientific and Industrial Research Organisation) without human intervention for 30 years. Shearing and pedigree recording are the only tasks performed each year. Sheep are allowed to mate with any animal they like. A random cull is conducted each year to keep the stocking rate constant. Production records show that clean fleece weight has improved naturally by 0.3% per year (almost as much as the national average mentioned above!). Only a marginal reduction in fibre diameter was measured.

\* For Merinos the following benchmarks have been established for comparing the state of progress of a farmer's own flock.

If wether fibre diameter (in microns) is	19	20	21	22	23	24	25
....							
The wether clean fleece weight (kg/head) equivalent to 'best' sheep should be .....	3.1	3.6	4.2	4.8	5.4	5.9	6.5

\* Reasons most breeding programmes do not realise their potential is because people fail to define their overall objective clearly, and too much emphasis is placed on subjective (eye) methods of selecting sheep instead of measuring and selecting on the basis of measured clean fleece weight and average fibre diameter.

## TWINS AND SINGLES

*by Sean Miller*

In an article a couple of months ago on single versus twin lambs in Australia, I promised to look at Falkland Islands data for singles and twins. The data in the following tables has been collected from the National Stud Flock Polwarths run on Sea Lion Island and now at Saladero.

*Table 1. Performance of single (S) and twin (T) born Polwarth lambs from birth to first shearing*

	1992 drop		1993 drop		1994 drop		1995 drop	
	S	T	S	T	S	T	S	T
Birth weight (kg)	4.7	3.8	5.1	3.9	5.0	4.0	5.2	4.0
Weaning weight (kg)	23	19	24	21	21	18	21	20
First-shearing weight (kg)	35	40	29	27	29	29	36	36
Weight gain								
birth to weaning (kg)	19	16	19	17	16	14	16	16
weaning to shearing	12	20	5	7	8	10	15	16
(kg)								
Survival to shearing (%)	80	56	60	40	58	42	56	32
Fibre diameter (microns)	19.9	19.8	18.1	18.2	19.2	19.3	19.5	19.7
Clean fleece weight (kg)	2.9	2.1	1.8	1.6	2.1	2.0	3.1	2.8

*Table 2. Performance of single and twin born Polwarth lambs between first and second shearing*

	1993 drop		1994 drop	
	S	T	S	T
Greasy fleece weight (kg)	4.3	4.3	5.9	5.6
Yield (%)	67.3	66.2	68.5	68.8
Clean fleece weight (kg)	2.9	2.8	4.0	3.8
Fibre diameter (microns)	20.4	21.1	21.6	21.9
Survival (1st to 2nd shearing, %)	57	53	85	85

So what of this data? It is clear from Table 1 that twins do suffer a set-back during their first year of life compared to single lambs in the Falklands; less survive, they tend to be smaller than singles, and they may not be as productive during their first year (although the 1994 and 1995 drops show that this is not always the case). During their second year, twins catch up to the singles and perform equally well (Table 2).

One interesting point is that over the past 3 years, 1993 to 1995, nearly half of all lambs born in the flock have been twins. These lambs are produced by just one third of the ewes.

On the face of it, it may appear that it is the low survival rate of the twin lambs that is the cause of low actual lambing percentages. However, if you take a closer look you will see that even in the worst year of twin survival (32% in 1995), for every 10 twin-bearing ewes 6.4 lambs were successfully reared. Compare this with just 5.6 for the same group of single-bearing ewes and you can see that the twins are pulling their weight in the survival game.

When sheep farming becomes a numbers game, as it often does, encouraging twinning is an option that can be successfully achieved. Of course there are some additional management requirements to get the best out of twinning ewes, however if the farming system can cope with these demands, increases in lambing percentages will undoubtedly follow.

The success of this operation is very much due to the efforts and determined dedication of the following people and organisations.

David and Sue Pole-Evans; Bill Pole-Evans; Tom McGee; James and Jennifer McGee; Garry McGill; Tony Heathman; Lucy Ellis; Doug Cartridge; Andrew Coe; John Jaffray, Sean Miller, Management, Master and crew Tamar F.I. Falkland Islands Development Corporation and the residents and staff of Goose Green.

This exercise has shown that large numbers of untamed animals can be contained and transported by sea. The challenge now is to perfect the equipment and get production systems up and running on areas outside East Falklands.

**Snippet**

**PARASITOLOGY THAT IS NOT IN THE TEXTBOOK**

Source: Vetscript December 1997

This story comes from E.L. Taylor, who was parasitologist at Weybridge. He told of a visitor to Cambridge, who after their discussions joined him for lunch at a local restaurant. As the butter melted on a hot scone, a brown speck appeared. Instead of demanding that the waiter remove the offending item, he pulled out a pocket lens and recognised the speck as a nymphal ixodid tick. After lunch they took the tick, wrapped in a napkin, to the parasitology lab where Warburton, an authority on tick taxonomy, identified it as a rare species found only in Transcaucasia. As an outcome, the caterers, whose contract specified the use of Danish butter, lost their contract when they admitted that they had on one occasion substituted Russian butter when there was a shortage of the Danish product.

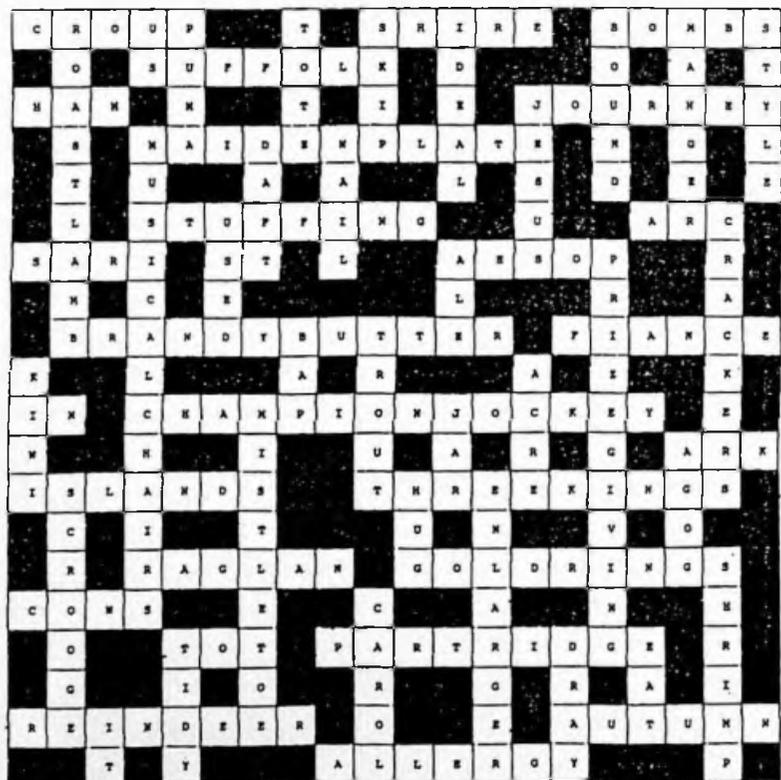
*Another story from Mr Taylor will be printed in the next Wool Press.*

***SOLUTION***

***TO***

***DECEMBERS***

***CROSSWORD***



Gary Bennett and Chris McCallum took over the 'hangi' this year in the absence of Keith and Mandy Heathman and a bar was in operation thanks to Carol and Terence Phillips. Sarah Allan also had a year off from time keeping and was relieved by Diana Berntsen-McGill.

As usual, so many people helped and got wet in the pens, shifting sheep, judging, rolling and stowing wool, etc., Without all their help, there would be no competition and very many thanks to them all and also to Tootie Ford and Pat Pratlet who kept us all so well entertained. Also many thanks to everyone for generous donations and to Robert Hall for presenting the prizes.

#### List of donors for 1997 Shearing Competition:

Mr & Mrs G P Smith; Falkland Landholdings; Farmers Association; Falkland Farmers; Stanley Services; Department of Agriculture; Falkland Islands Co. Ltd; F.I.D.C.; Mr & Mrs R W Lee; Mr & Mrs M Clarke; Mr & Mrs J Jones, Mr & Mrs T Phillips; Mr P J McKay, Mr N McKay; Mr & Mrs R Binnie; Mr & Mrs P Goss & Lister Shearing Equipment Ltd.

### WEST FALKLAND RAM & FLEECE SHOW 1997.

An unseasonable white and wet morning failed to deter sheepowners and visitors from participating in the 11th West Falkland Ram and Fleece Show. This years event was as usual held at Coast Ridge Farm Woolshed, Fox Bay Village, the day chosen this year was Monday 29th. December 1997.

Some entries had already arrived by F I G. A. S. from the outer Islands and East Falkland, whilst the rest were brought overland on the day.

During the morning Doug Cartridge assisted by Jason Alazia and Sarah Rowland were kept very busy taking entries in the three ram classes and the three fleece classes. This also required all fleeces to be weighed for the benefit of the judges in the 'Fleece with the highest commercial value class'. It also proved very useful to the general public in judging the 'Fleece classes' in the afternoon.

In all, twenty one Ram Hoggets, seven Shearling Rams and seven Mature Rams filled the sheep pens, what fine specimens they were and a credit to their owners. Particularly in the Full Wool Ram Hogget class.

The Fleece tables were weighed down with thirty three Hoggett fleeces, twenty fine wool fleeces and seventeen 'B' wether fleeces. All of them displayed the best attribute of pure 'Falkland Wool'.

After the entries closed the centre of attention moved from the woolshed to the Social Club where the Barbeque was in full swing once again in the capable hands of Lynn and Tony Blake with 'just' a little help from their friends. After indulging in food and drink the attention of all present then reverted to the Woolshed for the ominous task of judging the entries. Judging was the same as last year and by public ballot, except for the 'Highest Commercial Value Fleece', competition and the Supreme Champion Ram. Doug Cartridge, Jimmy Forster and Jason Alazia judged the fleece value on actual fleece weight, estimated yield, estimated micron and current market prices. Whilst the Champion Ram was selected by close scrutiny of all exhibited rams.

The Rams in the first three classes were not judged individually this year but were ranked down to fifth place the same way as the fleeces are judged. The fleeces were judged in the same way as before, here the participants were asked to select what they considered to be the five best fleeces in all three 'Fleece Classes'. Their five were also ranked in order of preference.

In the Under 21's Sheep Judging Competition, entrants were given the task of ranking five shearling ewes. Their choices were then judged alongside the choice of an experienced stockperson. Who came closest to the judges score card won this competition.

After the judging votes were collected and added together. Those entries with the highest number of votes won that particular class. Prizes being awarded for the entries with the four highest number of points.

At 6.00pm. all assembled for the prize giving, Mr Andrew Gurr the Acting Governor was present to distribute the prizes at this years show.

**WEST FALKLAND RAM & FLEECE SHOW 1997 PRIZE LIST**

<b>PRIZE</b>	<b>DONATED BY</b>	<b>WON BY</b>	<b>POINTS</b>
<b><u>Class 1</u></b>	<b><u>Full Wool Ram Hoggett</u></b>		
1st. Prize	Engraved Challenge Shield + £100 Presented by Mr & Mrs A.Davies. Donated by Cable & Wireless Plc.	Chartres Farm.	67
2nd. Prize	£75.00 Presented by Standard Chartered Bank.	Westley Farm.	64
3rd. Prize	£50.00 donated by Southern Cross Social Club.	Shallow Harbour Farm.	54
4th. Prize	£25.00 Presented by R.M.Pitaluga & Family.	Chartres Farm.	51
<b><u>Class 2</u></b>	<b><u>Full Wool Shearling Ram</u></b>		
1st. Prize	Silver Cup + £50 Presented by Dunnose Head Farm. Donated by Cable & Wireless Plc.	Coast Ridge Farm	81
2nd. Prize	£75.00 Presented by F.I.D.C.	Coast Ridge Farm	75
3rd. Prize	£50.00 Presented by The Saddle Farm.	Boundary Farm.	70
4th. Prize	£25.00 Presented by The Farmers Association.	Boundary Farm.	68
<b><u>Class 3</u></b>	<b><u>Full Wool Mature Ram.</u></b>		
1st. Prize	F.I Wool Marketing Challenge Cup +Replica & £40.00. Presented by Falklands Landholdings Ltd.	Shallow Harbour Farm.	99
2nd. Prize	Presented by The Falkland Islands Company Ltd.	Westley Farm	98
3rd. Prize	£50.00 Presented by Port Howard Farm.	Coast Ridge Farm.	75
4th. Prize	£25.00 Presented by Little Chartres	Bold Cove Farm.	63
<b><u>Class 4</u></b>	<b><u>Hoggett Fleece</u></b>		
1st. Prize	Challenge Cup + Replica Presented by Meredith Fishing Company & Falkland Hydrocarbon Ltd.	The Peaks Farm.	85
2nd. Prize	£70.00 Voucher Presented by Falkland Farmers.	N.S.F Farm.	60
3rd. Prize	£50.00 Fuel Voucher Presented by Stanley Services.	Bold Cove Farm.	38
4th. Prize	£30.00 Voucher Presented by Falkland Farmers.	Shallow Harbour Farm.	24
<b><u>Class 5</u></b>	<b><u>Any Fine Wool Fleece Other Than Hoggett</u></b>		
1st. Prize	'Governors Cup', Challenge Cup Presented by H.E.The Governor.+ Replica Presented By Newton Investment Management Ltd.	Shallow Harbour Farm.	87
2nd. Prize	£75.00 From Newton Investments Management ( FIG's Investment Managers).	Shallow Harbour Farm.	70
3rd. Prize	£50.00 From Newton Investment	Shallow Harbour Farm.	44
4th. Prize	£25.00 From Newton Investment	Main Point Farm.	33
<b><u>Class 6</u></b>	<b><u>Any 'B' Type Wether Fleece</u></b>		
1st. Prize	Engraved Challenge Cup Presented By Coast Ridge Farm. + Replica & £25.00 Presented By Ursula Wanglin.	Chartres Farm.	57
2nd. Prize	£60.00 Presented By The Falkland Islands Sheepowners Association.	Bold Cove Farm.	53
3rd. Prize	£40.00 Also Donated By F.I.S.O.A.	Shallow Harbour Farm.	44
4th. Prize	£25.00 From Stanley Electrical	Little Chartres Farm.	44

## PIGS AND FOOT AND MOUTH DISEASE

by Andrew Coe

With the number of pigs in the Islands rapidly increasing, I would like to make a plea to all would be pig farmers. Lets keep Foot and Mouth Disease, Swine Fever, African Swine Fever and Swine Vesicular Disease out of the Falkland Islands. All these viruses can survive in uncooked meat for a considerable period of time and if this meat is fed back to pigs then they can develop the disease. In the case of Foot and Mouth the pigs could then pass it on to our sheep and cattle. Earlier this year hundreds of thousands of pigs were slaughtered in Taipei China (Taiwan) due to their first outbreak of Foot and Mouth Disease for about fifty years. The source of the outbreak was thought to be feeding pigs on swill off a fishing boat.

To prevent this happening here, please observe the following rules:

1. *The only meat you must feed to your pigs is Falkland Islands produced meat e.g. mutton, goose etc.*
- 2. *Don't put any household scraps in the pig bucket if they include any imported meat materials e.g. sausages, bacon, beefburgers, pies, hams etc.*
3. *Don't think it can't happen to you.*

By following this simple advice you can ensure that you have all the pleasure of producing your own pork with none of the risk.

To illustrate the importance of the above and the importance of effective animal disease control legislation, please read the following abstract from the FAO 'Empress' Bulletin, Vol 3, Oct 1997.

*Lessons from the Taiwanese outbreak (losses estimated at US \$10 billion) in March, 1997, includes:*

● **Lesson 1:** *The virus entered the country by either feeding uncooked food scraps to pigs and/or the illegal movement of live or dead pigs that initiated the outbreak. Smuggling of pigs or pig meat was known to have occurred at a harbour close to the index case.*

**Lesson 2:** *Effective surveillance and reporting systems, and faster, more accurate diagnosis and characterisation would have reduced the period from initial outbreak to implementation of the emergency response.*

**Lesson 3:** *Burial is the fastest method of disposal and should be used except where either not possible or not appropriate. However, it is likely that any veterinary service without recent experience of slaughter and disposal techniques would have initial difficulties. It is a credit to the Taiwanese that they were able to deal with 200,000 pigs/day by the end of the outbreak.*

**Lesson 4:** *After deciding on vaccination to control the spread of disease, it was 6 weeks before adequate supplies of the appropriate vaccine were available. By then the disease had spread over much of the island. Therefore, samples need to be sent to WRL-FMD, Pirbright, as soon as possible to fully characterise the virus and enable rapid containment of the disease.*

**Lesson 5:** *Control of animal and people movement needs to be more effective. Better public communication, assurances to livestock owners of adequate compensation, and legislation providing for effective deterrents backed up by adequately policed road blocks are needed. The co-operation of livestock owners will only come when they believe that any slaughter of animals, destruction of facilities or restriction on their personal liberty, applied to control or eradicate a disease, is in their best interest.*

*(Article based on reports by Dr. Shieh, Taiwanese delegate to the OIE and Dr. Osawa, Regional OIE Representative for Asia)*

## **ESTANCIA SHEARING COMPETITION**

*By Ailsa Heathman*

Although only 16 miles (direct) from Stanley, we sometimes have differing weather at Estancia. While everyone enjoyed the races on 27th December, we had continuous rain for over 30 hours, so the prospects of getting dry sheep for 29th were looking grim. The 28th saw Stanley get a drowning while we enjoyed a bright, sunny day with a breeze and much to our surprise, the sheep were dry enough to go in the shed that night. The rain returned on the 29th, but did not dampen the enthusiasm and atmosphere of the 11th Estancia Shearing Competition. A large crowd filtered through the shed all day enjoying some excellent shearing accompanied by Tootie Fords amusing and informative commentary - unfortunately not broadcastable!

Entries were down this year with only four intermediates and 18 in the Open Competition so 3 heats of 4 shearers and 2 heats of 3 shearers were run off first, giving the eight semi-finalists: Andrew Smith, Michael Allan, Mike Pora, Peter McKay, John Jones, Paul Phillips, Fred Parker and Richard Short.

The Intermediates shore next with Ricki Evans being triumphant losing 34.15 points. Mark Summers was 2nd with 40.45, Michele Evans was 3rd with 44.85 and Christopher (Kiffa) Ford in 4th place with 55.2 points.

After a lunch break, the semi-finals of the open took place and then followed a very boisterous team event. Six pairs of shearers tool part and it was decided to shear for speed and the judging would all be done in the back pen on the finished product. The Australian pair - Mike Pora and Greg Davidson were the winners, scoring 43.8. Peter McKay and Paul Phillips brought the Falklands into second place with 44.35. 3rd was Tom Kennedy and Hew Greirson for U.K. with 45.35. 4th was Andrew Smith and Mike Allan, for the Falklands again, with 45.9. Fred Parker and Adrian Pyne were in 5th place for New Zealand with 48.65 and Tony Heathman and Ricki Evans brought up the rear for the Falklands with 56.65.

Due to a shortage of umbrellas, the ewes for the finals then had to be ferried by rover from another shed and manhandled up the steps and into the pens before a very exciting finals culminating in a well deserved win for Fred Parker who got loads of congratulations for his shearing on 29th and his wedding on 30th. He probably arrived for the ceremony still sporting the shield on his arm! Fred only lost 43.3 points, 2nd was Paul Phillips with 44.6, 3rd was Peter Mckay with 45.2 and 4th was John Jones with 48.25. Therefore, Peter McKay and Paul Phillips will represent the Falklands at the Golden Shears in Ireland later this year. Congratulation to them all.

We would like to publicly thank Brook Hardcastle for helping us to get the shearing competition on the road in 1991 and for all his valuable help in co-ordinating each competition for the past six years. This year, Tony Petterson took over Brook's shoes and inherited his assistant!

Hopefully, Mike and Jeannie Mckay have dodged some of the rain on the West and had an enjoyable break this year, leaving the barbecue in the capable hands of Ricki and Michele Evans with help from Ken and Caroline Aldridge.

### Additional Prizes

Champion Ram won by Chartres Farm, Prize of Patricia Luxton Trophy & Replica from the Luxtons, Chartres.

Rosettes given for 1st - 4th. places in all classes, except for the Best Ram Overall where a Supreme Champion Rosette was given. These were all provided by Jim McAdam, Department of Agriculture Northern Ireland.

For 1st, 2nd, & 3rd, prize winners in class 3, additional trophies were donated by Peter Short, Falkland Supplies.

Challenge Cup + £50.00 donated by F.I.D.C. for the fleece with the highest commercial value. Won by Shallow Harbour Farm.

Guess the weight of a wether Hoggett, £25.00 prize from Southern Cross Social Club. Won by Marie Ross. Actual weight 66.4 kilos.

Guess the weight of wether Hoggett fleece, £25.00. Donated by Lake Sullivan Farm. Won by Sharon Marsh. Actual weight 5.0kg.

Guess the average micron from mid - side sample, £25.00. Donated by The Argos Fishing Company. Won by Ian Hansen. Actual micron 26.46.

Winner of the under 21's sheep competition sponsored by the Department of Agriculture was won by Marie Summers & Sammy Hirtle.

2nd. Prize £25.00 from F.I. Wool Marketing won by Sarah Bernsten.

3rd. Prize £10.00 also from F.I. W.M. won by Michelle Marsh.

4th. Prize £5.00 also from F.I. W.M. won by Sarah Rowland.

### Additional Credits

Mrs Griz Cockwell and the Falkland Mill both donated sweaters, these items were then auctioned for show funds by Roger Edwards.

F.I.G.A.S. kindly agreed to fly fleeces free of charge.

Tony & Lynn Blake and friends for the barbecue, with meat supplied by Coast Ridge, Spring Point & Little Chartres Farms.

Justin, Keith, Adele & Dot for transforming the woolshed.

Doug Cartridge and The Department of Agriculture for their assistance before, during & after the event.

The committee of the Southern Cross Social Club, and not forgetting the residents of Fox Bay for being excellent hosts.

*N.A.Knight*

*Organiser W.F.R. & F.S.*

---

## NEWS FROM MT. KENT FARM

From Dan Whitney

An A.I. ewe hogget (Comeback) with 13 months wool,  
Clipped a 6 kilos greasy fleece weight  
at 21.41 micron.

## FARMERS ASSOCIATION SHEEP SHOW

Saturday 11th April 1998

A sheep show, initiated by Farmers Association in conjunction with the Department of Agriculture, is to be held at Fitzroy on the 11th April 1998. It is intended that this show will become a regular annual fixture. To enable the organisers to gauge the level of interest shown in exhibiting stock could you please contact either of the three people listed below as soon as possible if you intend on entering stock.

Entries close no later than 3rd April 1998. Entry forms can be obtained from the office of the Farmers Association.

### Stud Classes

**Class 1:** Mature Ram over 24 months of age.

**Class 2:** Shearling Ram, over 12 and under 24 months of age.

**Class 3:** Ram Hogget, under 12 months of age.

**Class 4:** Mature Ewe over 24 months of age.

**Class 5:** Shearling Ewe, over 12 and under 24 months of age.

**Class 6:** Ewe Hogget, under 12 months of age.

*Depending on the number of entries classes may be split according to breed type.*

### Flock Classes (Open to all sheep other than stud sheep)

**Class 7:** Pen of 3 flock hoggets, under 12 months of age. (ewe/wether)

**Class 8:** Pen of 3 flock shearlings, over 12 and under 24 months of age. (ewe/wether)

**Class 9:** Pen of 3 mature flock ewes, over 24 months of age.

**Class 10:** Pen of 3 mature flock wethers, over 24 months of age.

*Flock classes will be judged on evenness and quality of the pen.*

Judging will be conducted by a panel and as they say 'the judges decision will be final'.

Other activities on the day will be; Guess the weight of the Texel Ram, a sheep counting competition, barbeque and bar plus more fun and interesting activities.

**We are currently looking for sponsors for classes at this years show, if you would like to register your support for this worth while event by donating cash or product as prizes please contact Judy Summers at the Farmers Association office, all your support will be most welcome.**

### Organisers:

Judy Summers

Farmers Association

Phone: 22660 mornings

Ron Binnie

Fitzroy Farm

Phone: 32384 evenings

Doug Cartridge

Department of Agriculture

Phone: 27355 22351(A/H)

**The great white  
hunter call's  
it a day!**



**THE DEPARTMENT OF  
AGRICULTURE  
WISH ALL OUR READERS  
A VERY HAPPY AND PROSPEROUS  
NEW YEAR**

**RECIPES**

*From Val Lloyd of Swan Inlet*

**MUTTON OR BEEF MOUSSAKA 375°F**

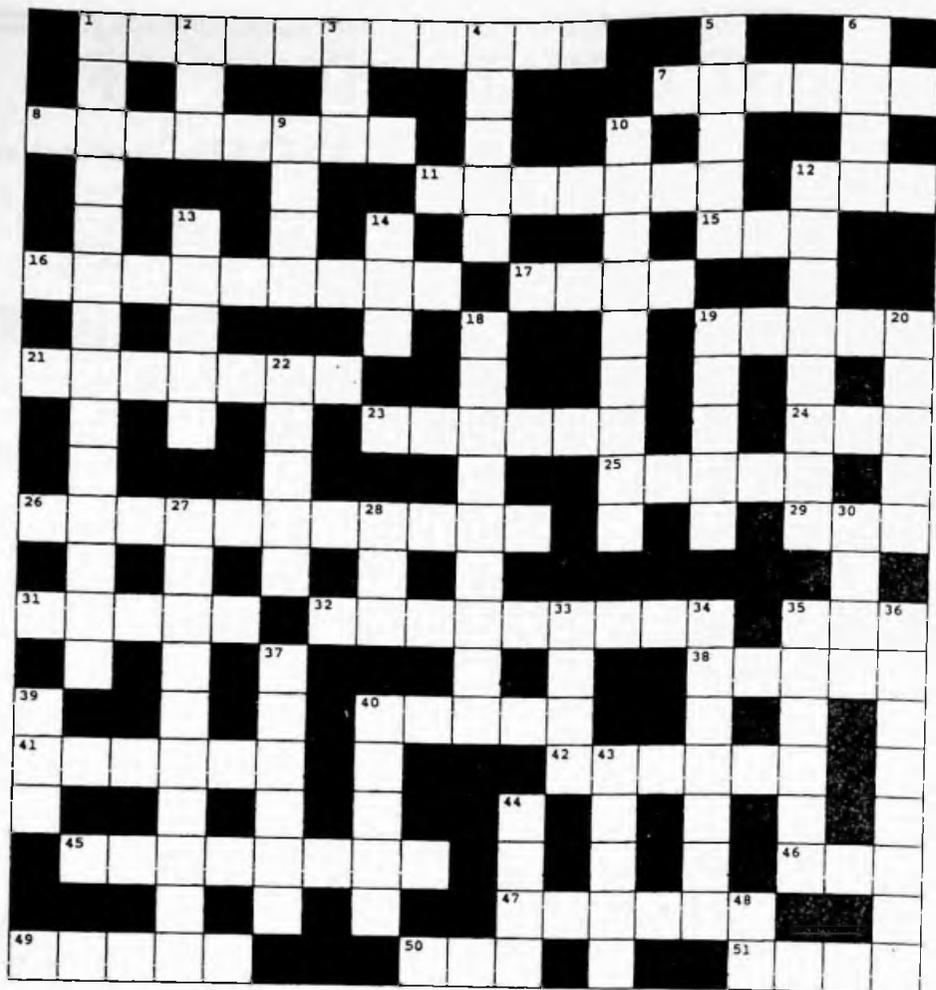
You will need:

- 12 oz cooked mutton or beef
- ½ oz margarine
- 1 onion peeled and chopped
- 2 beef oxo cubes mixed in a little hot water
- ½ teaspoon mixed dried herbs
- Salt and pepper
- 14 oz can of tomatoes
- 1½ lbs potatoes peeled thinly and sliced

For the sauce

- 1 oz margarine
- 1 oz plain flour
- ½ pint milk
- 2 oz cheddar cheese grated
- 1 egg beaten

1. Mince meat, melt the margarine in a saucepan and add the onions. Fry for 3 minutes until soft.
2. Remove from the heat and stir in the oxo, herbs, salt and pepper.
3. Strain the tomatoes and reserve the juice. Arrange the potatoes, meat mixture and tomatoes in layers in a casserole. Starting and finishing with a potato layer.
4. Pour over the reserved tomato juice.
5. Melt 1 oz margarine in a saucepan, add flour and cook for 1 minute without browning, stir in the milk gradually and bring to boil and cook for 2 minutes. Remove from heat and beat in cheese, egg salt and pepper.
6. Pour over casserole and cook for 1 hour with the lid on. 30 minutes before finishing, remove the lid to brown casserole.



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ACROSS

1. LOOSE SHEET IN A DUPLICATE BOOK
7. FISH EATING HAWK
8. PINK WADER
11. MOVE LIKE A BIRD
12. WET SOIL
15. PROSECUTE OR FILE A PETITION
16. LEG TENDON
17. NOT FICTION
19. DUVET
21. GREENERY
23. FLEET OF WARSHIPS
24. MISCHIEVOUS CHILD
25. THING OF ENORMOUS SIZE & STRENGTH
26. STANLEY'S ADMINISTRATIVE OFFICES
29. USED FOR HEARING
31. LOSE BLOOD
32. 'JUST A MINUTE' FAULT
35. DROOP
38. YELLOW COLOUR
40. POPULAR CAMP DANCE
41. MUMMIFY
42. JAM SETTING AGENT
45. WORLD WAR 2 TRAITOR
46. JAPANESE CURRENCY
47. CANOE OARS
49. PRIMATE
50. LARGE PEOPLE TRANSPORTER
51. FROM THESE TO RICHES

DOWN

1. POTATO PEST
2. HOT TODDY SPIRIT
3. HORSE
4. TERRACE OF A HOUSE
5. CRICKET TROPHY
6. LIST OF FOOD FOR SELECTION
9. CLOSE BY
10. IMMUNISE BY INOCULATION
12. A REMEDY TAKEN FOR AN ILLNESS
13. MEAT JELLY
14. FINISH
18. KEEP FIT AREA
19. SHARE
20. PIG-LIKE ANIMAL WITH A LONG SNOOT
22. MAIDEN SOWS
27. MUSCULAR PAIN
28. TYPE OF GRASS
30. OPEN
33. PONY CART
34. OPENING OF THE NOSE
35. SMALL HOUSE OR HUT
36. CASTRATED HORSES
37. PIE THAT'S HARD TO SWALLOW
39. ANIMAL PHYSICIAN
40. SMELLY MAMMAL
43. WEAR AWAY SLOWLY
44. FRUIT SEEDS
48. ROYAL INITIALS



# WOOL PRESS

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*By Cameron Bell*

### **Wool Pack Standardisation**

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*By Robert Hall*

**PLUS ALL THE REGULAR FEATURES AND MORE!**

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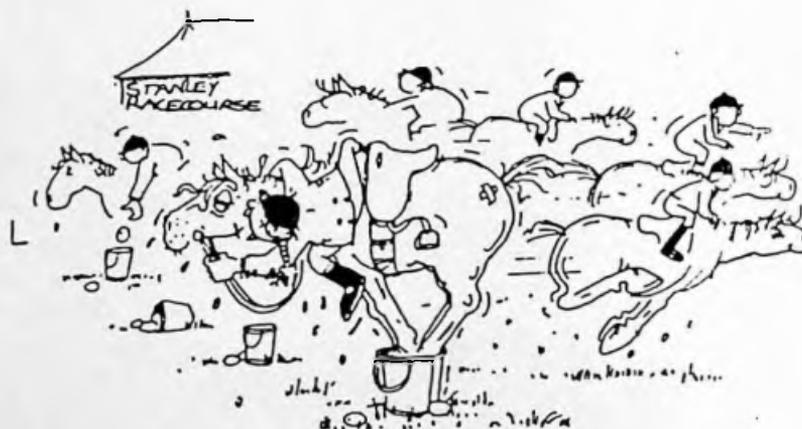
## EDITORIAL

With Charlene off to Tasmania on the 4th February, Julie and myself find ourselves taking over the Wool Press until her return in June. In the meantime, we hope, we will be able to continue the excellent standard.

To up-date you on the whereabouts of our staff, Gillian is returning to Tasmania for another year to undertake a Diploma in Agriculture. Once again, we wish Gillian all the very best of luck! We welcomed our new student from Queen's University, Louise Amos, whom after some persuasion, wrote an introductory article which we include in this WP and we also wish Louise a very pleasant and interesting stay in the Falklands. Bob and Rhondda Reid returned to the Islands on 24 January after a well deserved holiday in Tasmania.

The long awaited DoA Annual report is finally finished after a few complications. We would like to thank Tony and his staff at the Printing Office for their effort in completing the work. All Farmers will received a copy with the Wool Press and we trust they will find it interesting to read.

With Sport's Week just around the corner, I expect you are pretty busy either sorting out everything to receive your guests or likewise making sure you take the essentials to your hostess. Have a good event and fingers crossed for reasonable weather!!



'...and I suppose you think that's very clever ...'

### THIS MONTHS CONTRIBUTORS

<b>Andrew Coe</b>	Senior Veterinary Officer, DoA	<b>Bob Reid</b>	Director of Agriculture, DoA.
<b>Sean Miller</b>	Sheep Husbandry Officer, DoA	<b>Cameron Bell</b>	Veterinary Officer
<b>Doug Cartridge</b>	Wool Adviser, DoA.	<b>Grant Munro</b>	Forestry Assistant, DoA
<b>Robin Thompson</b>	Beef Specialist, DoA.	<b>Louise Amos</b>	PhD Student, DoA
<b>Aidan Kerr</b>	Senior Scientist, DoA.	<b>Ailsa Heathman</b>	Farm/Owner Estancia
<b>Robert Hall</b>	Falkland Wool Growers Ltd.		

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# HYDATID ERADICATION

*By Andrew Coe*

Now that Diana Berntsen-McGill has taken up the post as Hydatid Inspector and in response to a comment by a farmer that he wasn't sure exactly what he was meant to be doing with regard to his killing and offal disposal facilities, I thought it appropriate to write to every farmer to explain the current legislation and how in practical terms I expect him/her to comply with this.

## The Legislation

Prior to my arrival in the Islands in September 1995 two new pieces of draft legislation had been produced, aimed at tightening up the law in relation to dog control, killing facilities, offal disposal and cull sheep disposal. It is my understanding that this draft legislation was disliked by a number of farmers for a variety of reasons and was passed back and forth from the Agricultural Management Committee, Councillors, The Attorney General and The Department of Agriculture. Certainly that has been my experience of it during my two years here.

During the last two years Caroline and I have, when approving killing and offal disposal facilities, had the difficulty of working on the assumption that this new legislation would be passed. However, as time dragged on it became increasingly obvious that this was unlikely to be the case. As a result at the end of 1997 I asked The Attorney General not to pursue this matter any further as too much time and effort had already been wasted on it. In addition, I personally am perfectly happy with the current 1981 legislation as I believe that it gives sufficient powers to ensure the final eradication of hydatid disease

So, where do we stand at present. The Hydatid Eradication (Dogs) Order 1981 is currently in force and I enclose a copy of this. It is easy to read and is fairly unambiguous. Below is my interruption of it :-

## Interpretation

Articles 1 - 3 are self explanatory. Diana will become an Inspector under article 3.

Article 4 does not apply at present since Droncit and Drontal are supplied free of charge.

Article 5 is self explanatory.

Article 6 I believe this means that dogs should be confined in cages or be tethered at all times other than :

- i) when they are being worked
- ii) when they are being exercised and the person is supervising them directly

I do not consider dogs are being directly supervised if they are off gambling around the green whilst the person is working on their rover or playing golf!

Article 7 This was dealt with in my article in the Wool Press September 1997 - Animal Welfare - The Way Forward.

Articles 8 and 9 see later

Article 10 - self explanatory

Articles 11 - 12 see later

Articles 13 - 16 self explanatory

### **Practical Compliance**

Now we come to the nitty gritty. What does this all mean to you the farmer in practical terms. What do you need to have and do in order to comply with the legislation.

#### 1. Killing Facility - Article 8

A dog proof killing facility must be present on the farm. Three alternatives are possible in order of decreasing preference.

- (a) A purpose built dog proof enclosed killing house.
- (b) A dog proof killing pen with fences to a minimum height of six feet. This can simply be a rectangular area of the green fenced to a height of six feet with sheep netting, with a door/gate to allow access.
- (c) The wool shed or other shed that can be made dog proof and which prevents the access of dogs to underneath that area of the shed in which blood and fluids accumulate.

In the case of (a) above, any drain leading out of the shed must be dog, cat and bird proof to prevent these animals entering the killing house and gaining access to any offal stored within. It is preferable that any drain leads into a ditch or to below the high tide mark for killing houses situated on the edge of a creek but this is not obligatory.

#### 2. Offal disposal - Article 11

The red offals, liver, lung or heart may be disposed of in any one of the following ways:-

- (a) by burning to ash.
- (b) by storing in a sealed or lidded container for a minimum of 28 days e.g. oil drum.
- (c) by placing in a deep pit with a dog proof cover e.g. concrete slabs with manhole cover, metal plate cover or wooden frame with sheep netting.
- (d) By deep burial with an immediate covering of a least 3 foot of topsoil.

One or other of the above methods is obligatory. If method (a) is used then the burning drums must be surrounded by a dog proof fence. If method (b) is used then the drums should be enclosed within a dog proof fence unless they are stored a considerable distance from the settlement and the lids are tight fitting.

If offal is carried a considerable distance from the killing house to the disposal area it is preferable but not obligatory to transfer it in lidded cans/buckets. Buckets of offal carried on the backs of four wheelers or on the handle bars are prone to spillage. Common sense is called for.

There is nothing in the legislation which says how the paunch, intestines, heads and skin should be disposed of.

My preferences are:

- (a) dumping below the high tide mark.
- (b) Deep burial.
- (c) Composting in a dog proof area.

Please, note, there is no legal requirement for you to send in offal inspection forms detailing how many offals you have inspected, how many bladder cysts or boils you have found and confirming that you have dosed your dogs. Please do not send them in from receipt of this letter. However, please do:

- Dose your dogs correctly on the advertised dog dosing day.

- Inspect all the red offals, (liver, lungs and hearts) for the presence of hydatid cysts and send any suspicious ones in to us. Record the number of sheep killed and inspected each time and give this information to Diana when she next calls.

- Notify Maggie Battersby on 27355 if you require further supplies of Droncit/Drontal.

Disposal of culls - Article 9

Culls can be disposed of in one of three ways as follows:

- (a) By stacking in a dog proof enclosure for a minimum of 28 days.
- (b) At a place at least 2 miles from the settlement and  $\frac{1}{2}$  a mile from the nearest road which has been approved in writing by the Chief Inspector.
- (c) At any other places approved in writing by the Chief Inspector.

Disposal of individual dead sheep - Article 12

It is my view that any sheep found dead within  $\frac{1}{2}$  mile of the settlement should be disposed of at the earliest opportunity by any one of the following means:

- (a) Any of the sites approved at (a), (b) and (c) above for culls.
- (b) By deep burial.
- (c) By placing them below the high tide mark such that the prevailing wind will take them away from the settlement.

I hope that the information contained herein will remove any doubts or uncertainties as to what is required. If any still exist then please give us a call.

Remember, by failing to follow the above guidelines, at best you run the risk of prosecution, at worst you run the risk of exposing your family and friends to the danger of hydatid disease. A point worth thinking about.

**Hydatid Eradication (Dogs) Order 1981**

No. 3 of 1981.

**R. M. HUNT,**  
Governor.

In EXERCISE of the powers conferred by section 12A of the Dogs Ordinance, the Governor has made the following order -

1. This order may be cited as the Hydatid Eradication (Dogs) Order 1981 and shall come into operation on the 1st day of July 1981.
2. In this order, unless the context otherwise requires -  
"carcass" means the skinned or unskinned body of an herbivorous animal;  
"herbivorous animal" shall include sheep, pigs, cattle, horses and guanaco.
3. The Governor may appoint a Chief Inspector and any number of Inspectors for the purpose of this order.
4. The owner or any person in charge of a dog shall be supplied, at cost price, only with such doses of a preparation as may be obtained from and administered by or under the direction of an Inspector or a resident Veterinary Surgeon and which shall be administered to the dog in his charge at such intervals and in such manner as specified by the Governor in Council.
5. An Inspector shall have the power to inspect any dog at any reasonable time.
6. The owner or any person in charge of a dog shall ensure that it is confined or securely tethered unless being worked or exercised under direct supervision.
7. The owner or any person in charge of a dog shall ensure that it is kept in a proper state of health and cleanliness.
8. Within the area of a settlement no carcass of any herbivorous animal shall be opened except in a place which is constructed in such a way as to prevent access by dogs and which has a drain constructed in such a way as to deny access to dogs, cats and birds. At an outside shepherd's house or other place outside a settlement, no carcass shall be opened except in a place as defined in the foregoing sentence without the written permission of the Chief Inspector. If the owner, lessee or tenant of any premises wishes to slaughter any herbivorous animal, he shall be liable to provide facilities to comply with this provision without delay and in any event within twelve months of the coming into operation of this order.
9. When an extraordinary number of herbivorous animals are slaughtered, the carcasses shall be stacked either in a dog-proof enclosure for a minimum of 28 days or at a place which has the written approval of the Chief Inspector.
10. No person shall feed or allow to be fed to any dog any liver, lung or heart of an herbivorous animal, nor shall any person allow any dog access to such liver, lung or heart of such animal.
11. Any person who opens the carcass of an herbivorous animal shall remove the liver, lungs and heart and shall dispose of them within an area to which access to dogs is prevented, preferably by burning to ash or by any other way approved in writing by the Chief Inspector.
12. It shall be the duty of any person who knows of a dead herbivorous animal within half a mile of a dwelling house to report its whereabouts without delay to the person responsible who shall, as soon as is practicable, arrange for the permanent disposal of such animal in such a way as to deny access to dogs.
13. The Governor in Council may grant special dispensation from any of the provisions of this order in certain circumstances.
14. The Chief Inspector or any Police Officer may, for the purpose of ascertaining adherence to the provisions of this order, at all reasonable times enter any land or premises.
15. Any person who obstructs or impedes any Police Officer or Inspector in the execution of his duty or contravenes any of the provision of this order, shall commit an offence and shall be liable on summary conviction to a fine not exceeding £200 for a first offence or £500 for a second or each subsequent offence.
16. The Hydatid Eradication (Dogs) Order 1975 is cancelled.

13th May 1981

*By Command*  
F. E. BAKER  
*Chief Secretary.*

Ref. AGR/10/4

## SHEEP, TREES AND WHALE MEAT IN THE FAROE ISLANDS. (PART2)

*By Bob Reid*

Sheep farming has always been important in the Faroes although the manner of keeping may have differed over time. The Faroes means Sheep Islands and sheep have certainly been an integral part of Faroese life since the first Viking settlements. From the time of the first settlement until the mid 19th Century, sheep farming was of great economic importance to the Faroe Islands. The world wool prices substantially rose in the 13th Century and provided the Islands with a lucrative export trade in wool and woollen products. By the 16th Century the wool trade accounted for 90% of the foreign income. There was an old Faroese proverb which stated "Sheep's wool is Faroese gold".

Sheep farming was practised extensively and relied on the flocks being able to graze outdoors throughout the year. The traditional grazing methods minimised production costs but the sheep were totally dependent on the sustainability of the natural pastures to constant grazing. Furthermore the animals were always exposed to the windy and cool climate.

As initially there were no fences a complex system of both shepherding and grazing rights of common ground was evolved. It essentially operated around summer grazing in the mountains and winter grazing in the lowlands usually on hayfields or fallowed cropping ground. In addition there were (still are) grassed areas that were very productive owing to their phosphate - rich soils, and were made very fertile by the excrement of the many seabirds that nest along the coast. Small islands or segregated rich pastures were used to graze rams or fatten wethers.

Nowadays there are approximately 80,000 breeding ewes and this number has changed little over the last 100 years. A few communities retain their shepherding traditions but the high mountain pastures are seldom exploited. Nevertheless, productivity expressed by the slaughter percentage has been maintained because of innovations such as sheep shelter barns, the extensive use of hay and imported high-energy feed in the winter months, and veterinary advances against disease.

Broadly speaking, sheep farming has often become more of a pastime or the physical maintenance of the traditional culture. For the last two years all wool (very coarse by Falkland Island standards) has been burnt and the current price is around 50p per kilo. Most of the wool used in traditional Faroese knitting infact comes from the Falklands!!

The sheep are viewed primarily as a source of meat and annual consumption is at least 30 kilos per person. However Faroese lamb is only purchased in small amounts through shops and stores and as most sheep products are sold privately it is difficult to make an estimation of the total consumption. Despite large quantities of mutton and lamb being imported from New Zealand and Iceland, the verdict of the Faroese is that foreign meat is no match for their own product for which they are willing to pay fourfold.

A product of the Faroe Islands is worth a particular mention and that is air-dried mutton. Wind-dried food is very much part of the Faroese food tradition as regards meat, fish, whalemeat - and birds to a certain extent. The slaughter of sheep is carried out from September to November (our Autumn) when the temperature is near to perfect. The carcasses are hung in a store house for wind drying. The store house being similar to a Falkland peat shed, the modern ones being fly proofed but the old types relying on weather and darkened conditions to allay fly-strike. After 12 months that meat can be used but it is usually by mid-winter that the shoulders and legs are used. There are individual preferences as to which stage of maturity and dryness is preferred.

Today wind dried mutton is used only for laying on open sandwiches. People usually preferring the shoulder and leg for this, partly because the meat can easily be sliced and partly because it is not as fat as that of the sides. There is no doubt it is very popular and yes I did try some - several times, and yes its different, but also a taste that one could become easily accustomed too.

The Faroe Islands are also known for their hunting of pilot whales, and like most people I have seen the gory television pictures of 30 years ago showing the frenzied death throes and the bloody sea waters of the whale killing. Nowadays the picture is somewhat different.

## WOOL PACK STANDARDISATION.

*by Doug Cartridge*

Currently in the Falkland Islands six different types of wool pack are used to package our annual wool clip of 2.5 million kilograms. If we are to be serious about marketing a quality clip which is superior to other wool's available in the world we must have some sort of uniformity in the packaging of the product. Uniformity of packaging portrays uniformity of the goods enclosed and allows handling and stowage to be carried out much more efficiently.

I am sure there would be a few complaints from around the Islands if when you ordered 1000 litres of fuel from Stanley Services you got 5 x 200 litre drums one month, then the next month you got 50 x 20 litre drums and the next month you got 2 x 500 litre drums. Handling would become very difficult, purchasers would become frustrated and, if possible, would choose to source their fuel from an outlet which packed in uniform quantities for a similar price per litre.

With the possibility of purchasing packs which are currently standardised in New Zealand and Australia the opportunity arises to significantly reduce the cost of wool packs and to tag onto their set specifications for the manufacture of packs. This should lead to standardising the type and size of pack used in the Falklands for economic reasons without introducing legislation as is the case in other countries. So start thinking about the economics of this change:

Currently the average pack costs around: £6  
Hoops cost an extra: £1  
**Total: £7 each**

These bales are pressed up to approx. 260 kg's  
Giving a cost per kg pressed of **2.7p**

Packs potentially could be worth less than: £3  
(with clips not much dearer than string)

These bales are pressed to 190 kg's  
Giving a cost per kg pressed of **1.6p**

Sea freight is charged per tonne, handling charges at FIPASS are currently charged per bale which could add an extra charge of **0.36p per kilo** for smaller bales though the ease of handling these bales should give enough power to negotiate a lower rate. Road transport cost should be similar to larger bales though some negotiation may also be required.

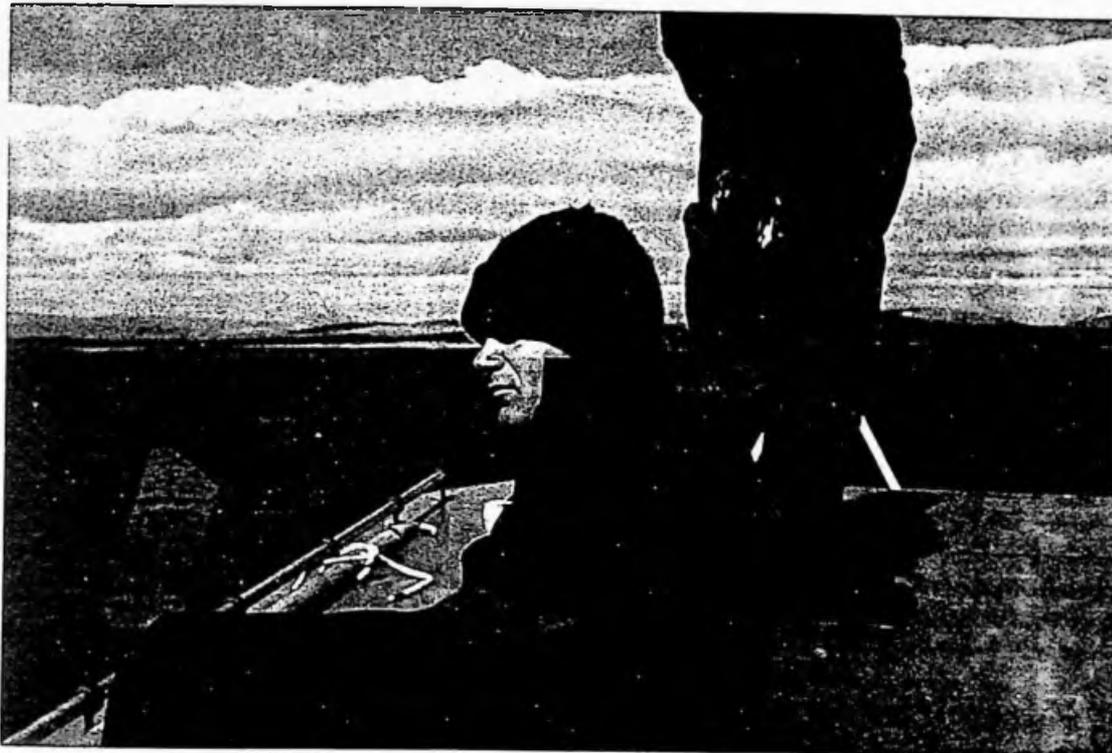
So with a bit of negotiation the average sized farm producing 20,000 kilograms of wool annually could save up to £220 per annum on the price of wool packs. Falkland Island farmers as a whole could **save £27,500 annually**.

**Improve the presentation of your wool clip by saving money.**

### WANTED

Can anyone help please with spare parts, particularly a boiler, for a Franco Belge, 82.706, solid fuel cooker. Please contact Heathman's, Estancia. Telephone 31042.

**More great white hunters deep in thought on  
leaving Keppel Island!!**



**Have I put a spout on this one?**



**Will I ever comb my hair again?**

## MORE FEED MORE PRODUCTION

By Robin Thompson

The old adage 'that three quarters of an animals breeding is what goes down it's neck ' is probably quite true as I will try to demonstrate in this article.

Anyone who has been trying to diet will know that the more they eat the more weight they gain. They will also know that if their diet is composed of large quantities of high energy food such as chocolate they will gain more weight than if a poorer quality food such as weet bix is a major component of their diet. The same is true for animals.

Figure 1 shows the relationship between the quantity of pasture dry matter present and the amount able to eaten (intake) by a 250 kg steer. (Pasture dry matter is the material left after all the water has been removed.) This graph shows that if there is less than about two tonne of pasture dry matter per hectare (t DM/ha) animal intake will be limited. This should not be surprising because as there is less pasture, the animal harvests less per bite and has to walk further to get each bite. Ultimately there is not enough time in a day for the animal to have enough bites to satisfy it's requirements so it either grows slower or loses live weight, unless supplementary feed is provided. As a rule of thumb sheep and cattle eat about 2.5 - 3% of their liveweight as pasture dry matter per day. This means that a 50 kg sheep can eat 1.25 - 1.5 kg/day and a 500 kg steer can eat 12.5 - 15 kg/day.

The other factor affecting animal intake is feed quality (usually measured as digestibility). Figure 2 shows that as pasture digestibility increases so does intake and thus liveweight gain. Pasture quality is determined by the type of plants present and their stage of growth. Animals are able to eat more legumes than grass and the products of legume digestion are used more efficiently by them. A pasture with 30% of it's dry matter as legume can allow a 250 kg steer to eat about 5% more and grow about 20% faster than the same animal eating a pasture with only grass present.

Plant digestibility is species dependent and usually changes as the maturity of the plant changes. This means that green leaf is usually more digestible than dead leaf or flowering stalk. Grazing management systems therefore aim to manipulate pastures so as good feed quality is maintained for as much of the year as possible.

What does all this mean for the Falklands?

Most of our pastures do not have a legume component so the production advantages discussed above cannot be currently exploited. The dominant grass here is whitegrass usually with a high proportion of dead leaves and a digestibility of about 50%. Despite large quantities of whitegrass dry matter being on offer intake is being limited by quality to about a quarter of that required by animals to maximise their growth potential. Reducing this limitation would result in large improvements to livestock performance. Given that animal breeding programmes result at best in an annual production improvement of 2-3% the greatest medium term increases in animal production should come from improved feed quality. The genetic potential of our stock are probably not being expressed due to sub optimum nutrition so breeding is probably currently well in front of feeding. My recommendation is that if money is limiting the best returns will come from investing in improved livestock feeding rather than breeding.

Figure 1. Effect of pasture availability on intake for 250kg steer

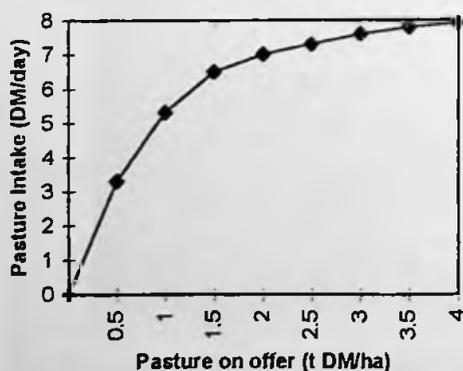
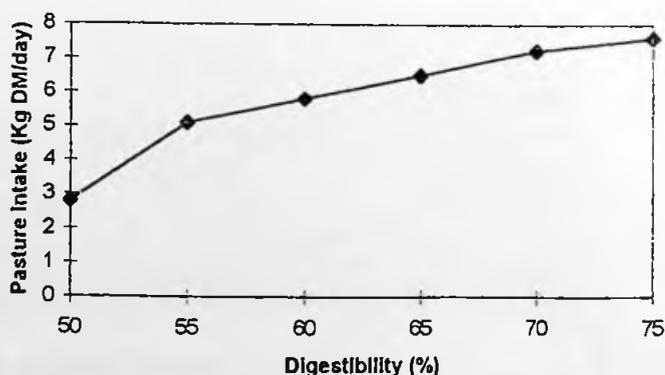


Figure 2. Effect of pasture digestibility on intake of 250kg steer



## INTRODUCTION - "VETERINARY OFFICER" CAMERON BELL

Just when you thought you were coming to grips with the 'foreign tongue' of Caroline, she had to leave and I had to turn up with yet another accent for you to contend with! I'm sure you're well practiced now at translating anyway, considering the number of other Australians presently in the Falkland Islands.

My wife, Jenny (arriving early February), actually takes all the credit for me getting this job. Firstly, she saw the advertisement and encouraged me to apply. Secondly, she accompanied me to the interview.....whilst in the early stages of labour! The recruiting chap must have been impressed, or so Jenny informs me. I suppose none of the experience I have gained since graduating from the University of Melbourne (Victoria) in 1991 had anything to do with it!

A dairy practice in windy Warrnambool (Victoria) took me in as a fresh uni graduate and kept me there for 2 years. I quickly discovered the finer art of dodging projectile discharges from the rear end of cows, as well as finding farms in the middle of nowhere at night and having to convince the farmer that I was actually the vet (and not the work experience student!), let alone all the usual veterinary procedures. Thrown in with this were beef cattle, sheep, horses, goats, companion animals, and ostriches. A sudden career change after this took me further afield to subantarctic Macquarie Island (half way between Tasmania and Antarctica) for a year to study the growth of elephant seals. This certainly acclimatised me for the Falklands.....cold, wet, windy weather and small population (14 over winter)..... and certainly helped me to feel at home here. I returned to veterinary practice after that, and apart from doing several locums and writing a Masters thesis, I've spent the last 3 years working in a practice in Tasmania dealing with farm and companion animals, as well as a mixture of wildlife.

Many people we know in Australia can't understand why we decided to come to the other side of the world to a place like the Falklands, instead of some nice tropical island. Jenny and I should revel in the climate and landscape of the Falklands as it is not too different from Macquarie Island, where we both met. We were thrilled to have the opportunity to come here, and certainly intend on keeping FIGAS in business by getting out-and-about as much as we can, with our 4 month old son Fergus in tow.

I will be doing much the same work as Caroline, including sheep A.I., so nothing will really change at the Department of Agriculture's Veterinary Clinic, unless Andrew knows something that I don't know.

*I look forward to meeting you.....*

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## CHILE TRIP 'A GOER'

*By Robin Thompson*

After quite a long gestation period, the trip to the Magallanes region of southern Chile is finally organised for the week commencing March 7th.

All those who previously indicated their interest should have received the latest details by now. If you are interested and have not heard from me it's not too late, but call me **NOW**.

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## WANTED TO BUY

Front exhaust pipe, engine to silencer for a Honda XL125 also Small Lister Grinder Disc new or second-hand. Contact:- Nick Pitaluga, Salvador Farm, Telephone 31193 evenings or Fax: 31194.

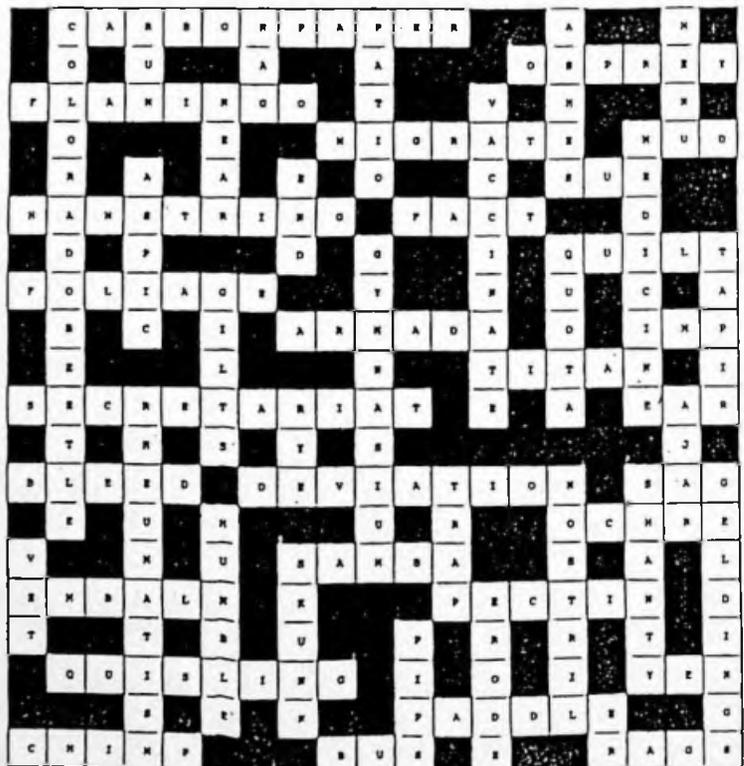
The pilot whale (similar to our Blackfish) has been hunted in the Faroes since first settlement and detailed official records have been kept since 1584. During the 1980's whale hunting was subjected to adverse criticism by International conservation groups and the Faroese hunt brought under very close scrutiny. This led to research on the life and behaviour of pilot whales. In the Faroese sea area, the pilot whale population totals about 100,000 animals: which means the normal annual catch of 1000-2000 animals (1-2%) is unlikely to endanger the species. Whalemeat and blubber, which is used entirely as human food, accounts for 10-20% of all meat consumption in the Islands.

The recent spotlight on the whale harvest has fortunately had a positive effect because slaughtering is now performed more humanely. It is better organised and yet still allows the Faroese people to conduct their traditional way of life. The meat is eaten either fresh or dried and is looked upon as a great delicacy.

## DOG DOSING DATES FOR 1998

January	26th	July	13th
March	9th	August	24th
April	20th	October	5th
June	1st	November	16th
December 28th			

# SOLUTION TO JANUARY'S CROSSWORD



## AGRICULTURAL ASSISTANT (FORESTRY) A PERSONAL "HELLO" FROM GRANT MUNRO

It seems that I am a new face amongst several that started at the Agriculture Department after the Christmas and New Year break. So far I have only been as far as Fitzroy and Estancia and I guess few outside of the Department know who I am yet. An introduction seems called for - indeed has been asked for.

I arrived in the Falklands 5 years ago with a rucksack, twenty dollars and the intention to stay for 6 months - I haven't left since.

Initially I spent 6 weeks at Goose Green where as a navvy I helped with the conversion of the shearing shed bending straight nails and straightening bent nails. I then returned to Stanley and started with the Fisheries Department as a fisheries observer. In total I spent 4 seasons with the Fisheries Department but this was interspersed with 2 years as a fishing agent at Polar & Seaview Ltd, a spell on the *Bransfield* and a spell working for myself, pottering with Rovers and spreading paint.

None of this seems very relevant to my current task of tree planting however prior to coming to the Falklands I obtained a Bachelor of Science in Forestry (2:1 Honours) from Aberdeen University. This was followed by a years experience in the South West of Scotland working as a forestry advisor on the establishment and renovation of farm woodlands in that area. Priority was given to amenity and multiple use of the woodlands and they were designed to maximise the benefits of shelter for stock and crops, provide cover for game birds and aid in the conservation of wildlife. From there I moved to Glasgow were I was involved (at a junior level to gain experience) in the reclamation of old industrial and spoil sites along the route of a linear park stretching from Glasgow to Loch Lomond.

All of my forestry experience was gained in Britain on sites more amenable to tree growth than is encountered in the Falklands. Many of the procedures will remain valid in the Falkland Islands albeit with some modifications for the different climatic conditions encountered and for the machinery available. I am sure that with the guidelines and advice given by Dr A Low, Dr J McAdam and Mr M Beattie and the experience gained from the plantings at Shallow Harbour last year and the plantings to take place at Estancia and Saladero this year I will learn quickly and that best practice techniques for differing site conditions will be firmly established. As I have said I will have to adapt my knowledge to the conditions prevalent in the Falklands however amongst many individuals in camp and Stanley, who have conducted their own planting trials over the years, there is already a considerable knowledge of tree growth and the factors that influence it. I am keen to tap into this existing pool of knowledge so as to avoid any set backs due to unforeseen problems and to identify factors which might not have been considered before, especially those that have led to better than normal establishment and growth. Many individuals have already pooled their expertise in the recently formed Tree and Shrub Group however I am sure there are others with valuable knowledge to give and I am looking forward to hearing as many ideas and comments, however anecdotal, as possible. So if anybody wants advice or more importantly can give advice please phone me at the Agriculture Department for a chat.

Tree establishment for shelter has an important role to play. There is a lot of work to be done and a lot of challenges to be met and I hope that I can count on the support and enthusiasm of the farming community to help in the task.

## MORE MOISTURE - MORE SEED HEADS - MORE .....?

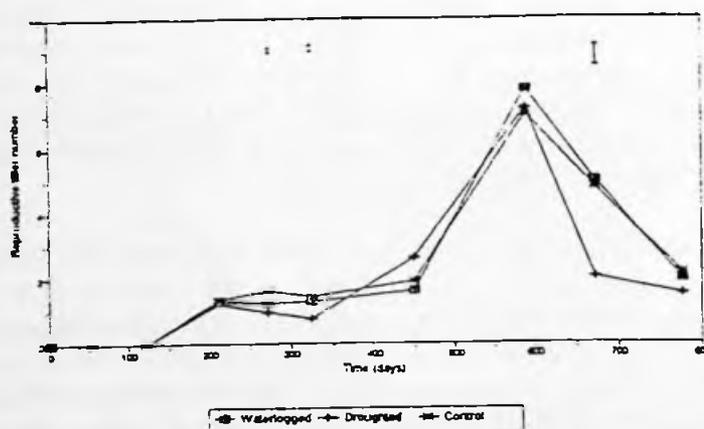
By Aidan Kerr

In my seven summers here this one has been undoubtedly the wettest and the best for the growth of plants, particularly grasses. Nearly everywhere I look there are 'seedheads', mainly of Whitegrass. Thus I thought it might be interesting to review some the reasons for this and some relevant work done in 1990-93 for the Department by Dr. Fiona Wilson of the Queen's University in Belfast.

Firstly, let's examine the weather (data courtesy of the MPA Met Office). The main differences in the weather have been that November and December 1997 have been wetter (see table), calmer, duller and cooler than usual. The December rainfall was over twice the average. (January also seems to have been wetter than usual). Strong winds occurred less frequently than usual and the wind speed was slightly slower than usual. December has been duller than usual, with 161 hours of sunshine compared to the usual 223. Finally, average maximum air temperatures have been 0.4 - 2.1°C cooler than average. The calmer, duller and cooler weather may reduced the amount of moisture usually lost to evaporation. Thus overall more moisture was available in the soil for plant growth than has been usual.

Monthly Rainfall (mm)	1997 totals (mm)	Average total (mm) since 1986
November	49	33
December	146	62

In a glasshouse pot experiment in Belfast Fiona investigated the response of Whitegrass to three soil moisture conditions: waterlogged, drought and a 'in-between' control. She found that Whitegrass was reasonably tolerant of drought conditions and survived for up to 20 months before the effects of drought stress appear. Overall drought plants did not grow as well as waterlogged or control plants. She found that at after about 20 months, drought plants had fewer reproductive (flowering) tillers than plants grown in either waterlogged or control conditions, which had similar numbers (see graph). Additionally, she noted that 'bog' (tussock) Whitegrass had more reproductive tillers than lax plants.



Interestingly, her stock Whitegrass plants flowered annually. These plants were kept outside and watered well. Thus indicating that those growing naturally here are probably drought stressed sufficiently to inhibit flowering. Thus the usual soil conditions here in Spring are probably similar to her drought treatment whereas the 1997 Spring was more like her control or waterlogged treatments.

Floral buds in grasses are usually initiated in Autumn but the exact timing of flower initiation in Whitegrass is unknown. Given the prolific numbers of seed heads this summer and that rainfall during Autumn 1997 was about average, Whitegrass must have been able to initiate buds quickly during Spring. It would seem therefore that Whitegrass, which is noted for its erratic flowering, is quite tolerant of the usual Spring drought but ceases the opportunity to flower when more soil moisture is available.

What does this mean overall? Compared to usual, the prolific flowering will probably mean that more Whitegrass seed will be produced in Autumn and that more Whitegrass seedlings may emerge next Spring. Pasture quality usually declines rapidly when flowering begins thus reducing the amount of high quality feed available. However this reduction may be balanced by the overall improved growth of other better grasses this season. Nevertheless more grass flowers usually means more pollen to aggravate those with sensitive noses!

## CAPLESS WOOL PACKS

*By Doug Cartridge*

Many of you will be aware of the developments regarding the importing of capless wool packs at a cheaper price for the benefit of all sheep farmers in the Falklands. Lyn Blake, Owen and myself have had a good response to the radio advertisement and to date 15 requests have been made totaling approximately 2,600 packs. I personally know of several more farmers that are already using these packs who have not replied and quite a few that could use these packs without incurring too much expense.

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## CATTLE ARTIFICIAL INSEMINATION

*By Cameron Bell*

There has been much talk about low conception rates associated with cows that were artificially inseminated last year. This year, some farmers have even changed their minds and decided not to use pre-paid straws this year. What we need to take into account are several factors, as there are many that determine whether a cow produces a calf.....

- 1. The insemination technique.** The actual procedure involved in passing the inseminating equipment through the cow's cervix is not a new procedure to veterinarians, particularly those working with dairy cattle. However, it is not done regularly. In other countries, such as Australia, farmers either do the inseminating themselves (after undertaking a training course) or have an A.I. technician do it. Such technicians do this for a living, day-in and day-out. Hence there is a difference between someone doing this procedure everyday and someone undertaking it infrequently. The problem is, we don't have an A.I. technician here in the Falklands and further, there would not be enough consistent work for one if we did. The next best thing is the local veterinarian!
- 2. Service too soon after calving.** Low conception rates occur if insemination occurs within 6 weeks of calving. It is doubtful whether this is a factor in the Falkland Islands.
- 3. Poor storage or handling of semen.** We use standard techniques that are used throughout the world, and no obvious problems exist here.
- 4. Synchronisation problems.** Previously 2 prostaglandin injections have been used, followed by 'fixed-time' insemination. This is used more so for practical reasons facing us here (eg. FIGAS flights). This differs from, for example, a dairy farm in Australia where the farmer would inseminate the cow approximately 12 hours after seeing the cow on heat.
- 5. Semen quality.** Semen used here has presumably been collected and processed by reputable A.I. collection centres. Part of this process involves direct examination of semen under a microscope to check motility and morphology (appearance) of sperm. At the other end of the process, ie. during insemination, cold shock can play a major part in affecting sperm viability. For example, longer periods of time spent positioning the insemination equipment in the cervix could reduce sperm numbers and/or motility.
- 6. Reproductive tract disorders of cows.** Infections, cysts on ovaries and other disorders can prevent ovulation and fertilisation. Some of these conditions are obvious at the time of insemination, others may not be.
- 7. Nutrition/condition of cows.** Level of feeding, age, and body condition are all important considerations. Certainly relatively more cows are presented in poorer condition for A.I. here, compared with other countries where they have the luxury of supplementary feeding and improved pastures.

8. **Embryonic/foetal death.** Some embryonic or foetal death is inevitable, with disease, extreme weather conditions and nutritional status playing a role in this, for example.

None of these problems alone seemed to have obviously resulted in the low conception rate last year. May be it was the product of several factors (possibly each at low levels)? If so, this would make it even more difficult to diagnose the cause.

This year, approximately 150 cows of the National Herd will be inseminated at Brenton Loch. They will be synchronised using a different system (CIDRs, as used in sheep), and will have heat detectors glued on their tail-base (these will tell us which cows are definitely cycling). Further, an A.I. technician from Chile will do the inseminating, at times dependent on when the cows show signs of being on heat. It will be interesting to see what sort of result we get from this....may be this will alter our approach to A.I. of Falkland cattle in the future.

## INTRODUCTION - LOUISE AMOS, PhD STUDENT FROM QUEEN'S UNIVERSITY

I'm Louise Amos and I'm the new PhD student from Belfast (Queens University). I've been asked to pad out the pages of the Wool Press with some past history. I'll leave out all the potty training and first memories of school etc. and skip straight to the university part. Coming from Leicester in the English midlands it was of course natural for me to choose Aberdeen University. There I studied for a Plant Ecology degree for four years, although it took me five years to finish as I took a year out somewhere in the middle and traveled round Australia. After University I landed a job at the Institute of Terrestrial Ecology (a NERC Institute) at Banchory in Scotland. Most of my experience so far has been looking at various aspects of heathland ecology; grazing, mycorrhizas, nutrient addition etc.

Why the Falklands? is something that many people have asked me recently. The opportunity to study a similar system (heathlands) in a completely different situation was just too interesting to ignore, and the position was advertised just as I was looking around for something new as my contract at ITE was coming to an end. It was either here or the Arctic so it looks as though I am destined for Research In Cold Places. So I saw the advert, applied, interviewed and then I didn't get it because I wanted to do something a little different than they had in mind. Then the first choice dropped out but I was in-er-South America by this time. So I had to finish my work there and then come here and I've been via England, Scotland and Northern Ireland all in the space of three weeks, so its all been a bit of a rush really. But I really like it here so far and everyone is truly lovely and the weather's not as bad as I thought.

## WOOLDRAULIC PRESSES, CAN THEY BE CONVERTED?

*By Doug Cartridge*

I believe there are no presses that are currently in use in the Falklands (except John Shaw's) that cannot be converted to use capless wool packs. I will be carrying out a trial at Weddell Island very shortly to convert their Wooldraulic. From initial inspection I can see no reason why this will not be successful and, if all goes to plan, will not require any major structural changes to the press. So, all of you who have Wooldraulic presses wither give me a call to keep you up to date or watch this space.

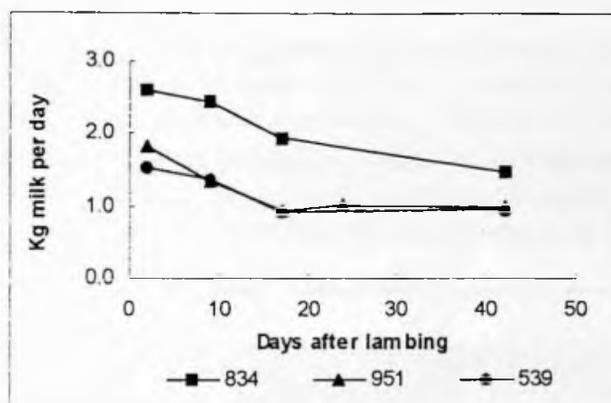
## MILKING EWES

By Sean Miller

How much milk do ewes produce when they're feeding lambs in the Falklands? The most important influence on lamb survival and growth during their first few months of life is, of course, the milk they get from mum. But just how much are they getting, and is this one of the things that contributes to the large numbers of lamb deaths each year?

To find answers to these questions we have been milking a group of ewes from the Polwarth flock at Saladero. Below are the results from 6 weeks of milking so far.

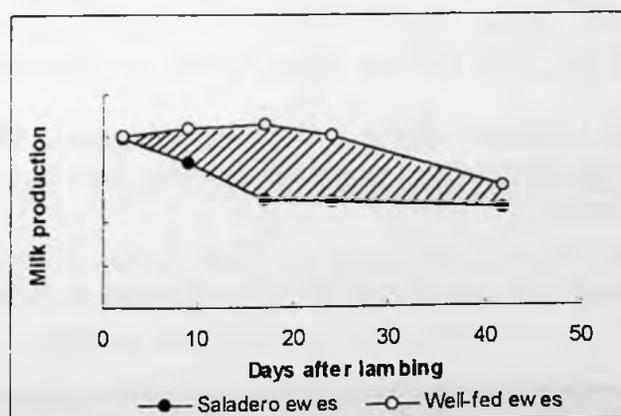
Figure 1. Change in milk production over time from ewes at Saladero



As you can see, the amount of milk produced by ewes varies considerably and falls quite rapidly after lambing. For example, a 5 year old ewe produced almost 2.5 times more milk than a maiden ewe. Although this sort of variation between animals is normal, the disturbing thing we've found is that the rate that milk production fell rapidly after lambing. This meant that the ewes did not produce as much milk as they potentially could have. In practical terms, if milk production falls by more than 10% a week it indicates that ewes are being under-fed. For the Saladero ewes, milk production fell by more than 20% a week for the first month. Milk production was limited by the amount of good quality food that the ewes were able to eat.

The following figure shows what well-fed ewes can produce, and compares this to what we measured from the Saladero ewes.

Figure 2. Comparison between milk production from Saladero ewes and the typical lactation curve expected from well-fed ewes



The shaded area on this graph is the amount of milk that the Saladero ewes could have produced if they had eaten more nutrients (more and better quality grass). Since more milk means faster lamb growth, it is also an indication that the lambs are missing out on a large growth boost. As an example, by 6 weeks of age the ewe lamb reared by ewe 834 (Figure 1) was 4 kg heavier than both ewe lambs reared by ewes 951 and 539, and 3 kg heavier than the ram lamb reared by the maiden ewe that is producing less than half of the milk volume as ewe 834. This lost growth could be the difference between losing only a few sheep and losing many over the winter when the sheep are living off the fat on their backs rather than the grass.

We also plan to look at the composition of the milk when the experiment is finished. Fat, sugar, and major and trace element analyses will give us a better picture of how the ewe's nutrition is affecting lamb survival and growth.

This sort of exercise clearly demonstrates the need to improve the nutrition of lambing ewes during spring. It further emphasises the role that reseeded could play in getting lambs off to a good start in life. The legume introduction programme, which plans to make use of the fertilising properties of these plants in helping establish and maintain productive reseeded, promises to provide the important boost to give us the highly productive and nutritious pastures that will make a real and productive impact on lamb survival and production in the long term.

## NATIONAL BEEF HERD UPDATE

*By Robin Thompson*

Progress with the herd is slowly being made with the following milestones achieved over the last few weeks.

- All the animals have been tested for tuberculosis with the pleasing result that none have the bovine variety. This means that the lesions found by the butchery were probably due to infection by avian or bird TB. The pathology results needed to confirm this are still to be received from Britain. Given that the animals tested were from about nine sources including Keppel Island and No Mans Land the result may be indicative of the TB status of the Island's whole herd.
- All the mature animals have been condition scored and had their teeth checked. All are in suitable condition for mating except two old cows with poor teeth. Despite being in good condition some young heifers will not be mated until they have grown more.
- All the females have been pregnancy tested and those in the early stages of pregnancy aborted. This will allow us to control calving time as well as the bull to which they are mated.
- Semen purchased from Australia is due to arrive in early February. The animals to be mated will be synchronised and artificially inseminated with the help of a technician from Chile towards the end of February.
- Progress is being made with the erection of sub-division fences so as better control of grazing can be achieved.

## ACTIVE CONTAMINATION

*by Robert Hall*

Please do not use woven material such as jute bagging to wrap bale quick links. There is great danger that such woven materials will end up in the wool, when bales are being opened in the Mills and by their nature causing significant contamination. Bale quick links are considered safe if the "knots" are moved round into the corners of bales; this is the preferred practice. If wrapping quick links, farmers should use wool or cardboard, as these materials are unlikely to contaminate the bale contents, even if they get amongst the wool.

## SHEEP DISCRIMINATION

Building and maintaining sheep flock with the traits required by a farm is generally tackled on two fronts:

1. Selection of superior animals by choosing sheep on the basis of heavy fleece weights, fast growth rates, fine fibre diameter etc. Just before and during shearing, is often the best time to make such stock management decisions or certainly to collect the necessary data from which decisions can be made.
2. Culling or discriminating against those animals which have particularly poor fleece weights, fibre diameter etc. At shearing or early autumn is often a good time to make such culling decisions.

For those farms with enough sheep to be able to cull numbers of animals each year, the decision is often based on age. Culling for age is undoubtedly a easy method to use however an alterative employed by some farms, is for stock people to review a wider age range of sheep and to cull those which are unlikely to survive the winter or which carry fleeces of least value. Although there is a clear link between age of sheep and falling production, there is quite some variability, which can be used to advantage during culling, to increase the average income generating ability of a flock.

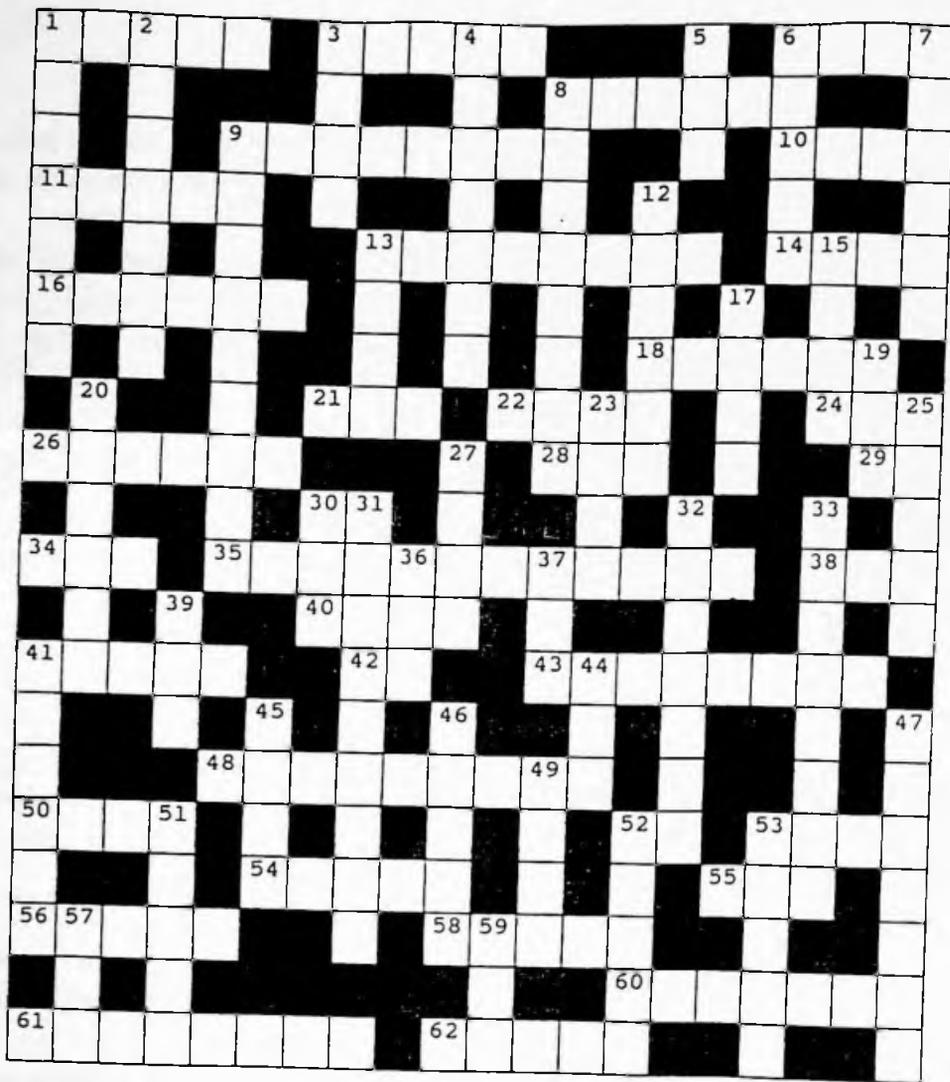
## TRADING SHEEP

One of the topics discussed during my recent, thoroughly useful tour of farms, concerned the buying and selling of sheep. Those farms wishing to buy-in sheep tend to be those with more difficult country to farm, not only are weaning rates less good, but hogget growth rates are also often slower. It was therefore suggested that the trading of shorn hoggets might benefit both the seller and the buyer more than the sale of weaned lambs:

The seller would get a hogget fleece eight/nine months after weaning.

The buyer would buy animals that have grown and survived during their first winter AND by the transaction taking place before Christmas, the shorn hoggets would have half the summer in which to settle on the purchasers farm.

Perhaps further encouragement can be given to such sheep trading by FIG/FIDC?



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ACROSS

1. BRAG
3. POLITICAL FACTION
6. STALLION
8. WOOL MEASUREMENT
9. GOLD AND SILVER HORSE
10. LONDON CRICKET GROUND
11. SOUTH AMERICAN PACK ANIMAL
13. SPANISH FARM
14. PIECE OF LAND
16. SHEEP'S WOOL
18. SMALL POULTRY BREED
21. EYE INFECTION
22. EXCAVATE
24. LARGE RODENT
26. WALL HANGING
28. WOMAN OF RELIGIOUS ORDER
29. MEDICAL PRACTITIONER PERHAPS
30. COMPUTER OR POLICEMAN
34. POORLY
35. RACEHORSE
38. FLIGHTLESS BIRD
40. OPEN PASTRY DISH
41. SOFT FURRY FRUIT
42. RADIO POPULAR IN THE STATES
43. AFTERBIRTH
48. SHED WORKER
50. A NECESSARY REQUIREMENT
52. ALONGSIDE
53. TABLE GAME
54. UNDERWATER RANGE SOUNDING DEVICE
55. MOUTH BAR
56. SINGING GROUP
58. WOOL BALER
60. IMMEDIATE
61. BURIAL PLACE
62. EATING TOOL

DOWN

1. AN OFFICER OF THE COURT
2. AMUSEMENT AND GAMBLING PLACES
3. SKIN
4. RAF AIRCRAFT
5. WEEP
6. PRY
7. REMOVE
8. HIGH PLACE
9. PAPER
12. FAMOUS CLOCK TOWER
13. CAPE PEMBROKE FROM STANLEY
15. FIBBER
17. ONE OF A SUPERIOR ATTITUDE
19. INSANE
20. SHEEP DOG
23. UNFEELING
25. GAME FISH
27. CLOSED
30. COOKING PAN
31. COOKED PIG SKIN
32. LIQUID METAL
33. RED VEGETABLE
36. SPHERE
37. JUMP ON ONE LEG
39. THE BEST
41. OUTDOOR MEAL
44. TOP
45. WAY THROUGH MOUNTAINS
46. BIRD SOUND
47. YOUNG HENS
49. EGYPTIAN RIVER
51. MOVE SHEEP
52. SINK
53. PATCHY COLOURED HORSE
57. GARDEN TOOL
59. KNOCK ON DOOR



# WOOL PRESS

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**PLUS ALL THE REGULAR FEATURES AND MORE!**

*The Wool Press is published by the Department of Agriculture. Editors: Julie Fisher-Smith & Lilian Wallace.*

## EDITORIAL

What a wonderful opportunity this is - Charlene, our regular Editor is away on a study course and our Acting Editors, Julie and Lilian, were lost for words (actually it was more like ... your're the boss, you do it!!) - but it does give me a chance to have a say.

Did you find the Annual Report useful and informative? Did you only spot the spelling mistakes, or did you actually read the text? If the latter then please tell us what you think, as we are very keen to ensure that we are in fact imparting useful information.

We are sorry about the confusion over the date of the Brenton Loch Open Day, but in our defence we can only work with the dates given by others, and when they get it wrong, well \*!?!\*\*\*.

Thanks to those farmers who have written for this issue of Wool Press, without your contribution it would not be anywhere near the high quality publication that we all seek. There is a saying in Australia that all the biggest wild bulls get thrown (captured) in the pub and I suspect that this is true also in the Falklands - you only had to listen to all the farming improvement experts at the bar of the Goose Green Sports to realise that there are indeed some great ideas out in the camp, so please don't keep them all to yourself, share them with those who can't get to the bar by using the Wool press as a venue.

Finally, has the graphic photograph on the opposite page grabbed your attention? This lamb was cruelly mauled by foxes on Weddell Island this lambing season. When the lamb was found in camp it was still alive. It was immediately put down to relieve its suffering. This illustrates the destructive nature of the Patagonian foxes that were introduced to a few islands nearly 70 years ago. For more on this story, the introduction of foxes, their effect on farming and wildlife, and the measures that have been taken to control their destructive effects, turn to our centre pages articles by John and Stephanie Ferguson, Sally Poncet, and Sean Miller.



'I could do this much better, if he'd stop blowing that thing'.

### THIS MONTHS CONTRIBUTORS

<b>Bob Reid</b>	Director of Agriculture	<b>David Parsons</b>	Legume Agronomist, DoA.
<b>Sean Miller</b>	Sheep Husbandry Officer, DoA.	<b>Cameron Bell</b>	Veterinary Officer
<b>Doug Cartridge</b>	Wool Adviser, DoA.	<b>Ian Hansen</b>	Farmer
<b>J &amp; S Ferguson</b>	Farmers	<b>Sally Poncet</b>	Farmer

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**INTRODUCTION**  
**NEW VETERINARY LABORATORY TECHNICIAN**  
**DEREK CLELLAND**

Yes, you've guessed it, yet another new face at the Agricultural Department. As a new start I have been volunteered to give a brief history of myself and what I'm doing here, so here goes.

I'm from Ayrshire in Scotland and for the past eight and a half years I've worked for the Scottish Veterinary Investigation Service (S.V.I.S.) at Auchincruive College, Ayr. I have an O.N.C. from Stow College, Glasgow and a BSc from Glasgow Caledonian University both in Biomedical Science.

The experience I gained at Auchincruive was wide and varied, from working with animals, through working in a multi-disciplinary Veterinary Laboratory, all the way to assisting in post-mortems and the disposal of the carcass afterwards.

Well that's a brief overview of my professional life thus far, probably far too brief. However, I'll leave out giving you full details of how I learned that you should never date a girl you go to University with. Why you should never drive a forklift on a steep slope when there's ice about, especially if you're carrying a dead cow at the time!.. and most importantly, why its never a good idea to climb into an incinerator to unblock a clogged burner when it's still at 400°C.

I know that I won't be making those mistakes here, I'll probably find all new ones to make!

I'm sure that I'll have a great time in Stanley though, and if I can persuade Andrew or Cameron that I would be handy to have around on a farm visit, then I'm sure I'll get to enjoy the rest of the Falklands. So here's hoping!

**'ATTENTION! - Sheep Farmers Previously Using AI.'**

Do you have a CIDR Applicator (plastic thing for putting CIDRs into ewes) sitting around from the last round of sheep A.I.? I would very much appreciate if you could send them back to me at the Veterinary Section as we have a shortage of them and they are very expensive to replace. Thank you.

Cameron Bell, Veterinary Officer.

**FOR SALE**

**A QUANTITY OF PURE BRED POLWARTH RAM LAMBS AT £35.00 EACH. AVAILABLE AT THE END OF FEBRUARY.**

**&**

**ONE BEDFORD HI AB LORRY WITH FULL SIZE 4 TON BOX . OFFERS AND ENQUIRIES TO P. WHITNEY, MOUNT KENT FARM. TEL 31003**

# ACIDITY, ALKALINITY AND PH - WHAT DOES IT ALL MEAN ??

*By David Parsons*

We all know something about acids and alkalis. For example, vinegar is a weak solution of acetic acid, and the liquid in car batteries is a strong sulphuric acid. On the other hand, soap, limestone, and builders lime are all examples of alkaline substances.

We measure and describe acidity and alkalinity in terms of pH. For those who really want to know, pH stands for 'negative logarithm of the concentration of hydrogen ions (H<sup>+</sup>)'. However you don't require an in depth understanding of this to know how pH affects the soil.

The pH scale runs from 0 to 14, with a pH of 7 indicating neutrality (neither acid nor alkaline). Values of pH lower than 7 indicate acidity, and values above 7 indicate alkalinity. For example, the table below shows some common substances and their pH value:

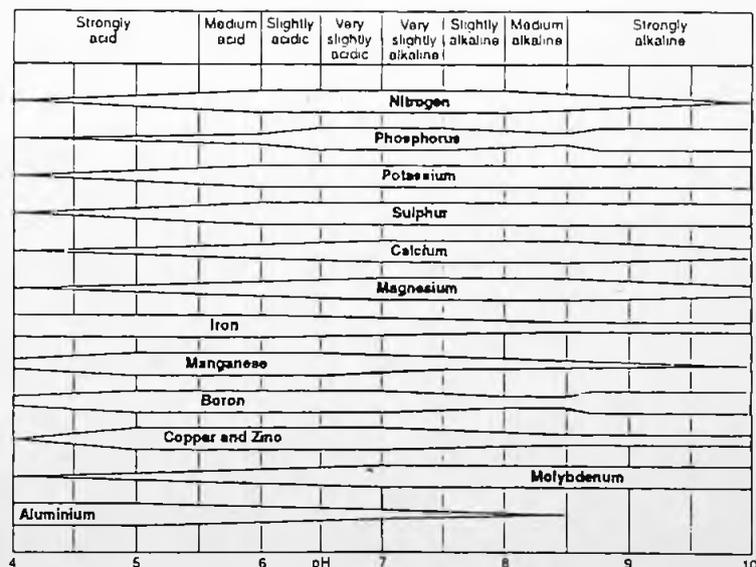
	pH	
Gastric Juices	1.0	Acid
Coca Cola	2.0	Acid
Vinegar	2.5	Acid
Orange Juice	3.5	Acid
Banana	5.0	Acid
Plant Sap	3.5 - 5.5	Acid
Milk	6.5	Acid
Water	7.0	Neutral
Blood	7.4	Alkaline
Eggs	7.8	Alkaline
Soap Lather	9	Alkaline
Washing Soda	10	Alkaline

## Why is pH important?

Just as our hands are burnt by battery acid, so plants are burnt by very high and low pH. For those people who read gardening books, you may recall statements such as 'Grow only in acid soils', 'Lime-hating', 'Acid-loving', or 'Lime-loving'. All of these phrases refer to the fact that plants vary in their ability to tolerate different levels of pH. All plants will grow best within a certain pH range. e.g.

Lucerne	6.5 - 8.5
White Clover	5.5 - 7.0
Wheat	6.0 - 8.5
Lupins	5.0 - 7.0

The main reason for the effect of pH on growth is that change in pH changes the availability to plants of nutrients in the soil. The diagram below shows the effect of pH on the availability of plant nutrients; the broader the band, the more of the nutrient is available.



For example at low pH values, it is difficult for plants to get enough of such essential nutrients as nitrogen, phosphorus and potassium. In addition, the availability of nutrients such as aluminium and manganese increases as the pH gets lower. There is a risk that plants will be damaged by toxic concentrations of these elements in acid soils.

On the other hand, as pH rises above neutral, the availability of some nutrients, such as manganese and iron drops. Plants not adapted to high pH are unable to get enough of these nutrients, particularly iron, and it shows in the leaves.

The best pH range for many of the plants that we grow in the garden is 5.5 to 7.5. However, in peaty soils, such as we have here, and also in potting mixes, which are usually mainly organic materials, plant nutrients are most readily available in the pH range 5 to 6.

### **Measuring Soil pH**

Various kits are available which involve mixing a small sample of soil with an indicator solution, and reading the pH off a colour chart. This works reasonably well, and gives a good enough indication of pH for most circumstances. From experience, I would personally not recommend pH probes, as they can be very inaccurate and misleading.

The Department of Agriculture has the equipment to give an accurate pH reading, and we are happy to do so at no cost for a small number of samples. Approximately a cup full of soil is needed for such an analysis.

### **How to alter soil pH**

pH can be lowered by adding sulphur, or iron sulphate, however why you would want to do this in the Falkland Islands is beyond me!

In the Falkland Islands, our peaty soils tend to be very acidic, one of the major factors that limits plant growth. Various substances such as ground limestone, builder's lime, quicklime, and dolomite can be used to raise the pH of soils. Limestone and dolomite are recommended as the response is slower, and less dramatic, and there is less of a tendency to overshoot the mark.

Some readers may be familiar with a substance found on some beaches in the Falkland Islands. Locally it is sometimes called "coral", but we prefer to call it "calcified seaweed". It is a special type of marine algae with a hard coral-like structure that is high in calcium, and magnesium, and also contains some trace elements. Thus its use can raise the pH of the soil, and provide valuable plant nutrients. The Department of Agriculture is currently looking at the potential for using calcified seaweed to improve Falkland Island pastures.

In conclusion, pH is an important factor in understanding soils, and the plants that grow in them. As far as legumes are concerned (which is my main interest), pH is crucial. Although some grasses may respond little to added lime, legume growth can greatly increase if the pH of the soil is raised.

If you have any questions about what was discussed in this article, or about legumes and the Legume Introduction Programme, don't hesitate to call me at the Department of Agriculture.

## How to improve lambing percentages

*by Ian Hansen*

One of the many concerns of farmers is the problem of keeping sheep numbers to a maximum without having to run very old sheep or to buy in other farmers culls. A lambing percentage of 65% or thereabouts is usually enough to keep sheep numbers stable but still does not give enough leeway for culling which leads to a quicker improvement of a farms stock.

Each farmer has their own ideas on how to improve lambing percentages and here are a few of ours, which seem to have benefited main Point's lambing.

### Crutching

The crutching of young ewes has without a doubt made a huge difference in lambing percentages. The table below shows in 1989/90 & 1990/91, the young ewes lambing percentages was considerably lower than following years. In 1991/92 when our shearing shed became operational and the young ewes were crutshed, the percentage rose dramatically. Crutching of the young ewes each year has seen the percentage remain high (with the exception of 1995/96, the year of the bad winter). This last season I began crutching of the next age ewes. Whether this will have any bearing on future lambing will be seen over the next few years.

The table shows that with the improvement of young ewe lambing percentages, the whole farm percentage gains. I would certainly recommend crutching to any farmer who had the means to do so.

The other points we concentrate on during lambing (and pre lambing period) are the more obvious ones. Ewes in good condition, lack of stress, use extra rams for tupping if available, lambing in as much shelter as possible, do not over stock ewe camps and finally spring shepherding.

Many farmers dismiss spring shepherding as a waste of time, as the lambs or ewes saved are minimal, so not worth while. The main thing I would have in defence of shepherding is this: Main Point runs an average of about 1500 ewes a year, on average we save 20 ewes a season and 25-30 lambs. Which worked out in percentages is quite significant to a farm of this size.

The observations I have made here are not intended to tell other farmers how to run their ewe flocks but to simply show what works for our farm.

<u>Season</u>	<u>Young Ewe %</u>	<u>Farm %</u>
1997/98	81.45%	93.54%
1996/97	82.32%	95.40%
1995/96	56.60%	56.40%
1994/95	73.14%	75.59%
1993/94	79.55%	89.07%
1992/93	77.40%	83.27%
1991/92	70.33%	84.47%
1990/91	56.02%	77.70%
1989/90	57.73%	70.44%
Average	<b>70.50%</b>	<b>80.65%</b>

# THE CONSEQUENCES OF FOX PREDATION

## **(or A Bitter Struggle with Lambs Without Faces)**

*By John and Stephanie Ferguson, Weddell Island*

John Hamilton introduced foxes to the Weddell group during the late 1920's and early 1930's to breed for pelts. Unfortunately, by the time the foxes had bred to any great quantity the bottom had fallen out of the fur trade. By this time, foxes had secure footholds right across the island and have since caused many £100,000's lost wool production, caused severe problems in maintaining enough lambs for stock replacement, and the mutilation of lambs has to be seen to be believed.

Why the crisis now, I hear? Well there are several factors. Before we bought Weddell in 1987, Beaver Island was a main Weddell Group lambing ground (Beaver was leased the same year and also has foxes), and for some years several of the islands between Weddell and Beaver were also used. These islands were worked by boat. This meant shipping ewes to Beaver each year and shipping the lambs back to Weddell. Although lambs on Beaver were also lost to foxes, they did not appear to suffer the horrific mutilation to the face that happened to Weddell lambs.

For many years before Hamilton Estates sold their properties in the Falklands, the Company was administered from Jersey, with other Directors living in other parts of the world. With such a widespread directorship, and a large trust fund to absorb losses, there appeared to be no driving force to make improvements to the farms financially or structurally, and little support for the managers either it seems. In the Weddell Group's case, with Beaver able to rear enough replacement lambs, the status quo continued until 1987.

Before the farms were sold there was a shift in the balance of ewe numbers between Weddell and Beaver. This was made due to the loss of the Weddell schooner which was lying condemned in Stanley. The extra cost of using the coastal shipping service made transporting sheep back and forth difficult. When the farms were bought in 1987 Beaver still held 43% of the Group's breeding ewes. With hindsight that was a serious mistake that should have been rectified at the time so that both islands held a balanced flock. As time went on however, sorting out the imbalance at the start would not have rectified the long term problem.

### *Shipping-in replacements*

Year by year it became increasingly difficult to maintain the numbers of young sheep required for the farm to stand on its own. Due to the cost of freighting sheep in, and in the days of the Monsunen not being able to obtain sheep until after the wool collecting season, we bought the MV Penelope in 1989. We were then able to take sheep as and when they were available. This was particularly valuable in 1991/92 when the Keppel Island sheep became available as we had lost so many sheep as a result of the Mount Hudson eruption. At that time we were quite desperate and almost bankrupt! With the small workforce here it was taking its toll and the Penelope was an expensive boat to keep out at anchor all the time. Also, being on the far West we were not ideally placed to take advantage of the odd bit of work that came up, mainly in the Stanley area.

Luckily, many of the island farms in our area, and several mainland farms that we obtained replacement stock from, held sheep that were similar to ours and we are very grateful to them. In recent years however, these same island farms have reduced their own stocking rates. It was obvious that we would not be able to continue buying like that for much longer.

### *Time for change*

For some time I had been convinced that due to the problems above, and continually buying in old ewes from other farms (with associated high death rates, lower fleece weights, loss of breeding control etc.) we had to make some radical changes if we were to survive. We had also been looking at different methods of fox control, especially fox-proof fencing. Since estimating the total cost of damage attributable to the fox problem (see table), we've been wondering what we could have spent the near £1/4 million on? Our bank balance gives a few clues!! So we sold the Penelope in 1993 and built the first of 2 fox-proof fences.

### *Fox-proof fencing*

The first fence was a 10 wire electric fence using standard insulimber materials (EDF). All holes were used, including the tie-down hole, which meant drilling one hole at the same level in each of the stakes! Top and bottom outriggers were installed to stop the foxes either climbing or going under the fence. A B600 high power energiser was used with a 30 watt solar panel and 2 tractor batteries. Of course the ground had to be mowed level first with our Bomford flail mower, and if we thought that building the fence was going to be difficult, we were to get a shock at the beaches. Using the tractor/transport box and plastic coated gabions we (eventually) made the beach fences. This required a

continuous line of gabions filled with flat rocks locked in place, then a wire netting extension at the top held out at 45° with stakes driven into the gaps between the gabions. One side was good and flat, the other I was not happy about due to it being exposed to the open sea, and being on a boulder beach, was very difficult to build. But because it was a trial and just a short fence across a narrow neck of land, we were 'encouraged' to try there first. In the event, the gabions did smash up as predicted, but luckily not until we had shot many foxes and had had a fairly successful lambing: the first since the 1930's that Weddell produced more lambs on its own than it lost sheep during the winter. We were on the right road at last!

#### The Fox Problem is Expensive

Estimated number of lambs lost to foxes over last 10 years	6,551
Estimated number of lost fleeces over 7 year lifetime*	33,425
Loss to foxes: 33,425 fleeces @ 4 kg greasy	133,700 kg (=570 x 235 kg bales of wool)
133,700 kg @ £1.42** (gross)	£189,854
Yearly cost of fox predation	
Lost wool income	£ 18,985
Cost of replacement sheep	£ 1,765
Cost of fox control	£ 3,802
<b>TOTAL (yearly)</b>	<b>£ 24,552</b>
<b>TOTAL (over last 10 years)</b>	<b>£ 245,520</b>

\* Figure adjusted for annual death rate of 10% in year 1 and 7% for remaining 6 years

\*\* Figure based on average over last 7 years

#### *The second fox fence*

The next year we built a new 3.25 mile fox fence from Mark point to Hell's Kitchen in Chatham Harbour. Both of the beach fence sites were carefully picked and to date we have had no bother with them breaking down (thankfully!). Again this proved reasonably successful with the number of lambs marked covering the winter losses. But as there were not enough marked to reduce the age of the ewe flock, we continued to buy sheep to maintain flocks. The result was that the age of ewes crept up to 10 to 12 years! Yet another set-back in 1995 with the awful winter, but that aside, each year since the first fox fence we have kept just above the losses in winter.

#### *Setbacks*

The '95 winter also highlighted a major problem with the electric fox fence: that of the snow shorting the fence out. Anyone using insul timber will also notice the voltage drop is much higher when the wood is wet than if using plastic insulators (as for offsets). We were quickly becoming 'experts' at electric fencing and the need to keep the voltage as high as possible was paramount. Anyway, with the fence shorting out there was nothing to keep the foxes out and we were 'back to the drawing board'. To make matters worse, we were finding that foxes, whilst not wanting to dig under or jump over the fence, had found that they could reduce the shock and get through by jumping at the fence and through the wire, even though the wires were close together.

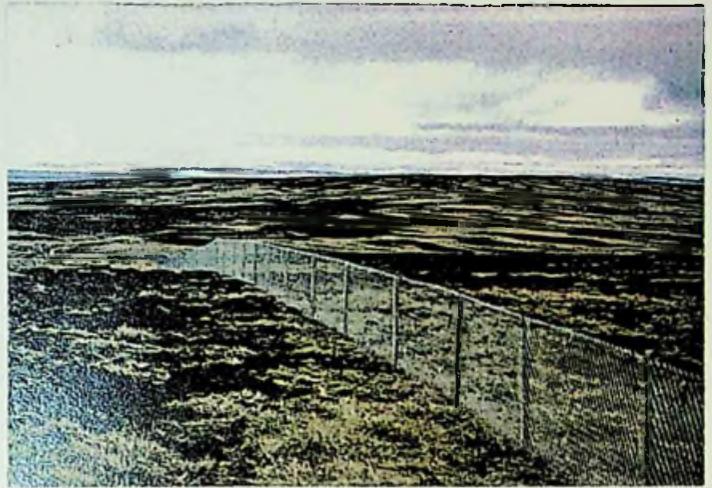
#### *1997 - FOXOFF and the chainlink fence*

Farmer's week in 1997 was a breakthrough as far as we are concerned. With various new staff in the Department of Agriculture, including the Director, bringing new ideas on fox control from Australia, the result was ordering 5,000 metres of 0.9m high chainlink fence and some poison-free baits, appropriately called FOXOFF, for trial in the Falklands. The baits, together with much information, duly arrived by air, and advice and technical backup was provided by the Department's Sean Miller: another Oz who was a little shocked after a few days when asked by our young Robert, "Can you speak Australian"?

To discover whether the Australian baits would attract our foxes and not any other animals, unpoisoned baits were placed at different locations in the 8,800 acres of the lambing grounds. They were placed as they would be for real in a shallow hole and covered over so birds cannot see them; in this case with smooth sand so whatever dug them up or walked over them could be identified. The trial was a total success with many baits taken on the first night, and apart from one Upland Goose walking over the sand (whilst feeding?), nothing else touched the baits other than the foxes

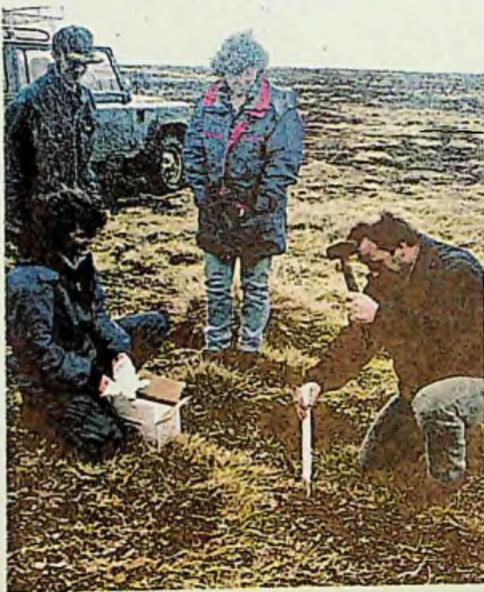
(as the literature said would happen). After a similar trial on Beaver had the same result, poisoned baits were ordered by the DOA on our behalf.

Meanwhile, the chainlink fence arrived in 2 batches of 100 x 25 m rolls. We had intended to get the lower priced ordinary galvanised netting, but after much searching found that when we got to the small mesh size we needed, the wire gauge and quality of galvanising was far from ideal. On the other hand, the chainlink was of perfect standard and surprisingly it followed the many ground contours much better than wire netting would have. The chainlink was put straight onto the existing Tern Hill (3.25 mile) fox fence with more than 40,000 ring clips. The offsets were then isolated from the main fence and the voltage increased to over 8,700 kv, and much of the time over 9,000 kv (makes your eyes water - as some of us know!).



The fence has several improvements over the original design. It can't be jumped through, and the offsets discourage foxes climbing/jumping and digging. Since the upgrade has been completed, there is only one known 'dig through' and that was from the inside where there were no offsets. That was quickly sealed up and a small present in the form of a bait left for the culprit.

### Baiting



The baits arrived, and after an afternoon training session, we left on the morning of September 26 in 3 separate areas to begin laying the baits in earnest (2 per group - John & Sean, Steph & Lucy Ellis, Denzil Clausen & Bella McLeod). Within 2 days, 263 bait stations were made with a numbered stick by each one for identification and recording purposes. The stations were roughly 500 m apart, with 8,800 acres (3,550 ha) baited inside the fox fence, and we also created a buffer zone of 2,700 acres (1,100 ha) outside the fence. This was particularly important as it covered the settlement paddocks, the main Gentoo penguin colonies and other wildlife in Mark Point, and also a well known area popular for fox dens in Hell's Kitchen. The most important reason was to take the pressure off the fence in the early stages as the second batch of chainlink did not arrive here until 8th October (due to a supply hiccup) when lambing was already in progress.

The bait take-up by foxes surprised us all, including the company supplying the baits from Australia, with whom we were in close contact. Over the next 17 days, just missing 2 days, we covered approximately 120 miles a day between the 4 of us left on the farm, making almost 2,000 miles in just those 15 days driving on what Sean calls 'pretty ordinary ground'. Getting bogged isn't the problem here, and anyone who has driven on Weddell will know what I mean. All up, we travelled a total of 3565 miles whilst foxing in 1997.

The baits were removed at a rate of 50 to 62% per day (130 to 162 baits). Loop Head was the worst hit with 70% of baits taken (65 out of 91 stations) in 24 hours at times. Knowing the stomach capacity of foxes, the time to death after eating a bait, and a rough idea of the distance a fox travels, we believe that each fox took 4 baits on average. A single bait is more than enough to kill a fox, but as it takes several hours before any effects are felt, the fox can travel on and find other baits. We know that one fox actually took more than 4 baits - eating 3 and burying others for later. Since foxes 'mark' these sites themselves, they can be found later by other foxes.

The number of foxes in the area has been a great surprise to us all, and more than once we doubted the effect of the poison. Luckily we did not give up hope, and on 6th November, after 1,894 baits were taken by foxes, we achieved almost total eradication. Just a few baits were taken during the remaining few baiting sessions.

## The results

By the end of 1997, foxes had taken 1,930 baits (maybe 500 to 600 foxes killed), and 353 foxes were shot and trapped. This makes a probable total of 850 to 950 foxes killed, and when unborn cubs are taken into account, that could put the total at over 1,100 foxes for the year!! Normally we shoot and trap 200 to 300 a year. We do not know of any foxes in the Loop Head area now, and no footprints or other fox signs have been seen for several weeks. The huge surge in young wildlife also gives this credibility. We know of one fox (prints) seen several weeks ago in Tern Hill and hopefully he is now gone. We don't expect to have totally eradicated them from these areas at the first attempt, but there are few signs of foxes there at present. And with the fox fence, we should be able to stop the flow of foxes entering the lambing grounds.

Due to the late start of both the fencing upgrade and baiting we did not achieve control of the foxes until well into lambing, and as we think that since the last 2 winters have been mild, there were probably more foxes around than normal. In the event, we lost a lot of early lambs to foxes but still achieved the target of marking more lambs than winter losses. Although disappointed at the final marking % this season (50%), we know this was also due to having lost many old ewes during the winter, leaving far less fit ewes to lamb. The % for surviving ewes is a more encouraging 62% (even after the fox losses mentioned) so that shows beyond doubt what can be achieved next season with our planned reduction in ewe ages to an overall maximum of 7 years and no foxes inside the lambing grounds. Here's hoping for a decent winter. Weddell used to mark 75 to 80%+ before the foxes took hold so there are no reasons why that cannot happen again.



Our thanks go to all those who have helped over the past few years to get as far as we have, with special thanks to Bob Reid (Director of Agriculture), and Sean Miller (DOA) who has put in a lot of work and been a great support throughout. FIDC (via RDAS) have also helped with the funding of the fox fence upgrade.

Round 1 to us (at last!). Now for round 2 - the BIG ONE - removing them from the rest of Weddell!

### Fox Predation Has Many Effects

Patagonian foxes on Weddell have caused much physical and financial damage.

- \* Historical marking % on Weddell was 75-80% before foxes.
- \* Losses can be as many as 1,000 lambs per year, with more than 30,000 killed since 1937. In today's values, production from these lost lambs would equate to more than £1,000,000.
- \* Annual cost of foxing (excluding fencing costs) £3,800.
- \* Lambing in camps other than Loop Head is unfeasible, e.g. in 1962/63 lambing in the French Harbour camp with a resident shepherd yielded just 3 lambs from 860 ewes. Dead lambs killed by foxes were on the ground everywhere.
- \* Foxes eat wildlife as well. Birds, insects, mussels and plants and berries have been found in fox stomachs on Weddell.
- \* Patagonian foxes have no natural predators in the Falklands. Local birds have not evolved to cope with fox predation with the result that few birds breed on Weddell.
- \* Until recently, little was known (or cared) about the damage done by foxes over the years. Since 1932, 10,000+ breeding pairs of Gentoo penguins have disappeared from that part of Weddell where foxes were thick on the ground. A small colony has relocated to a protected area near the settlement. History records that if locals wanted to collect penguin eggs, men had to sit at the edge of the old rookery at Stop Cove and shoot foxes as they entered to prevent them stealing eggs. This suggests the scale of the effect foxes had on the breeding success of the Gentoos.
- \* We thought that many birds had given up nesting on Weddell. The appearance of geese, ducks, skuas, Chiloe widgeons, snipe and sanderling, dotterels, plovers, thrushes, and cormorant hatchlings and fledglings following the baiting programme this year shows that the birds had always been trying. This year's is their first success in recent memory.

# GETTING THE BETTER OF PATAGONIAN FOXES

*by Sean Miller*

Introducing Patagonian foxes to the Falklands in the 1930's may have seemed a good idea at the time when furs were worth up to US\$100 a piece, but the cost to the indigenous wildlife and farming on Weddell Island has since been immense (see John Ferguson's article). Until recently, control of Weddell's and Beaver's foxes has been reliant on expensive fencing (Weddell), and laborious and often unsuccessful shooting expeditions. When we were approached last year to see what else could be done to control foxes, we were able to put John, Steph, and Sally in touch with recent developments in fox control currently in use in Australia that have revolutionised fox control.

Foxes are predators. They are one of the few animals that kill for pleasure and not just for food. For this reason, they have devastating effects on many wildlife species (birds and animals) and on domestic livestock. It is not uncommon to see 3 or 4 lamb carcasses lying within just a few metres of each other: all the result of one fox during one night.

The development of FOXOFF technology in Australia in 1993 has meant that farmers and conservation authorities have a very safe, efficient and effective tool to rapidly control fox damage. Last September we obtained a small quantity of unpoisoned FOXOFF baits to test whether the local foxes, a different species to Australian (European) foxes, would find the baits, whether they would eat them, and whether any other animals or birds would find or eat the baits. This testing showed that the foxes would not only find baits, but actually found them faster than foxes do in Australia. Equally as importantly, we were able to show that no other animals or birds were attracted to the baits. This step was of vital importance as it meant that the baits could be safely used to target just the foxes, leaving the wildlife untouched.

The success of the trial was then used as the impetus to obtain real FOXOFF baits and to commence baiting within the fox-proof fenced area and a buffer zone just outside it. Unfortunately many lambs were on the ground before the baits arrived. In addition, it took much longer to see a big drop in fox numbers (as measured by a reduction in the number of baits taken each day) than we anticipated. This was probably due to there being many more foxes in the fenced area than anyone dared to imagine. Based on spotlight counts that John and Stephanie had done, and other daylight observations, as many as 600 foxes may have been in the camp. No wonder lambs had troubles surviving!

During this project we have been collecting stomach samples to see what the foxes are eating. Already we have found four species of birds (including penguins), many insects, mussels, and even a rat. Just after lambing started we noticed a big change in diet. Lambs became the number one menu item. Of 14 foxes shot over 3 days, 13 had eaten lambs.

John conducted his last bait run last month and believes that the area inside the fox fence is almost fox-free, and quite possibly completely fox-free. This would have been impossible by relying on shooting and trapping alone. The aim now is to keep foxes out of the area by maintaining the fence and conducting a low intensity bait run before lambing starts again this September. All going well, this year promises a big change in the lambing success on Weddell. Not only that, but the unique wildlife will also have a chance to regain a foothold.

## FOXOFF

FOXOFF is the bait that was used on Weddell and Beaver Islands to reduce the threat of foxes to lambs and wildlife. Until 1993, fox control around the world was reliant on unsafe practices involving the use of highly toxic baits. These baiting programmes successfully killed foxes, but they also killed many other birds and animals that were not the intended targets.

In 1993, an Australian company produced the FOXOFF bait. This bait is unique in that it is highly specific for foxes. It contains a host of goodies that foxes just love. FOXOFF is buried under the ground (about 2 to 3 inches) and the foxes must use their highly sensitive sense of smell to find the baits. By burying the baits, no other animals or birds are able to find them, and thus they cannot find and eat the baits accidentally. The second major benefit of FOXOFF is that it uses a very low dose of a toxin that is very lethal to foxes but not as lethal to other animals. The dose of toxin in the bait is sufficient to kill a fox, but it would take about 12 baits to kill our native birds. Since the baits are quite large (in terms of how much birds eat), it is almost impossible for birds to be accidentally poisoned. Similarly, if birds come across poisoned foxes, each bird would need to eat at least 6 whole foxes a day before dying. Obviously, this would not occur.

The toxin causes death of the fox rapidly and humanely within 4 hours of consumption. The toxin acts on the energy reserves of the fox. As the fox feels lethargic, it finds its way back to cover and succumbs to heart failure within a few minutes. Since almost all foxes return to cover before dying (more than 95%), very few dead foxes are seen. This further reduces any risk of non-target animals and birds from consuming poisoned carcasses.

# ERADICATING FOXES FROM BEAVER ISLAND

*by Sally Poncet, Beaver Island*

The fox eradication programme is running concurrently with the control programme on Weddell, and is being run along the same lines. The exception is that, due to the fact that I've been doing most of the bait laying and checking on my own, it's taken longer to see results.

Getting rid of every single fox on Beaver is the aim. At the start on September 26th 1997, there may have been between 300 and 500 foxes or more, in addition to the 250 shot by Dave McLeod during the 16 months before baiting.

Why eradicate? Well for anyone who doubts, the photos elsewhere in this Wool Press graphically illustrate what foxes do to lambs, whilst the table below shows what happens to birds if you get rid of foxes. We reckon that between 15 and 25% of our lambs are killed by foxes each spring. Foxes also account for the low numbers and poor breeding success of ground-nesting birds such as plovers, oystercatchers, wrens, pipits, meadowlarks, and geese (upland, ruddy-headed, and kelp), not to mention the problems we have in keeping hens, ducks and tame geese. Patagonian foxes are no different to European foxes when it comes to food preferences. What we hope to see once the foxes are gone is a 90-100% lambing figure - entirely feasible on a western island with plenty of grass, shelter, young sheep, and comparatively mild winters - and an increase in wildlife.

Once the preliminary poison-free trials had proved successful, we started baiting in a 350 ha area comprising the settlement stud flock paddocks. Bait stations were spaced 500 to 700 metres apart, each station marked by a numbered wooden stake, and its position recorded on a map. As each station is checked, a record is made of whether or not the bait has been taken, and of the number of foxes and also of certain species of birds seen between stations. Baits were checked roughly every two days for two weeks until October 6. During this time, 60 to 90% of baits were being removed between visits. There was no sign of any tailing off and we assumed that foxes were constantly moving in from other parts of the island to help themselves to the goodies.

The programme necessarily came to a halt in October due to shearing, and it wasn't until November 1 that baiting began over the entire 3,800 ha of Beaver with 209 permanent bait stations established. The bait stations are located on all sorts of ground, from coastal greens to windswept mountain tops, from smooth-riding grassy flats to first-gear steep stony hillsides, and only sheep tracks between them. I divided the island into 6 discrete areas of between 500 and 800 ha each. However, with a total of 36 km of fences and 21 gates to negotiate, each area translates into 15 to 25 km traveling, and takes 2.5 to 6 hours to cover, depending on the country.

Having laid 1350 baits since September, and spent over 230 hours on the bike covering 1,500 km, I'm thankful to be able to say that the effort is paying off: the % of baits taken island-wide is now less than 10%, and not a fox seen since Christmas! However, there are still a few baits being taken and I'm only now beginning to appreciate those words of caution given along with those of encouragement when we first contemplated eradication: the last few will be the most difficult ones to get, and the final effort most strenuous.

The bait stations, with their permanently positioned markers make ideal recording stations for bird census work. The observations I made during this summer's baiting programme will serve as a starting point to monitor changes in bird populations after the foxes have gone.

Monitoring shoreline birds such as ducks, oystercatchers and kelp geese requires a different method. Two years ago Jerome and I mapped and counted all shore birds around the entire coastline of Beaver. I repeated this census this February with Jenny Scott, a visiting Australian researcher, and our results contrast startlingly with those of 1996.

**Changes in bird populations along 21.8 km of Beaver's coastline**

Number of birds	Steamer Ducks		Crested Ducks		Kelp Geese	
	1996	1998	1996	1998	1996	1998
# Adults & young	317	347	159	288	106	134
# Pairs	57	74	14	18	20	20
# Pairs with young	23	24	3	8	0	7
# Young	67	110	8	27	0	22
# Young/pair	2.9	4.6	2.7	3.4	0	3.1

Over these 2 years the fox population has declined due to shooting and baiting. As a result, the total number of birds, and especially the number of ducklings and goslings of steamer and crested ducks, and kelp geese along a 21.8 km stretch of coastline has increased spectacularly: a sure sign of favorable changes taking place within the environment. Steamer ducklings have increased by 40%, crested ducklings have tripled, and kelp geese pairs are now managing to rear on average 3 goslings whereas 2 years ago there were none at all.

The wildlife angle is not one to be dismissed lightly by any responsible landowner, or any government body. Concentrations of varied and numerous wildlife species confer a special atmosphere to the Falkland's landscape. They add to our personal enjoyment of life here, and to that of all visitors, as anyone who has had anything to do with tourism will know. By doing what we can to protect the wildlife whose land we farm, we have the opportunity to enhance both our livelihood and the environment we live in.

For Weddell and Beaver Islands, control of, or better still, eradication of foxes is an essential measure, and one that has been side-stepped and ignored for too long by government. Having officially sanctioned the introduction of foxes in the 1920's, the Falkland Islands Government now has its part to play in redressing the damage, both economic and environmental, caused by the foxes. The encouragement given to this year's FOXOFF programme by the Department of Agriculture is a promising start.

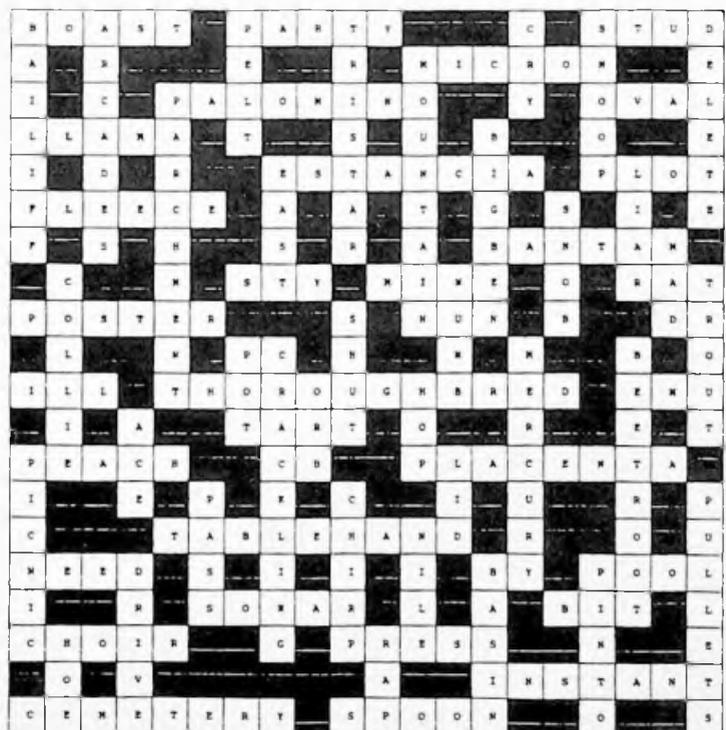
I'd like to thank Sean Miller and Bob Reid from the Department of Agriculture, the suppliers of the FOXOFF baits, Ben Hall and Linton Staples, and John and Stephanie Ferguson on Weddell for their encouragement. Thanks also to those who helped at various times with baiting: Jeremy, Leiv and Jerome Poncet, Harald and Hedel Voss, Tony Felton, Phillippe Poupon, and Chris Cook.

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## PARASITOLOGY THAT IS NOT IN THE TEXTBOOK

This story comes from South Africa when Sir Arnold Theiler was Director of the Onderstepoort laboratory. A field officer collecting blood samples from cattle thought he would play a trick on the old man. He pricked his own finger, made a smear and set it in with the others. However, Theiler was not fooled. His report stated that numbers 1 - 34 were positive or negative, as the case may be, for *Babesia* or *Anaplasma*, but that number 35 from a rabid baboon and the sooner it was shot the better.

THE  
SOLUTION  
TO  
FEBRUARY'S  
CROSSWORD



## Wool and Sheepmeat Developments in Australia

*by Bob Reid*

Whilst on holiday over the Christmas/New Year period in Australia I took some time off from family, sunshine, beaches and cold beer, and went back to work for a few days. My principal reason for doing so was that I wanted to catch up on the progress of a dozen or so pasture experiments that I had started in the last few years, review the Tasmanian Pasture Plant Introduction Programme, discuss links between ourselves and the Tasmanian Department of Primary Industry and Fisheries and, quite frankly, pick up any snippets of information that might be of benefit to Falkland farming; and it is this latter item that I want to expand on at this time.

Firstly, there is a decidedly increased air of optimism within the sheep farming community and for some producers of super-fine wool the "Good days" have well and truly returned (at least temporarily!!), secondly many new producing and marketing groups have formed and some have had instant success, particularly in the Japanese Market, and thirdly growers are without doubt looking more closely at their overall costs of production in relation to their competitors, and that includes their fellow farmers.

Besides the recent high prices being paid for Tasmanian super-fine wool the fact is that both Wool International and the Australian Bureau of Agriculture and Resource Economics have predicted the Eastern Market Indicator will average 700c/kg in 1997-98. Both analysts were hinging their higher forecasts on a dwindling wool supply and weaker Australian dollar offsetting reduced spending by Asian consumers in the wake of the Asian currency meltdown.

Another industry "uplift" is the proposal made by a consortium of prominent Australian businessmen to buy Australia's remaining wool stockpile for Au\$1.1 billion. The stockpile, once seen as a millstone around the wool industry's neck, now stands at a little under 1.4 million bales, down from a peak of 4.6 million bales when the industry's floor-price scheme collapsed seven years ago. Since 1990 a flood of extra wool from the stockpile has pushed fresh wool prices down to sub-economic levels, but woolgrowers now view the remaining stockpile as a valuable asset.

A group of growers in northern Tasmania was determined the collapse of the wool floor-price scheme would not push them out of the industry so they formed a marketing company, Woolpack Pty. Ltd., and after six years of hard slog, trial and error and risk taking, they have just launched their own marketing brand, Best Tasmanian Wool (BTW).

The market response was immediate. Itochu, the world's largest wool buyer, snapped up the trial consignment of 110 bales on behalf of the Japanese processor Toyobo, which will process the wool into cloth under the BTW Brand. The price was not disclosed but believed to be significantly above the market. The wool in the consignment met tight specifications - 20.4 micron fleece wools with a variable of 0.5 micron either side and an emphasis on even fibre with a length of 96.4 millimetres; an average vegetable matter (VM) of 0.3; average strength of 43.6 newton/kilotex; yield of 74.3 and a mid-break average of 49.

As it happens one of my friend is part of this group and I spent an evening with him talking about the wool industry in general and specialist wool marketing in particular. I could summarise the talks like this; "when we found ourselves dumped after the market collapse, the easy response would be to walk away, grow poppies or attempt another farm enterprise. We felt we were primarily wool producers, believed in our product and recognised that to survive we needed to change. At first there was no shortage of detractors, (there are always some who oppose every change), but we felt we had nothing to lose. Being wool producers is not enough and we have to play our part in the wool

marketing process. We must be aware of market trends, processing developments and the options available to us. Our job no longer ends at the farm gate but on the retail shelves and that is where must aim". I left his house feeling very optimistic about both the ability of farmers to adapt to difficult circumstances and the long term future for wool. This latter being reinforced by two developments that also came to my notice.

Toyota, Japan's largest car maker has introduced pure wool car seat covers to its new 'Celsior' series of luxury vehicles. Toyota says that each car uses five kilograms of 20.5micron Australian merino wool to manufacture the 13 square metres of moquette fabric used for each vehicle, and plans to produce 1,500 cars a month over the next three years. This means 9,000 kg of wool will be consumed per month or 324,000kg during the three year period.

An Australian wool quilting manufacturer, Speciality Quilts, has moved its wool based bedding accessories range into the export market. The firm has been producing wool bedding since 1991, after assessing that there was a market for high quality, pure new wool which it believed could do just as good a job as eider down. The product was first launched on the domestic market and gained a high degree of acceptance. Duty free shops were also responsible for generating a lot of sales and in turn, opened up export opportunities to Taiwan, Korea and Canada. Speciality Quilts now uses more than 50,000 kilograms of wool each year. The company has also successfully launched "the great Australian Organic Wool Quilt and Pillow" which are made with certified wool and have the stamp of approval from the Biological Farmers of Australia. Who said innovation in wool was dead?

Coming somewhat as a surprise was that even with the low prices for wool some farmers were making a tidy profit. The latest Australian Bureau of Agriculture and Resource Economics Annual Survey shows the top quarter of big sheep producers are making a 5.7% return on capital compared with an average 1.6% return. I read an article in the Stock and Land newspaper by Dr Colin Scrivener of Melbourne University who argues that the cost of producing wool can be as low as Aus\$3/kg greasy (about Aus\$4.25/kg clean, assuming a 70% yield) through production and management benchmarks. He says it is not the reduction in costs per se that is important but how and where those costs are applied. Economies of scale are also important in achieving low production costs, and Scrivener lists and efficient operator as one who can handle a 10,000 to 12,000 dry sheep equivalent (DSE) enterprise.

In another newspaper, The Land, a study in Southern New South Wales of 31 farms showed the top 6-7% were making money out of wool at market indicator price of just 450 cents/kg clean. Production costs in the group ranged from Aus\$3.07/kg (clean) in the top 20% to Aus\$10.80/kg for the bottom 20% while the differences between the two groups was put down in part to the scale of operation, the study clearly demonstrated room for improvement in the bottom 20%. Many growers, it appears, don't even know what it costs them to produce a kilogram of wool, and whilst that may have been acceptable in the days of a wool price support scheme, it is unlikely to maintain a profitable business in the current climate of minimum to no support for Agriculture. It appears that growers making money at the moment are those in local groups able to identify their costs and benchmark their performance against each other.

Another interesting story came from another friend of mine who is sheep farming in Western Queensland. He tells of a relatively small country town abattoir that has become a leading supplier of canned offal to the worldwide Muslim market. Instead of processing the offal into low-value pet meat, the company operating the abattoir is applying the principles of value-adding to turn it into a sought after canned food for human consumption.

The canned foods are mass produced at relatively low cost and specifically aimed at the low end of the consumer market, where shelf safe products are required. The company makes the product as

concentrated as possible so the customer can dilute it down with their own vegetables, water and coconut juice. The end products probably would not appeal to the average Australian and Falkland Islander, and they have been tailored to suit the tastes of the people in each country. How about sheep's feet in plain brine for Indonesia or curried liver for Pakistan!!

Of course it has meant some changes to the abattoir, with the killing floor being re-aligned to face Mecca and an accredited Muslim slaughterman employed to slaughter the animals in the traditional manner, complete with prayers and a Muslim stamp. With up to 30 tonnes a day being produced such changes were seen as minimal. Food for thought??

**N.B.** £1 = Aus\$2.40 (approx.) at 1.1.98

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## **FOR SALE**

- (1) 1989 HONDA FOUR-WHEELER TRX300 4x4  
chassis and back axle are unserviceable but bike would be good for spares.
- (2) 1990 SUZUKY DR200  
engine needs the attention of a good mechanic.

ANY OFFERS CONSIDERED. Please contact Mark Gleadell on tel. 42003 or fax 42013

## **EXOTIC DISEASE WATCH: SCRAPIE**

by Cameron Bell

This is the first in a series looking at diseases that we don't have in the Falklands but if we did ever end up with them, they would cost large amounts of money and heartache for everyone. Farmers could actually be the first to see such diseases if an outbreak did occur, so it pays to report anything odd. The quarantine regulations currently in place are intended to keep them out, but stranger things have happened before.....

*Scrapie* is a slowly progressive, degeneration ('wasting') of the brain and spinal cord of sheep and goats. The disease is one of a larger group of diseases called transmissible spongiform encephalopathies (TSEs), which includes BSE.

Scrapie tends to occur in animals 2 to 5 years of age, and the clinical signs can be divided into 4 categories:

- **extreme itchiness:** compulsive nibbling, rubbing or scraping against objects, leading to wool loss particularly around the tail and along the chest wall.
- **extreme excitability, trembling, convulsions and stupor**
- **incoordination:** the head may be carried high and they may run with a high-stepping gait, whilst they may appear uncoordinated (like they are very drunk!)
- **loss of body condition late in the course of the disease**

Death usually occurs 2 to 6 weeks after the onset of signs. The most likely way scrapie could get into the Falklands would be via live sheep imports. Quarantine regulations restrict imported live sheep to be sourced from scrapie-free countries only (Australia and New Zealand), thus making entry this way extremely unlikely. Nevertheless, it is still worthwhile keeping your eyes out for anything unusual in your stock and reporting it to the Veterinary Service.

## FARMING FATALITIES PROMPT INSPECTION 'BLITZ'

A hay-turning machine lies rusting at a small dairy farm near Chichester, West Sussex. It catches the eye of Mike Walters, an agricultural inspector from the Health and Safety Executive, who is doing a 'blitz' on farms in the area. If it is used, it could kill or maim.

Farming and forestry has the worst record for fatal accidents of any industry except construction. In the year to April, 63 people died, including eight children, the highest number for six years and a 40 per cent rise on the previous year.

This autumn's fortnight-long inspections across the county were ordered by Jenny Bacon, director-general of the government-funded HSE, in response to the sharp rise in deaths.

On average, someone employed in the agricultural sector dies almost every week. The cost to employers and the self-employed of deaths and injuries is more than £30m a year, and a death will cost an individual family or farming business over £500,000.

On the ground in Sussex, Mr Walters is taking no chances. There is no protective cover on the revolving shaft that powers the hay-turning machine when it is attached to a tractor. Shafts rotate at speeds of up to 1,000 revolutions a minute, with terrifying consequences for anyone who becomes entangled in them.

"It pulls you in," he says. "A guy I worked with was stripped naked when a bit of bale twine in his sleeve got caught by a shaft."

The man was lucky. A young farmhand was killed when his coat caught in a partly exposed revolving shaft. Mr Waters slaps a prohibition order on the hay machine, stopping the farmer using it until he has replaced the guard.

So far this year, seven deaths have been reported in the south-east region alone, which Mr Walters covers with five colleagues. "Farming has become more mechanised, with complex machinery that is more unforgiving," he says.

There has been a drastic fall in the number of inspectors, say the TGWU general union, whose rural branch represents farm employees. Alan Dalton, health and safety co-ordinator, says larger farms are inspected on average once every 10 years, and smaller ones every 30 years. "It's one of the factors in the rising deaths and injuries."

The union is angry that the 63 deaths last year resulted in only two prosecutions, with fines of just over £1,000 in each case. It has nine roving safety representatives in the south-east and Norfolk who aim to act as "eyes and ears" for HSE inspectors. They have arranged meetings with farmers to raise awareness of the dangers but have so far been refused access to farms.

Mr Walters' records show a farmhand was killed eight years ago after falling into a feed-mixing machine at one of two neighbouring arable and dairy farms belonging to

the same family. After inspecting the other farm, he issues three prohibition notices for insufficiently protected machines. The maximum penalty from magistrates for failing to comply is a £20,000 fine or six months in prison. He advises the farmer to move a stack of hay bales further away from the power lines in case the telescopic arm of the lifting machine hits them, electrocuting the operator.

The next visit uncovers dangerous chemicals in a pesticide store. One is dield-pesticide, which can cause birth defects. The other is 2,4,5-T, a powerful weedkiller known as agent orange. Neither has been approved for years. Mr Walters writes an enforcement notice giving the farmer four months to remove them via a waste disposal contractor.

The inspectors say they regularly contend with farmers' ignorance, both of the risks and the cost-effectiveness of safety measures. "The legislation has been out for years," says Mr Walters. "Yet they ignore it or let it slip."

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## **ATTENTION !!....CHANGE OF DATE BRENTON LOCH OPEN DAY**

**DATE:** Wednesday April 15th 1998

**TIME:** 10.30 till late

**PLACE:** Brenton Loch cattle yards - Follow the signs from Goose Green or be picked up at the Goose Green airstrip.

**AIR TRAVEL ASSISTANCE:** If you don't live on the East you are eligible for assistance with airfares. Contact our Stanley office for details. - If you haven't already informed us of your intention to attend and require flights and/or transport to Brenton Loch, please contact the Department as soon as possible, before the 3rd April.

**ACTIVITIES:** Official opening of the cattle yards and project by H E The Governor at 1.00pm .

Inspection of the cattle yards and a chance to work animals in them.

Visit to the herbicide trial site.

Departmental displays on all the major programs in which the Department is involved.

Barbecue lunch.

We are hoping for a good roll up at this event as it is a good chance to catch up on the activities of the Department and discuss them with the officers responsible for them.

Looking forward to seeing you all there.

## Prediction of Genetic Gain.

*By Doug Cartridge*

When looking at the historical farming statistics of the Falkland Islands it becomes evident that since sheep farming commenced in the 1800's very little improvement in per head wool production has been made. Why is this a fact when so many have tried so hard to improve genetics of their flocks?? Quotes such as these can be seen when browsing the statistics;

1910: The clip was up to the usual standard, averaging about 8.75lbs. (3.98 kg's)

1950: Fleece weight per sheep shorn 8.30lb's. (3.77kg's)

1951: Fleece weight per sheep shorn 8.09lb's. (3.67kg's)

The average fleece weight shorn for the last 5 years 1992/93-1996/97 was 3.76 kg's.

How can we overcome this state of static improvement in per head wool production?

1. Feed and/or manage the stock better
2. Improve the genetic ability of the stock to produce wool.

In this article I am going to deal with the second option of improvement and hopefully explain the complications that farmers are faced with.

Expected genetic gain can be calculated using a formula. The formula is as follows:

**Gain per year** = (Heritability (of the trait in question) X Selection Differential) / Generation Interval  
with:

**Heritability** meaning the strength of inheritance of a trait e.g. Fleece weight is approx. 0.4, fibre diameter approx. 0.5 and fertility 0.1. The more emphasis put on single traits the quicker the results.

**Selection differential** meaning the superiority of the selected parents over the mean of the population from which they came.

**Generation interval** meaning the average age of the parents when the offspring are born.

Using this formula we can predict the likely genetic gain for fleece weight given several different scenarios.

**Farm A** has no selection for fleece weight on replacement ewes entering the flock.

**Farm B** has 10% selection for fleece weight on replacement ewes entering the flock.

**Farm C** has 20%     "     "     "     "     "     "     "     "     "     "

**Farm D** has 30%     "     "     "     "     "     "     "     "     "     "

**Farm E** has 40%     "     "     "     "     "     "     "     "     "     "

**Farm F** has 50%     "     "     "     "     "     "     "     "     "     "

What are the 6 farms likely genetic gains for increased fleece weight if we also introduce 3 variables for generation interval and 3 variables for the rams selection differential for fleece weight.

Ram Selection differential:	1.5	1.5	1.5	0.5	0.5	0.5	-0.5	-0.5	-0.5
Generation Interval:	4	5	6	4	5	6	4	5	6
<b>Farm A</b>	0.075	0.060	0.050	0.025	0.020	0.017	-0.025	-0.020	-0.017
<b>Farm B</b>	0.080	0.064	0.053	0.030	0.024	0.020	-0.020	-0.016	-0.013
<b>Farm C</b>	0.083	0.066	0.055	0.033	0.026	0.022	-0.018	-0.014	-0.012
<b>Farm D</b>	0.085	0.068	0.057	0.035	0.028	0.023	-0.015	-0.012	-0.010
<b>Farm E</b>	0.088	0.070	0.058	0.038	0.030	0.025	-0.013	-0.010	-0.008
<b>Farm F</b>	0.090	0.072	0.060	0.040	0.032	0.027	-0.010	-0.008	-0.007

Confused!! I'll try to explain. If we choose a typical scenario for the Falklands, say Farm B, who uses rams who's mean fleece weight is 0.5 kg's better than the flock mean and who has a ewe flock who's average age is 5 years (Generation interval 5), the expected genetic gain per year is 0.024 kg's or 24 grams. To explain this in economic terms, if farm B mated 1000 ewes and subsequently shorn 600 hoggets from that mating, you would expect to clip approximately 14.4 kilograms of wool more from those hoggets than you did from the previous years 600 hoggets. This increase then becomes cumulative for each age and class of sheep farmed. Therefore if the rate of genetic gain is constant you would expect to clip 0.024 kg's of wool more per head from each class of sheep annually. If farm B is an average farm and runs 5000 sheep we would expect to see an increase of 120 kilograms of wool produced annually. However the ability of the animals to perform to their potential is limited by environmental factors. Saying this, taking seasonal changes into account, overtime the 120 kg increase per annum will be displayed. The value of this increase is currently about £300 per annum.

Considering it is difficult to identify much genetic gain in the past, maybe Farm B is actually an above average Falkland Islands farm and the average gain is somewhere nearer to zero. Other factors which may be distorting the apparent lack of genetic gain are degradation of pastures, less management or change of stocking rate.

**There are three main ways of accelerating your flocks genetic gain;**

- a) **Improve your lambing performance to allow for greater selection on ewes entering the flock.**
- b) **Use genetically superior rams, consider purchasing superior rams that are performance recorded.**
- c) **Reduce the average age of your ewe flock.**

**Consider this scenario:**

You farm 5000 sheep, the average age of your ewe flock is 3.6 years through mating 1/2 your shearling ewes and culling ewes at 5 years of age, you achieve 90% lambing annually and hence can cull approx. 30% of replacement ewes on wool weight and you purchase superior rams which are capable genetically of producing 2 kg's of wool more per head than your flock average. What is the expected genetic gain per year??? Answer: 0.122 kg's/head or 610 kg's annually or £1525 p.a.

If under this same scenario you chose to use average quality rams which produced your flock average fleece weight your expected gain would be £55 p.a. Taking this into consideration you could afford to pay £100 / ram for 12 rams annually and still be better off!! *See you at the NSI Ram sale 18th March!!*

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## **WETHER TRIAL FOR THE FALKLANDS**

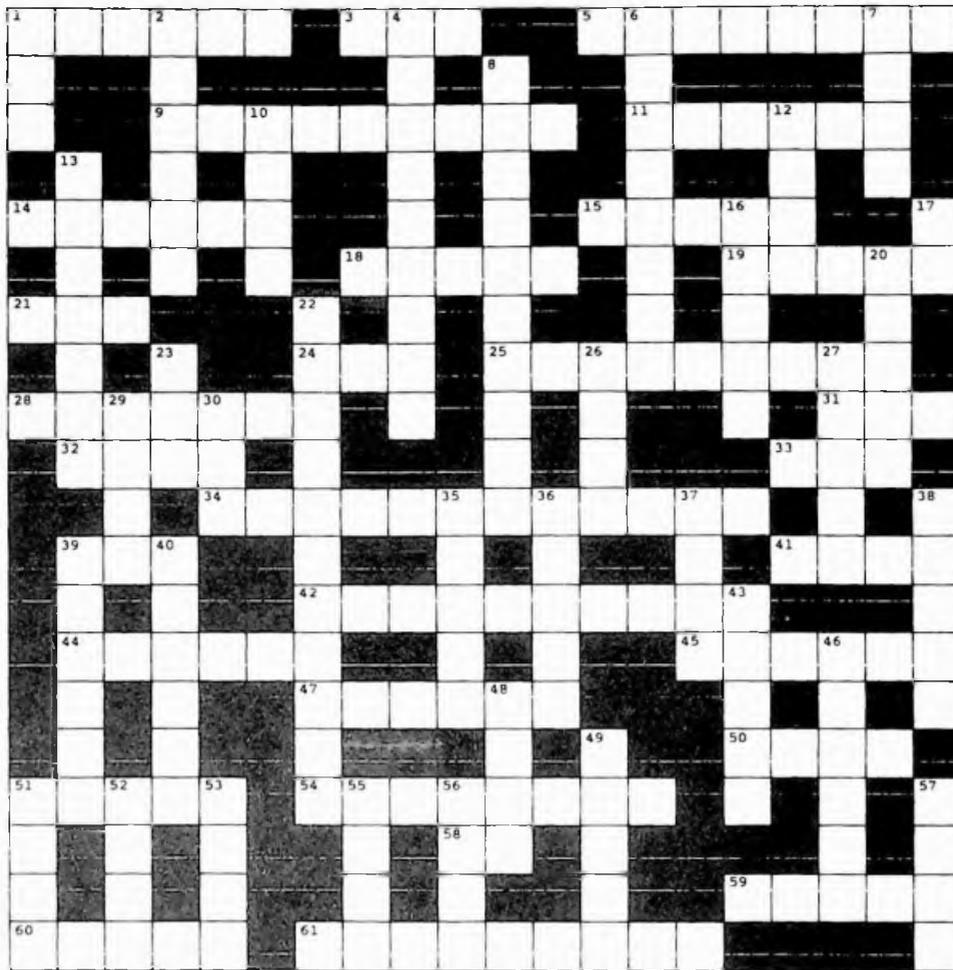
*by Sean Miller*

Wether trials have been going for many years in Australia and have provided many valuable ideas on sheep production. We are keen to get a trial up and running here in the Falklands. Wether trials are designed to compare production from groups of wethers from different breeds and locations. The groups of sheep are run together at one location, and production and survival attributes are measured annually to determine the best performers.

This trial will provide answers to such questions as which breeds perform better and produce more, what level of production can we expect from different breeds (and lines), and do sheep from the West perform as well those from the East when they travel?

We need to get together about a dozen or so groups of wethers (each group about 25 sheep), from both West and East Falkland farms to make worthwhile determinations on their comparative strengths and weaknesses. To do this we would like to hear from any farmers who can provide a group of 30 wethers. The Department will purchase the sheep and transport them to their final destination where they will be run together with the other groups for several seasons.

As I'm away shortly on leave, if you are interested then please give either Doug or Robin a call in the next few weeks so we can get the ball rolling quickly. As an added incentive, rewards will be provided to the breeders of the best performing sheep each year!



ACROSS

DOWN

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| <ol style="list-style-type: none"> <li>1. THE ONE IN CONTROL</li> <li>3. EYELESS NEEDLE</li> <li>5. SOLITARY CARD GAME</li> <li>9. SURGICAL PROCEDURE</li> <li>11. CAMERA STAND</li> <li>14. MUSHROOMS FOR INSTANCE</li> <li>15. SHUT DOWN</li> <li>18. FOURTEEN POUNDS</li> <li>19. ELEPHANT NOSE</li> <li>21. ANIMAL KEPT FOR COMPANIONSHIP OR HOBBY / AMUSEMENT</li> <li>24. FEMALE BIRD GENERALLY SPEAKING</li> <li>25. FARM ANIMALS</li> <li>28. GRIM AND SINISTER</li> <li>31. TYPICAL POPPY COLOUR</li> <li>32. DEFINATELY NOT EARLY</li> <li>33. FISHING TOOL</li> <li>34. COUNCILLORS OFFICES IN STANLEY</li> <li>39. JEWEL</li> <li>41. SEA HEN</li> <li>42. USED TO TREAT A BACTERIAL INFECTION</li> <li>44. REFLECTIVE OBJECT</li> <li>45. WOODEN HORSE</li> <li>47. BIRD RESTING AREAS</li> <li>50. UNPOLLUTED</li> <li>51. LARGE GATHERING</li> <li>54. TYPICAL DUTCH BUILDING</li> <li>58. FOR INSTANCE</li> <li>59. TYPE OF CANOE</li> <li>60. FLOWER WITH A FACE</li> <li>61. STAMP COLLECTING</li> </ol> | <ol style="list-style-type: none"> <li>1. CLEANING IMPLEMENT</li> <li>2. ANIMAL FEED CONTAINER</li> <li>4. GUT</li> <li>6. AFRICAN DEER</li> <li>7. SECRET ENCRYPTED MESSAGE</li> <li>8. REPORTER</li> <li>10. ENCOURAGE GENTLY</li> <li>12. JETTY</li> <li>13. BURIAL SERVICE</li> <li>16. ONE OF MANY AREAS IN THE U.S.A</li> <li>17. ALRIGHT</li> <li>20. WEARING NOTHING</li> <li>22. HANDCART</li> <li>23. HEAD WEAR</li> <li>26. REJECT</li> <li>27. EARTHENWARE POT OR JAR</li> <li>29. LOOK AFTER</li> <li>30. PLEAD</li> <li>35. HORSE STEERING EQUIPMENT</li> <li>36. HUMAN FIBRES</li> <li>37. PROJECTING STRIP OF LAND</li> <li>38. COME BACK IN AFTER LIFE</li> <li>39. MAIDEN OR YOUNG EWE</li> <li>40. SPINAL COLUMN IN MEAT</li> <li>43. UNDERGROUND VAULT</li> <li>46. SMALL ISLAND GAMES VENUE 1997</li> <li>48. MEASURE OF DURATION</li> <li>49. LIVER PARASITE</li> <li>51. COLLECTIVE NAME FOR WOOL SHORN</li> <li>52. SIGN</li> <li>53. LOW CART</li> <li>55. IMPERIAL DISTANCE MEASUREMENT</li> <li>56. CIRCULAR GAUGE</li> <li>57. EDIBLE SPONGE</li> </ol> |
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# WOOL PRESS

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**PLUS ALL THE REGULAR FEATURES AND MORE!**

*The Wool Press is published by the Department of Agriculture. Editors: Lilian Wallace & Julie Fisher-Smith*

## EDITORIAL

First of all, I must thank all those people who put time aside from their busy workload and produced all these interesting Woolpress articles. In the last two days I have been inundated with them! I should also apologise to some of you as your articles had to be left for next month's edition. They will be first on the list, I promise.

During this month we said goodbye to Gene Berntsen, we wish him all the best for the future. Karen Marsh has join us as an Agricultural Trainee and we wish her a happy stay. At the moment we have a visitor from Tasmania, Mr Stuart Smith, a Herbicide Specialist. I'm sure you will have the opportunity to meet him or have a chat during his visit.

There are very interesting articles in this month's issue, i.e. Sean Miller's wether trial, where you, the farmer, can gain valuable feedback on the state of your breeding programme, Louise's article where she needs to gather your observations and experiences with Diddle Dee, especially concerning attempt to control it and is it a nuisance to farming?.. They need your support on this, so why don't you give them a call. As Sean is away in Australia enjoying a well deserved holiday, if you would like more information on the trial please get in touch with either Doug or Robin or just leave a message with we "GIRLS" in the main office.

We also include a very informative article from Nigel Knight, Coast Ridge Farm, on the FI Farmers Trip to Punta Arenas, Chile. It seems that it was a worthwhile tour and very enjoyable. I quote a piece from Nigel's article... 'lasting impression of our trip were of high quality stock raised mainly on unimproved pasture and friendly and courteous people with similar problems to our own'. Finally, we must congratulate Robin Thompson on organising such a successful trip after many obstructions and thank him for his perseverance, he finally got it going, well done Robin!

TO ALL FARMERS and everyone else, we look forward to seeing you on Wednesday 15th April at the Brenton Loch Open Day, this is an opportunity for you to see and ask questions about all areas of work in which the Department is involved. SEE YOU ALL THERE.



"Sing Ba Ba Black  
Sheep once more, and  
you'll find out what  
my horns are for"

### THIS MONTHS CONTRIBUTORS

<b>Sean Miller</b>	Sheep Husbandry Officer, DoA.	<b>Marie Summers</b>	Junior Agricultural Assistant
<b>Grant Monroe</b>	Agricultural Assistant (Forestry)	<b>Robin Thompson</b>	Beef Specialist
<b>Robert Hall</b>	Falkland Wool Growers Ltd	<b>Owen Summers</b>	Deputy Director
<b>Nigel Knight</b>	Farmer	<b>Louise Amos</b>	QUB Student

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## COBALT SUPPLEMENTS - CAUGHT OUT BY A 3 CARD TRICK

*By Sean Miller*

Discussions I've had with farmers on the West recently have questioned how long cobalt pellets actually last in sheep. When Steve Whitley looked at the already established practice of cobalt-pilling sheep during the 1970's, it was widely accepted that cobalt pellets worked for at least 5 years and possibly longer. That is, most sheep only needed one pill for life. In recent years Peter Robertson, Port Stephens, has noticed that sheep coming into the shed 3 and 4 years after receiving a pill as weaners were in poor nick. This has led to his practice of re-pilling sheep every second or third year.

So is this necessary? Cobalt pellets were first created in Australia in 1958, they weighed about 5 grams, and contained cobalt oxide ( $\text{Co}_3\text{O}_4$ ) and china clay (to hold the cobalt metal in the pellet) in the proportions of 75% to 25%, respectively. Some problems were seen as sheep tended to regurgitate many pellets. The formulation was later changed to 6 grams  $\text{Co}_3\text{O}_4$  (60%) and 4 grams of iron powder (40%) to improve retention, and a grinder (a 10 mm grub screw) was dosed at the same time to prevent the build-up of salt on the pellet. These salts can prevent cobalt from being released. The improved pellets effectively maintained blood concentrations of vitamin  $\text{B}_{12}$  at normal levels for more than 5 years. These were the pellets commonly in use in the Falklands until recently.

### *How sheep use cobalt*

- \* Cobalt is converted to vitamin  $\text{B}_{12}$  by microbes in the stomach of sheep
- \* Sheep can survive without cobalt but cannot survive without vitamin  $\text{B}_{12}$
- \* A cobalt deficiency is therefore more correctly described as a vitamin  $\text{B}_{12}$  deficiency, and blood and liver concentrations of vitamin  $\text{B}_{12}$  (NOT cobalt) are used to diagnose the condition
- \* Vitamin  $\text{B}_{12}$  is used by the sheep to:
  - metabolise energy*
  - recycle sulphur(wool) proteins*
- \* Symptoms of deficiency include:
  - poor growth and survival (ill-thrift)*
  - loss of weight and appetite*
  - poor wool growth*
  - watery discharge from eyes*
  - poor reproductive performance*
  - white (fatty) liver disease*
  - scaly/waxy ears*

The price of  $\text{Co}_3\text{O}_4$  increased in the late 1970s and the formulation of the pellet was changed. Only half as much is now included in the pills (i.e. 30% cobalt). The amount of iron in the pellet was increased and this has further improved the retention of pills in the stomach - less being regurgitated. In fact, the iron framework of the pill is still visible in the stomach years after pilling. The reduction in cobalt content was not made widely known to farmers in Australia, and as is the case here, many farmers believed that the pills were still good for 4 or 5 years. THIS IS NOT THE CASE.

A recent study in Australia suggests that some cobalt pills have an active life of 3 years at the most, and under many circumstances, should only be relied upon to maintain normal blood vitamin  $\text{B}_{12}$  levels for 1 year.

Over the coming season we will be monitoring the life of cobalt pills in sheep on the West so we can obtain a clearer picture of how long they now work in the Falklands. In the meantime, some manufacturers recommend that cobalt pellets be given annually, others suggest their pills last for 3 years. However, and until later in the year when we have some local results to make firmer recommendations, check what your tin says. Failing that, I would recommend that any sheep not having a pill for 3 years be re-pilled this year. For sheep that have not received pills for the last 2 years, those in the mob that are in obviously poorer condition could also be re-pilled since it is possible that these sheep have either lost their pill or it is no longer active.

And whilst we are on cobalt - just a quick note about the cobalt content of drenches. Panacur SC is commonly used throughout the Falklands. Despite the sales pitches of chemical company reps, it is important to understand that when sheep are drenched at the recommended rates they receive very little cobalt and selenium. In fact, the effect of cobalt from the drench lasts about 1 week, and that of selenium about 1 month. The only effective way to treat a chronic cobalt deficiency is to use a cobalt pellet.

If positive effects are seen in sheep drenched with a wormer containing cobalt/selenium, you can bet the lasting effect is from reducing worm burdens and not from the minerals. The message then is to save a pound or two when you buy drenches, and go for the one without added cobalt, unless they give you the cobalt for free!

\*\*\*\*\*

## Introduction - "Junior Agricultural Assistant"

by Marie Summers

Hi! Most people probably already know me but for those who don't my name is Marie Summers (daughter of Sybie and Teddy Summers, I'm sure after mentioning their names you have an idea of who I am, but I can assure you I am not as loud and as wild as my parents, well not as often anyway!).

I have been here at The Department of Agriculture for a couple of months now, working as a Junior Agricultural Assistant, this means that I get to work in all the different parts of the department which so far has been very enjoyable and interesting. I have learned a lot while working here and that with every new job there are always things you like most and things that you could probably do with out ( we narrow them down to the Best and the Worst. ) My favourite or Best job so far has been going out to camp and working with the sheep or any other animals. The Worst, well I wouldn't like to say, to tell the truth there hasn't been any job that I really hate so far but I do admit wool washing is very close. I have also learned that there is sentences and words to look out for, things like:

"You don't need to do that job right now. *I have a better job for you to do!*"

"Are you busy?"

"Could you do this boring but *extremely important job for me!*"

Most of these sentences usually end up where you are washing wool or having a 'World War 3' with the Photocopier. But they can sometimes be really good fun.

Even though I have passed my G.C.S.E exams I have decided not to go to college yet, but to stay on at the Agriculture Department and then maybe later on go away for training on a specific aspect of the Department. I am not exactly sure what this is going to be yet but it seems to be leaning towards some sort of sheep work or Veterinary work.

Well that's about all I can think of to tell you about my experiences as a Junior Agricultural Assistant so I will come to an end and just say hope to see you some time ,if I have not seen you already.

\*\*\*\*\*

## TREES - THE NEED TO WEED ?

It is essential to maintain a weed free zone of at least one metre around newly planted trees. An understanding of how weeds affect the growth of trees may help you to make the effort that this advice entails. This article explains how weeds reduce tree survival and subsequent growth

Weeds interfere with tree growth at many levels. The most obvious are competition for moisture, nutrients and light. Weeds however can also release toxins, modify the growing environment, harbour pests such as the "grass grub", and increase the fire risk.

### **Competition for Soil Moisture**

Soil moisture deficits occur regularly during the spring and summer months due to low rainfall and higher winds and are most critical for newly planted trees. Young trees planted out through the winter will come spring time be trying to re-establish root growth and a good root to soil moisture contact

Weeds, like all plants, dry the soil by extracting moisture through their roots and transpiring it from their leaves. In addition weeds intercept rainfall, some of which evaporates from the foliage before it reaches the ground. Available soil moisture below vegetation is therefore less than on bare ground. Trees in competition with weeds therefore suffer a greater internal moisture stress than weeded trees. The adaptations a tree makes in response to water stress are all harmful to growth

Plants have small cells called stomata on their leaves which open and close to allow the gaseous transfers essential for photosynthesis and growth. Unfortunately when these cells are open it also leads to moisture loss from the tree. Thus if the tree is suffering from moisture stress the cells remain closed to conserve water and this prevents active growth. In addition unweeded trees grow less foliage to reduce their water needs, they form smaller leaves, stop shoot growth earlier and shed leaves prematurely. These 2 factors in combination give a plant that can barely gain any energy from the sun. Since this energy is required for root growth and root growth is required for water uptake a vicious circle may result leading eventually to dieback and death of the unweeded tree.

The problem is further complicated because leaf growth and bud activity release hormones that stimulate and control root growth, therefore if leaf growth is depressed it follows that root growth will also be depressed.

The only way to ensure that the water deficit does not reach critical limits is to keep the area around the tree weed free. Cutting the vegetation is counterproductive as this leads to increased vigour of the sward and increased moisture deficits. The solution is complete suppression of the weeds through manual weeding, herbicide application or mulching. These actions should be performed through out the year to maintain a weed free circle of at least one metre in diameter around the tree.

### **Competition for nutrients**

Trees growing amongst vigorous weeds and grasses are often nutrient deficient with leaves that are fewer, smaller and yellower than in well weeded trees. Competition for nutrients is closely inter-related with moisture competition as once weeds have dried the soil trees can no longer extract the nutrients, which are in solution, from it. Drying does not have to occur all the way through the soil profile. Most of the plant available nutrients occur in the upper soil layers and since these layers are the first to dry out, tree growth may be impeded even if adequate moisture is available at greater depths.

Fertiliser application will not solve the problem unless it is performed in conjunction with weed control. Grasses respond more quickly to fertiliser than do trees and thus the vigorous grasses will swamp the tree before it can respond, leading to even greater moisture stress within the tree. Weeding not only reduces moisture stress but also increases the nutrition of the tree. Killed weeds release nutrients as they rot whilst greater available soil moisture will aid more rapid decomposition of plant matter within the soil and hence nutrition for the tree.

Legumes have been discussed extensively due to their role in improving sheep nutrition and soil fertility. Whilst legumes do improve soil fertility and some might think this would improve tree growth, vigorously growing legumes are just as harmful to trees as grasses and a metre zone around trees should still be kept clear of all vegetation

### **Other effects of weeds on trees**

Competition for light and physical damage to trees given the nature of the weed species in the Falklands should not be significant. Light and physical damage is only significant with very tall grasses or tall woody shrubs.

The influence of chemicals released by one plant on another plant is called allelopathy and is usually harmful. Grasses have been known to produce detrimental allelopathic effects on young trees. Weeds can also delay mycorrhizal fungal colonisation of the tree roots and the associated improvement in tree growth that accompanies this colonisation.

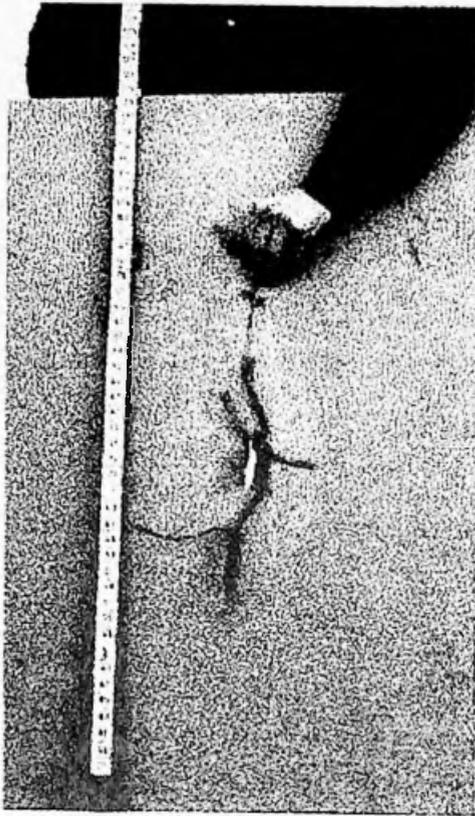


Fig. 1. A young oak tree (left) and a young oak tree (right) planted in a weed-free area. The tree on the left is 38 cm tall when planted out and is pictured after 3 years. The tree on the right is 38 cm tall when planted out and is pictured after 3 years. The difference in size of the weeded tree on the right compared to the unweeded tree on the left is immediately obvious.

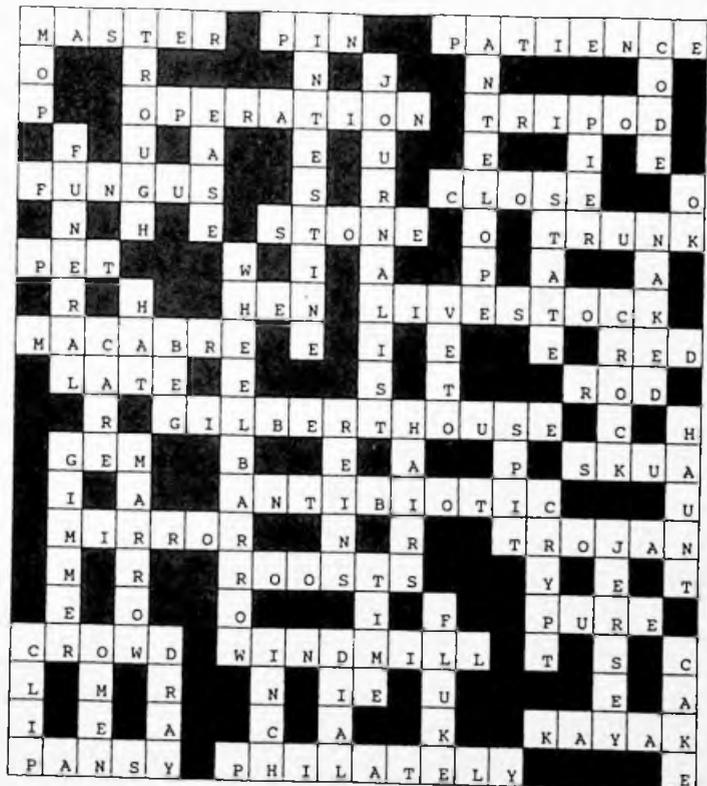


I hope the picture alongside, taken from a UK Forestry Commission publication, shows just how important it is to maintain a weed free area around newly planted trees. Both oak trees were 38 cm tall when planted out and are pictured after 3 years. The difference in size of the weeded tree on the right compared to the unweeded tree on the left is immediately obvious.

Next month I will look at the range of options for weed control and the differences between mowing, cultivation,

herbicide application, and mulching. I will consider the effectiveness of each option and when the best time of year to undertake the work is.

THE  
SOLUTION  
TO  
MARCUS'S  
CROSSWORD



## WAGYU - THE WORLD'S MOST EXPENSIVE STEAK!

*by Robin Thompson*

The majority of beef on the world market is just plain beef. This means beef which is produced in Australia, Uruguay or Britain is essentially the same assuming that the health status of the herds is of the same high standard. Consequently most beef is treated as a commodity rather than a specialist product on the world market and therefore attracts base commodity prices. In such situations the producer is most likely a price taker rather than a price maker because most of the factors (volume of product, time of supply, product presented to the consumer) is beyond the control of the individual producer. Such a scenario does not always have to operate as is demonstrated by the Australian Wagyu story.

Wagyu is the breed of beef cattle with the greatest ability for marbling or the production of intramuscular fat. Japanese consumers prefer this beef (known as kobe) so they are prepared to pay premiums of up to 100% for meat which fulfils their specifications. The major reason for this premium is that demand exceeds supply because there are limited stocks of Wagyu cattle outside Japan. Consequently the cost of getting Wagyu is high because it usually involves purchasing embryos and the associated costs of implantation. A group of Australian producers have invested millions of dollars in an endeavour to cash in on this seemingly premium market and are currently reaping the rewards. This sounds utopic and perhaps the answer to our dreams here but before we get too carried away the following are some of the factors that we need to consider.

The Falklands being small will never produce a quantity of beef considered large on the world market so it will have little or no control over the market forces setting the price for commodity beef. The first question therefore is can we produce a quantity of beef surplus to our domestic requirements? If the answer is in the affirmative (I believe the jury is still out) then can we afford for it to be just commodity beef? The answer to this question must be no because we all aim to maximise returns and have the best possible lifestyle. If we believe we can produce beef in quantities greater than those required for our domestic market then we must start now to identify prospective markets. Unless we understand these markets and the products they require we have no chance of meeting their expectations. From a producers perspective this may dictate the production systems (organic vs conventional) and health protocols we adopt. In doing this we must identify what our competitive advantage here is and how this fits in with the requirements of potential markets and the ability of our competitors to also meet these requirements. Of course with good marketing there is some opportunity to create a product image that customers relate to and therefore buy or pay a premium for that product.

Animal breeding and farming enterprises plan and operate over a long time scale so we must be sure that any potential market identified will also be there in a similar time scale. Very few markets are serviced by only one or two producers mainly because individual farmers are not large enough to produce product in sufficient quantity to fill containers or to develop individual relationships with consumers whether they be wholesalers or individual users. With the marketing of any product continuity of supply is very important. Japanese wholesalers purchasing Tasmanian beef insist that the quantity supplied in the winter months sets the level for the rest of the year. Consequently, Tasmanian beef producers have had to adopt management systems that enable them to finish beef animals at a time of year when feed production is limited by sub optimum conditions for plant growth. The local processors have to pay premiums for winter finished beef in order to secure and maintain their market share. Marketers and farmers will have to work together here in order to have similar success.

It is unlikely that wagyu will be the basis of the Falklands beef industry but we can learn from the experience in Australia. This means we must all start now to plan where we want to go and what we want to achieve both as individual beef producers and as an industry because such developments don't happen alone they have to be driven.

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## Introduction - "Agricultural Trainee"

Karen Marsh

My name is Karen Marsh and I have been working in the department for a few weeks. I have just finished my GCSE's and am now gaining experience by working in the Department of Agriculture until September when I am hoping to go to Bicton Agricultural College in Devon. Before coming to Stanley to work I lived on West Falkland with my parents and my younger sister at Fox Bay. I have lived in camp all my life and only been away for school when I lived in Stanley Hostel, which when you are used to seeing two or three kids every few days if you were lucky, is quite different from seeing forty every day.

Since I have been at the department I have done a number of different jobs. The main job for the first couple of weeks was at Brenton Loch working with the National Beef Herd and assisting in the AI programme. Although being totally petrified for the first few days I found it a really interesting and an experience I shall never forget. I would just like to say that yes, ok, it was perhaps my fault that I got the Landrover bogged, however, I am taking no responsibility for the Quad breaking down. It was nothing to do with me, I was just driving it at the time!?!

When I am in Stanley I work in the offices and help if people have something they would like me to enter onto a computer. I've also worked in the main office and in the wool room and while Marie is not here I make sure that the plants in the greenhouse are watered and check to see if they have changed stages.

I am sure this work experience will be to my advantage when I go to Agricultural College later in the year, so I will end this now and go and fill the coffee urn!

---

### **ATTENTION HAY MAKERS!**

If you have made hay this year I would like to receive a 500grams sample from an average bale. The purpose of this is to assess quality of the hay being made on the Islands and if necessary look at ways of improving it. Everyone who sends me a sample will get a personalised report.

When submitting a sample include a note telling me date of cutting, whether the hay was rained on after cutting, date of baling and what animals you intend to feed it to. I look forward to receiving lots of samples. Robin Thompson, Dept of Agriculture, Goose Green.

# FAILURE TO TEST YOUR WOOL COULD SERIOUSLY DAMAGE YOUR WEALTH

*by Robert Hall*

With modern wool sampling and testing procedures widely available, farmers are recommended to have all main lines of wool independently sampled and tested for the basic information of yield and micron. Not least because otherwise it could generally be in the interests of wool buyers to under-estimate yields and over-estimate microns and for sellers to seek the reverse! (Reference Woolpress 97, December 1997)

As standard procedure, with the exception of Jacob/black/coloured wool, ALL fleece and oddment wools should be sampled and tested by SGS Wool Testing Services Ltd., Bradford. The vital results include yield, vegetable matter content and fibre diameter (micron), with test result certificates clearly identifying which farm marks/bale numbers have produced which results. This procedure ensures that the interests of farmers are protected.

The selling of wool by farms on the basis of under yielding estimates has serious implications upon farm revenues. For example, if Pieces worth 180p/kg clean, are sold by a farm on the basis of being 55% yield, but would really have tested at 60% yield, then the farm has dropped five percent on a yield. Worse, however, is that such a five percent error in yield estimate has a nine percent effect in production and monetary terms.

100 kg @ 55% = 55kg

55kg \* 180 p/kg = £99.00

100 kg @ 60% = 60kg

60kg \* 180 p/kg = £108.00 or £9.00 more

Given that  $108/99 = 1.09$ , wool yielding 60% results in the farm production being nine percent higher and earning the farm nine percent more than if the yield had been 55%.

All farms are recommended to sell their wool against accurate, objective test results and documentation. This provides proof that "what you produced is exactly what you sold" and it provides the important information required by farms to manage and improve their production over time. SGS test results protect farm incomes by ensuring transparent marketing of the wool and this year they also ensure that farms claim the full assistance available from FIG for clean wool production in 1997.

Falkland Wool Grower's policy is to core-test all fleeces AND oddments. All farms are recommended to obtain test results documentation for all their wool production, as provided by the Agency.

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## WANTED

DOES ANYONE HAVE ANY HAY MAKING EQUIPMENT WHICH THEY NO LONGER REQUIRE? IF YOU DO, PLEASE CONTACT: P & D WHITNEY  
MOUNT KENT FARM - TEL: 31003

## WHY A WETHER TRIAL?

*by Sean Miller*

As mentioned last month, the Department is keen to establish a wether trial and competition in the Falklands.

*Q. So what is a wether trial?*

A. Groups of wethers from different locations, of different breed, and from different lines within breeds, are grazed together as one flock. Since the sheep are grazed together, they are managed as one flock and all have access to the same pastures for the duration of the trial. Thus, the only differences between relative production are the results of genetic differences.

*Q. What can a wether trial tell us?*

A. There are several reasons for wanting to compare different sheep under the same management and nutrition. Which local wool breeds are more suited to the Falklands' environment. Does this differ between the East and West? Will West sheep travel well and do better or worse on the East than at home on the West? Just how much production can we expect from high and low producing sheep in the Falklands? Has the National Stud Flock had a significant impact on wool production? And, how much difference to income do the 'best' sheep make at the end of the day compared to the 'worst'?

*Q. What can I get out of the trial?*

A. By providing sheep for the trial, individual farmers can gain valuable feedback on the state of their breeding programme. Even farmers not providing sheep gain valuable information. Comparisons between their own flocks and those in the trial often make for interesting discussion after a beer or two!

*Q. What form will the Falklands Wether Trial take?*

A. We are aiming to get together groups of 25 to 30 wethers from about a dozen different farms. This should provide a diversity of breeds and lines, and a diversity in wool production (quality and quantity). The resulting 300 odd wethers gathered together will be run as one flock under normal commercial conditions. At shearing time, fleece measurements will be collected and collated. Aspects of survival such as liveweight and death rates will also be monitored and taken into consideration. Wethers entering the trial will all be of the same drop (1995), and we would hope that trial continues for several years.

Each year, data from the trial will be ranked on factors such as fleece weight, fibre diameter, yield, survival, and financial returns. Often, the best performing sheep in one category do not end up at the top of all of them, and results such as the best financial performer may not reflect the best in any category, but rather the best all-round sheep.

In the end, judgement of what constitutes the best sheep will be one biased by personal preferences. However, based on the results of wether trials conducted elsewhere in the world, we anticipate some very interesting results to arise from the annual measurements, and some equally interesting conclusions on what makes a sheep good for the Falklands will be uncovered.

If you are interested in providing a group of 30 young wethers for the trial and haven't already contacted us, or would like to discuss the trial in more detail, give the Department a call as soon as possible so we can get things underway before the winter takes hold.

## BRENTON LOCH OPEN DAY PROGRAMME AND ACTIVITIES

- 10.30 AM Displays open and officers available for discussion
- 11.30 AM Cattle handling demonstration
- 12.00 Midday First tour leaves to herbicide evaluation area
- 1.00 PM Lunch Barbecue food and drinks will be on sale
- 2.00 PM Official opening of the cattle yards and project by HE Governor
- 3.00 PM Cattle handling demonstration and second tour to herbicide evaluation area leaves
- 4.00 PM Day concludes - refreshments available

What will there be to see and do.

This open day is not only about cattle but will provide an opportunity for you to see and ask questions about all the areas of work in which the department is involved.

These include:

- \* Cattle yards, their construction and how they work
- \* Beef breeding programme
- \* Management plans for Brenton Loch & Saladero
- \* Feed block making
- \* Legume and grass evaluation
- \* Native pasture work
- \* Tree establishment programme
- \* Animal health
- \* Training programmes
- \* Fox control programme
- \* Sheep nutrition project
- \* Herbicide evaluation for white grass control
- \* Wool & sheep breeding
- \* Parasitology

This will be a hands on day and a great opportunity to see what the department is doing so be there or be square!

FOR YOUR INFORMATION .

IF YOU WISH TO CONTACT THE DEPARTMENT OF AGRICULTURE BY EMAIL, OUR ADDRESS IS AS FOLLOWS:

[doa.fig@horizon.co.fk](mailto:doa.fig@horizon.co.fk)

## BEEF IN CHILE

*by Robin Thompson*

Relative to the Falklands the beef industry in Chile is well and truly off and running. It is of interest and value to look at what beef producers in Chile are doing and the results they are getting. Geographically, the Magallanes region of Southern Chile is further south than the Falklands so climate is if anything more severe. The British breeds namely Hereford and to a lesser extent Angus are the most common used so we would expect them to also to do well here.

Animals produced in this region are either slaughtered locally in Punta Arenas or exported to northern areas for further finishing. Consequently a trading systems is in place and areas specialise in the production system that best suits it. Perhaps this is something we need to think about here with areas closer to the abattoir specialising in finishing and those further away in breeding.

Calves are born in November and weaned at six to seven months of age. The cows thus have an opportunity to maintain body condition over winter to ensure that they calve in good condition and are able to get back in calf each year. At Kampenike Research Station heifers are mated for the first time and steers sold for slaughter when they reach about fifteen months of age at which time they weigh about 400kg. If this could be achieved here it would vastly alter our economics of beef production. The cattle are stocked at a rate of one breeding unit or cow and calf per ten acres. This all sound good so how are they able to do it?

Feed is probably the main factor driving this level of production. Grass species including fog, browntop, kentucky bluegrass and native species are the main ones present in pastures. Cocksfoot is performing well in improved pasture areas. All pastures have a good stand of companion legume usually in the form of white clover which is the real driver of the production system in terms of quality animal feed. Some paddocks have red clover and lucerne and are cut for hay. The main difference between here and Magallanes is soil quality. Magallanes has mainly mineral soils with higher pH and phosphorus reserves than common in the organic soils present here. I do not believe this is an insurmountable problem provided we are able to develop a source of liming agent (calcified seaweed) and access a source of phosphorus (Reactive rock). Once we have done this animal production here can be better than that in Southern Chile particularly if improved grazing management options are adopted.

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## NATIONAL STUD FLOCK SALE 1998

*By Owen Summers*

The annual sale of stock from the National Stud Flock took place this year at Saladero, transport for West Falkland Farmers was provided by MV Tamar in the form of a day trip from Port Howard to Saladero on the morning of the sale returning in the afternoon with both passengers and sheep purchased by West Falkland Farmers.

This was the first year that the sale has been held at Saladero and from the point of view logistics and stock movement in the shed during and after the sale it was considered a great success. Some of us felt that the actual sale itself was a little disappointing in that fourteen of the forty six rams and three of the ten ewes were not sold on the day, however nine more rams and the three ewes have been sold since, therefore overall this compares favourably with previous ewes. The average ram price was £96.83.

## FALKLAND ISLANDS FARMERS TOUR TO SOUTHERN CHILE

*by Nigel Knight*

A total of seventeen people with farming interests gathered together at MPA on Saturday 7th March to catch the Lan Chile flight from there to Punta Arenas, Chile. The Lanchile 737 was very comfortable and after only 1½ hours we reached the airport outside Punta.

After a brief delay in Immigration we passed into the arrivals lounge where we were met by Gustavo Younge, who was to be our guide and translator for the week. His relatives once owned Bluff Cove and not surprisingly still has many relatives still in the Falklands.

A short coach ride followed, this was from the airport to our hotel Cabos de los Hornos, its situated right in the centre of the city overlooking the main square. Punta Arenas has a population of about 120,000 and is laid out in squares with 35 streets running N to S and 24 running E to W. I quite liked the city it being large enough to have a good variety of most things but not too large as to be overwhelming. After checking in, the group went en masse to a very good restaurant, "El Vasco", this was the first of many good meals with fine wines that we went to during the week.

On Sunday morning the coach came to pick us up to go to the Showground on the outskirts of Punta. This was the last day of the Show and all the parades and judging had been completed on previous days. However, most of the sheep and some of the cattle were still there. At the show we met Rodrigo McLean whose farm we were going to visit later that week, he showed us round the sheep exhibits. The pedigree sheep were all inside one large building and I think everyone was impressed by the size of the Stud Rams. The top rams liveweight was 150kgs plus and their stature really had to be seen to be believed. These sheep were producing 12 kilos of 28/29 micron wool per year. We were told that 90% of the sheep in the Magallanes region were Corriedale. Outside in covered yards were the Corriedale commercial sheep. Shearling rams 15/16 months old were weighing 75 - 80 kilos, these sheep were extremely well woolled right down to their toes but did not have excessive face cover. There seemed to be very little fleece variation in any of the sheep we saw.

After lunch at a restaurant in the showground called Parrilla los Ganaderos where meat could be seen cooking by asado, this was also my first encounter with a local brew called Pisco Sour. We went in the afternoon to the local horse races. These were held every Sunday close to the Showground at the Sociedad Rural de Magallanes. There were three races that afternoon all of 1,200 metres in length, prize money for first place was about US\$300 with a trophy. All races were started in mobile stalls and the horses were ridden by jockeys weighing between 50 and 60 kgs. Between 6 and 8 horses competed in each race run on an oval dirt track. The horses we saw were aged between 3 and 7 and weighed between 358 and 479 kilos.

On Monday morning the coach was at the hotel at 8.30am to take us to Kampenaike, a research station belonging to the Ministry of Agriculture. Here we were met by Dr Nilo Covacevic, the Director who spoke very good English. He first described the work of the station which basically was to run the farm on commercial lines. Some of the research work carried out was funded by the Government whilst other research was funded by the private sector. We then boarded the coach again and went to look round the farm, guided by the assistant Director Dr Etel Latorre Varas. The camp was gently undulating in this area and was similar to the best Falkland camp. The only difference was that the fachine seemed to grow everywhere except the valleys which were mostly fine grasses and white clover. There was also the odd Calafate bush amongst the Fachine, this did

not seem to growing in dense thickets but just solitary bushes. The wildlife seemed mainly Upland Geese, Ashy Headed Geese, Caranchos's and Rhea's, there seemed to be very few smaller birds. There also seemed to be many foxes, hares and rabbits but very few flies. We first inspected some very impressive cattle yards, which were built out of heavy posts with 2"x6" rail wired onto them, the top rail was over 6' high. The drafting race as equally impressive with a solid boarded 'V' shaped forcing pen feeding a tapered race, outside the forcing pen and race was a raised walk-way to facilitate the movement of cattle through the race. The race ended in a cattle crush and a weighing crate which was covered over its whole length and clad down to the ground on the south side. There were cows and calves in the pens, Herefords were the predominant breed and formed 90% of cattle numbers in the area. They seemed very well suited to the environment, with mature cows reaching 500kilos plus in weight. The calves were weaned in April and sent north to fatten for slaughter. We then took to camp in the bus to look at some heifers that had been A.I., after which we travelled on further to see more cows and calves in open camp.

We then returned to the main building for lunch. After lunch some went to see some crops sheltered by windbreak fencing these ranged from strawberries to brassicas and artichokes to herbs. Others went to the woolshed for a look. This was a raised board chute shed built out of local timber. The pens in the shed were enormous and would probably hold about 300 sheep each. There were no woolbins as the fleece wool is not graded but skirted on the table and then pressed according to sex and age. The categories would be lambs wool, hoggett, shearling, ewe etc., ram lambs from the commercial flock would not be castrated or docked as they were sold as fat lambs. The oddments were necks, eyeclips and tapknots, skirts, bellies, looks and then 1st pieces, 2nd pieces and stained pieces. All the wool was pressed in clear plastic woolpacks with home made quicklings. They were being paid on average US\$2.50 per kilo clean on the farm for their wool, this was bought by woolbuyers travelling round the farms during shearing inspecting their clip. They were paying £0.48 per head to the shearing contractor, this price included a rousie, table hands, a classer and the press gang.

We all then moved on to the bus to go to another part of the farm to see Alpacas, Llamas and Guanacos, which were kept for fibre production. The alpacas and llamas were very placid and respected conventional fencing whereas the guanacos were a wild animal that require 8' high fencing to control. The herd of guanaco we saw were very tame because they had been captured as young animals in the wild and bottle fed, it was not certain at that time whether or not they would remain this tame as they grew older. They still, however, required the high fencing for control. The alpaca were shorn and yielded on average 300 grammes per head, but as the price for this fibre was around US\$100 a kilo this could mean a gross price of US\$33 or £20 a head per year. The fibre was graded according to colour, the vicuña colour being the most valuable. We also saw a sheep cross - breeding experiment where the local Corriedale ewes were crossed with either a Suffolk, Border Leicester or Dorset Down ram for fat lamb production. The results of the first cross resulted in the Border Leicester ram throwing the fastest growing lambs. We all then returned to the main building for more Pisco sours, followed by thank you speeches before eating another excellent asado.

Tuesday morning saw us once again board the bus to visit the only abattoir in the area that was approved up to EEC standards, this was the Frigorifico Simunovis S.A.. Before entering the plant we had to put on white rubber boots, white coat and a white hard hat, this caused some amusement amongst us as you can imagine. We started our Tour at the beginning where 12 - 14 month old entire male sheep were being slaughtered. From the sheep pens they were brought forward in between belted rollers and electronically stunned, after which they dropped down onto a stainless

steel table where they were hooked onto the skinning chain. There were 70 workers on this skinning chain each of them only carrying out one operation each, between each operation they had to sterilise their hands and equipment. After the main arteries were cut the gullet was sealed with a rubber ring to prevent the gut contents from contaminating the carcass. The skin was opened up by knife whilst the skinning was carried out using specialised equipment mainly pneumatic. After the skin was pulled off mechanically it dropped down onto a conveyor belt for further processing. Once the carcasses were skinned they were inspected by a vet, any irregularities were dealt with by the next operator who either removed the fault or drafted off the carcass for further treatment. The Vet also colour coded the carcasses according to quality, they were then weighed and bar coded. The owner was paid on a dead-weight basis currently at US\$1.60 per kilo, most of these carcasses were between 17 to 20 kilos which meant a return of about £20 per sheep. The carcasses were then given electric shock treatment to tenderise the meat before being sorted according to their grade, only the best were kept in carcass form the rest were butchered. We then looked round the meat packing area where some of the carcasses were cut up into various joints and cuts before being individually vacuum packed and then packed in cardboard boxes. After blast freezing the carcasses and packed meat they were stored in huge deep freezers containing thousands of carcasses stacked almost to the roof. Then we moved on to see the skins processed, as they came off the conveyor belt they were roughly trimmed before being taken to the skin drying shed, there they were air dried for 16 - 20 days. The skin shed at that time contained 80,000 skins which were graded after drying, before being pressed into bales for export. Finally we visited the meat meal plant where the head, offal, trotters etc., were pulverised and cooked into meat meal. They also had a grease extraction plant so nothing was wasted, despite the smell around the meat meal plant there were very few flies around, something we found unusual. On average 3,000 sheep were killed in a 7am-5pm day. They worked a five day week for up to 6 summer months of the year using a lot of transient labour, there were 280 workers employed for most of that time.

After the abattoir, we went to the Duty Free shopping area of Punta called, Zona Franca, the main building of which is similar to a UK shopping arcade. We found some items cheap but others seemed quite expensive. After a self-service meal here we moved to the Instituto de la Patagonia, our guide was Sra Paz Ovalle who spoke perfect English. She showed us the three species of local nothofagus that were being grown at the Institute for the Falklands, these were *N. Antarctica*, *N. betuloides* and *N. pumilio*. Thousand of them were being raised from seed in a very large glasshouse before being hardened off outside. They had been sown in individual holes in blocks of dense polystyrene, when the trees were ready for planting out she showed us how easy it was to remove them from the polystyrene without disturbing the roots. She stressed the importance of selecting the correct tree for a particular site to ensure the best results. Some of the first tree plants from here had already been brought over to the Falklands by Jim McAdam this summer and have been planted in various sites around the Falklands, she was very keen to hear how these trees became established.

After this brief but interesting visit we again boarded the bus and went on a Tour of the city. We went from the palatial US\$1,000,000 homes down to the US\$30,000 homes in the various parts of the city before climbing into the hills behind to look out across the straights of Magellan over to Tierra del Fuego. Quite an impressive view! On the way back we stopped by a peat bog to see peat that had been cut during the summer by machine and was now quickly drying out. This peat had not been cut for fuel but to make potting compost with, it was very light in weight and was much like our bible peat. We then returned to the Hotel for the night.

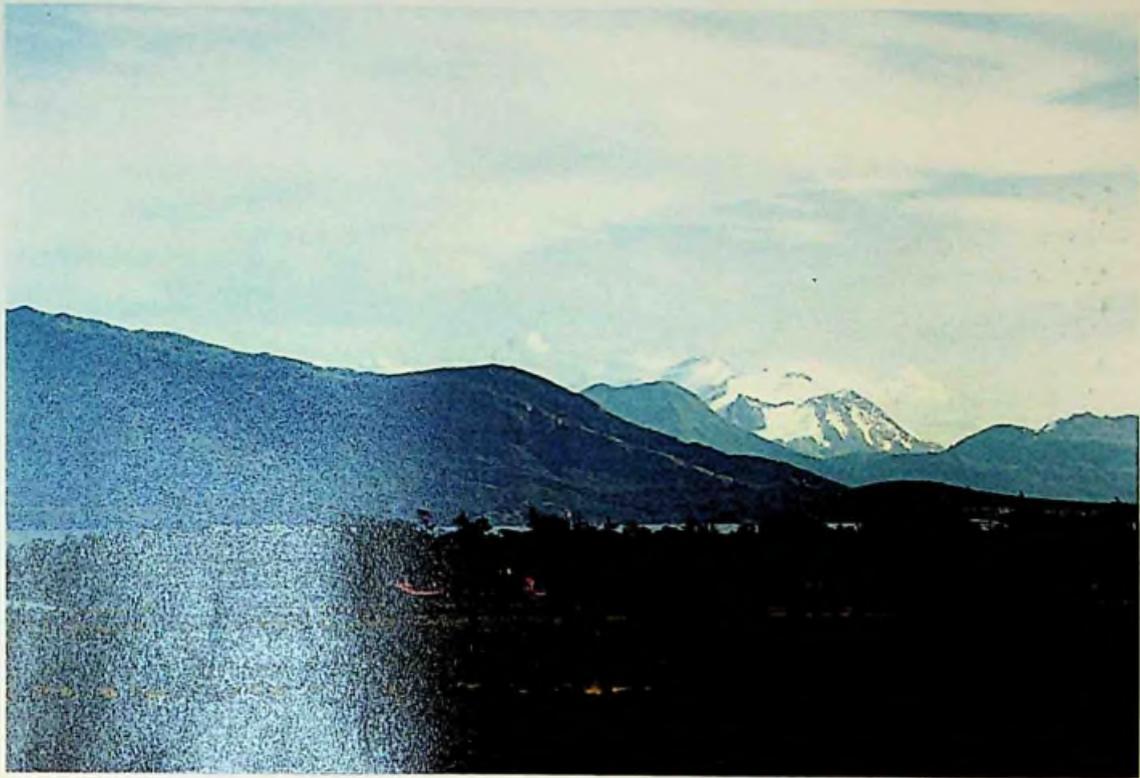
Next day we boarded the bus to be taken to Standard Wool (Chile) S.A., this was top-making plant owned by Standard Wool a large International Company. We first went to the bale shed to see

thousands of bales of wool awaiting processing. The wool was mainly packed in jute in standard size bales banded in quicklings, there was very little wool packed in the clear plastic we had seen at Kampenaika. All the wool in the store was Corriedale wool. From the wool store the bales were taken to be opened up on a blending conveyor which fed the scouring bowls. We saw a single four bowl set in action, the wool passing progressively from the first bowl to the fourth through a changing soap, alkali concentration. The water temperature also varied from bowl to bowl, after the fourth bowl which was practically a rinse the surplus water was squeezed out in rollers before the clean wool went into the drier where the superfluous moisture was removed. After leaving the drier the wool was airlifted into large bins before the preliminary straightening began. The wool then went through the card which formed the material into a long continuous rope of separated fibres free from twist, termed a sliver, these slivers were fed into large cans before being moved on to the next process. Up to ten cans of slivers were fed into the next machine which was the intermediate gilling, these machines started off the parallelization of fibres by mechanical means. Next the wool slivers were fed into a French comb which in this case was the Schlumberger type, this machine removed the unserviceable short fibres, called noils, from the retained long fibres called, tops. The last machines were the finishing gill boxes where the sliver was formed into a 'Top' ball of standard weight and length, and regular in thickness and weight per unit of length. Finally the 'Tops' were pressed into bales enclosed in clear plastic and bound in wire, these bales were then containerised before being exported. Before leaving the plant we looked into the quality control centre, the computer there was linked to all the machines and the operator could pick out and check any operation on the plant floor. Anything from the water temperature in any of the scouring bowls to the deviation from the required weight per unit of length of the sliver. One thing we did notice whilst walking through the plant were the number of black fibres in the wool, when asked if these faults could be attribute to a particular farm we were told that they could, in fact the better farms were paid a premium for low coloured fibre readings.

We then boarded the bus once more to go for an excellent lunch at the Hotel Chabunco. This hotel was close to the shore and situated by where the Rio Chabunco flowed into the sea, we were told it had been built here originally because it was a comfortable days horse ride from Punta.

After lunch we went off the paved road and followed a gravel road to visit two cattle farms about 60 kilometres from Punta. These unsurfaced roads were quite good and very similar to our camp roads although they were wide enough for overtaking. As a general rule we were told where these unsurfaced roads had a fence each side then they were considered to be public roads and maintained by the Government, if they only had one or no fence then they were considered private and had to be maintained by the owner of the land.

At the first farm there were Hereford cows with calves at foot in a corral for us to look at, these cattle were similar to the ones we saw at Kampenaika. The horse is still used for stockwork in this area and the horse gear is still in the traditional style, the dogs we saw varied quite a lot being mostly mongrels, the ones we saw today were cattle dogs, and a cross between Alsations and Greyhound. Then we moved on to another set of pens that were constructed out of split logs about 10' long that were then stood on their ends and set in the ground to form a solid fence about 7' high. In these pens were about 20 mature Hereford bulls which were quite impressive. Also in these pens were 4 maverick steers had been brought in with the bulls, one of these in particular was huge steer with wide horns, he was not impressed with us at all and was attempting to jump out when approached, he was unsuccessful at first although on one occasion he cracked the top rail of the fence, however, as we were leaving he did manage to break out of the pen he was in, this led to a fast exit from the pens by those still in there.



Estancia Skyring on Skyring Sound with Darwin range in background



Gaucho working young cattle



Showing rams at Estancia Las Charas



Hereford bull in corral

**Photographs: courtesy of Nigel Knight, Coast Ridge Farm.**

There seemed to be no cultivated land on these farms except for a small area sown with alfalfa and cut for hay close to the main buildings. Strangely enough the tractor connected to the baler at this farm was a Ford County 764 that I last saw at Port San Carlos in 1985.

We then moved on a few kilometres more to another mainly cattle farm, again the breed was Hereford, this farm was really well maintained with everything neat and tidy. We asked why there were so few sheep close to Punta and we were told that because of the stray dogs problem from the city, sheep were very vulnerable to attack by these stray dogs hunting in packs, in some cases losses had been high, this particular farm had lost over 100 sheep in one night, consequently he now only kept around 500 sheep and these could be brought close to the Farm buildings at night. He also had a very impressive set of cattle yards made out of steel pipes set in the ground with steel cables running through holes cut in the pipe. The gates were also made of steel pipe welded together, as were the races for weighing of general handling. All these materials had been bought cheaply from completed oil exploration projects. The country around here had far more trees on it and although it was calm whilst we were there you could clearly see the effects of wind pruning in exposed areas. Some of the hills behind the farm had been burnt deliberately earlier this century to clear the land for grazing, even so the slopes on some of the hills were still littered with unburnt fallen trees slowly rotting away. This farm was starting to carry out some land improvements, he had chopped down some of the fachine using a 'jungle buster' type machine and had then sown clover on the cleared ground without success. His best results had been achieved by slashing the fachine mechanically and then just leaving the native white clover and fine grasses to seed themselves, as you can imagine we found this quite amazing. We were then invited into Marcos, the farmer's house, for afternoon tea, he had recently extended the house by building a very large, what I suppose we would call a dinning room. This was single storey to match the rest of the house and had exposed beams and native timber floor and roof lining. At the outside end was huge stone fireplace built to burn logs cut from the abundant timber around the farm. We saw rows of these logs stacked neatly outside as we left the farm to return to Punta.

Thursday was to be a long day for us so at 8.45am we left the hotel and boarded the bus once more to travel to Las Charas, a cattle and sheep farm 95km from Punta. In some areas of the camp the fachine was quite dense and in a few places swathes had been cut through it to improve the grazing, quite sensibly they had left strips of fachine untouched as shelter. The subject of land ownership came up and we were told, that originally the land in this areas was farmed in huge privately owned estates but when President Salvador Allende came to power in the early 70's these estates were confiscated by the Government who then sub-divided them and sold them off. The only compensation that the former owners received was to be allowed to keep that years wool clip, the only snag was that the government then set the price for that wool. As we travelled further north the relatively flat pampas gave way to hillier country, as we passed one group of hills we were fortunate to spot a solitary condor effortlessly soaring above us. Soon after we reached Las Charas which was owned by Rodrigo and Amy McLean, the house was in a stunning setting being built at the foot of high hills with the flatter land gently falling away to the water of the Skyring Sound, far in the distance were the snow capped peaks of the Darwin Range. Firstly we went down to the sheep pens to look at some shearing rams, we saw some excellent well grown sheep, as Rodrigo was a well known Corriedale breeder he sold about 200 young rams every year, he expected to average around £80 a head for the rams we saw. He told us because of poor wool prices a group of the more innovative farmers in the area had formed a co-operative venture to sell their own wool direct to manufacturers. This inevitably involved trips to manufactures to prove they were serious, however, after initial set backs they succeeded in cutting out the middle man and achieving their aims of

relatively higher prices. In line with all farms in the area a considerable amount of his income came from meat production, most of the farms seemed to run sheep and cattle away from Punta itself. We were told that an even grazing ratio of cattle and sheep proved to be the most advantageous balance, so a farm with say 500 cattle would also run 5,000 sheep using a ratio of 10 sheep to 1 cattle unit. This farm also had about 50 guanaco bought originally to sell to zoo's, however, Legislation was passed to prevent their export so now they just seemed to be kept for aesthetic purposes.

We then returned to the house for pisco sours before sitting down to an excellent lunch. After lunch the group split into two. One group went on a short ferry trip to Rodrigo's parents farm on Isla Riesco at estancia El Trébol whilst I went with the other group to Estancia Skyring another 25kms further on. The gravel road followed close by the waters edge and the further we travelled the thicker the trees became until at Skyring itself the only grazing was that made by clearing the trees. On this farm they ran 1,000 Hereford cattle and 7,000 Corriedale sheep, they employed 8 full time workers one of whom was married whilst the rest were single men and lived in the cookhouse. Wages for these workers were around US\$250 a month fully found, this farm employed more men than normal because of the difficulty in working stock in this type of country. This farm had the most incredible farm buildings built out of native timber, the woolshed although old fashioned in design was really quite elaborately constructed and was built for a 20,000 sheep unit before much of the land was confiscated by the Government. The farm was powered for about 9 months of the year when there was sufficient water by a hydroelectric generator, this produced 26kw from a flow of 200 litres of water per second from a 12' head and had been running for nearly 25 years. The farm was owned by the Friedli Fuglberg family whose ancestors came from Switzerland. The son ran a salmon hatchery close by whilst his parents Gerald and Andy ran the farm. Gerald's father was 93 and lived in a very imposing house set in beautiful gardens, he had made 12 trips to the Falklands in the late 40's and early 50's buying sheep for abattoirs in Chile, these were brought over in the MV Fitzroy. He still remembers his trips to the Falklands and the people he met during his travels, some of these he recounted to us during a farewell drink that he invited us to. After which we made our way back to Punta not arriving at the hotel until 11 45pm.

Friday was a 'free' day in that nothing organised was taking place so most of us went around the city doing the tourist bit, i.e., sending postcards, buying souvenirs, exploring the tree lined avenues etc. That evening we all dressed up and went for a farewell dinner at the parrilla Los Ganaderos, which was once again excellent. Saturday morning was spent last minute shopping and packing bags. Some of the group went to meet a business delegation at the Showground where future business opportunities were explored, they hope to send a small delegation over to meet farmers during Farmers weeks. Just before mid-day we left the Hotel and travelled to the airport for our flight back to the Falklands, after the usual delays we boarded the Lanchile 737 and in less than 1½ hours were back in the Falklands.

Lasting impression of our trip were of high quality stock raised mainly on unimproved pasture and friendly and courteous people with similar problems to our own. Last but not least a big THANK YOU to Robin Thompson for organising an unforgettable week, can't wait for the next one!

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## **Diddle-dee: Friend or Foe?**

*by Louise Amos*

### Diddle-dee

Diddle-dee is a plant that plays a prominent role in the natural history, culture and agriculture of the Falkland Islands. Birds such as the meadowlark and upland goose eat its berries that appear from January onwards and perhaps you will be beginning to gather the berries for jam around now. But to many farmers it is less appealing as an abundant weed, spoiling pasture for sheep grazing as it is deemed unpalatable and competing with the more useful and nutritious grasses. Certainly many people are convinced that it is not nutritious, and needs to be controlled to protect pasture but others say that sheep eat it and it may be useful in stabilising soil in some areas. The Department of Agriculture is concerned to find out if either of these statements is true-and that is where I come in. My job will be to gather evidence about Diddle-dee over the next three years so that future assessments of pasture quality or proposals for control can take into account the real values of this species about which little is so far known scientifically.

There is also concern about the impact of climate change in the Falkland Islands on Diddle-dee growth and spread. Diddle-dee is often seen growing in the drier areas of soil and rock ledges. If the Falkland Islands are getting drier (as a general trend-forget about this year!) will the Diddle-dee increase in its distribution as a result? What can be done about this?

I have already seen that the species is widespread over the Falklands and in some areas dominates the landscape. It doesn't seem surprising then that people have employed all sorts of methods to get rid of their Diddle-dee, driving over it, mowing it, burning it, spraying herbicide on it-all with the aim of destroying it. All of this costs time and money so that one of my main interests will be to find out if it is worth expending all this effort on removal or if any of these techniques will be permanent or if Diddle-dee could actually be a useful plant to have around under some circumstances. From talking to some farmers and my own preliminary observations it seems that sheep are eating the Diddle-dee. If they are eating it the next question is why and the answer to that may not be simple. Do the sheep eat selective parts of the Diddle-dee or are they selecting other plants growing in between the stands and consume Diddle-dee as bytake? Do they only eat it at certain times of the year? Do they select it only when all the more palatable species have been grazed out? Whatever the answer it would seem that Diddle-dee may well be providing some service to the sheep-either as a direct food source or a sheltered habitat for other plant growth. Apparently the geese eat it, one way the plant could be spread is via the droppings of sheep, geese and other birds.

When Diddle-dee is removed by whatever method-what grows in its place? Some patches of rotavation I have seen have laid the ground bare rather than given grasses the opportunity to flourish without the cover of Diddle-dee. What is going on here? Is it too difficult for grasses and other palatable species to establish directly into bare dry soil or does the presence of Diddle-dee in the ground chemically suppress seed germination? Perhaps burning could remove the Diddle-dee in the short term but would this only allow other unpalatables to grow in its place-such as Small fern. So which is the lesser of these two evils?

According to Moore (1968) the plants have separate sexes-male and female flowers on different individuals-so a pollinator of some sort could be important. Nobody seems to know for sure what pollinates it. Many other plants have hermaphrodite (both sexes) flowers or male and female flowers on the same plant (monoecious) so self pollination (by bumping together) is possible. If the pollinator (whatever it is) is absent at the time of flowering then it could mean no viable seeds are produced. This year had a late, cold spring which could have affected the numbers of such a pollinator, and I have been told by several people that the numbers of Diddle-dee berries are extremely low this year.

### Erosion

In many areas there are bare patches of clay or peat soil, considered a nuisance by farmers because they produce dust which can then contaminate sheep fleeces. The sheep also could exacerbate this by rubbing on peat banks, both lending to erosion and the amount of dirt in the fleece. Often surrounding these patches is a fringe of Diddle-dee which could be growing in onto the clay, in which case it could be an important plant in the process of primary colonisation of these patches. How much of this establishment is growth in by established shoots and how much establishment from seed? If Diddle-dee is good at growing on dry bare ground could the process of revegetation be accelerated in any way, such as by addition of mulch or removal of sheep?

### Northern Comparisons

One of the questions I want to address is whether Diddle-dee is excluding grass growth from the areas in which it grows by competition for nutrients, light or water or if Diddle-dee grows in these places because it is the only plant that can. In Britain, Heather is a common plant that grows on moors and waste ground, quite simply because it has the capability to tolerate the tough conditions. However such plants are normally poor competitors under improved conditions. Knowing more about the ecology of Diddle-dee should help us sort out exactly why it grows where it does and that will lead us to what type of management might be successful.

### What I am doing

So is Diddle-dee a friend or a foe and what should be done by farmers who are concerned about it? In order to try to understand all the processes involved in revegetating clay patches, and perhaps more about the role of Diddle-dee and other plants in this process, I am doing a PhD with Queens University Belfast and funded by the Department of Agriculture. I therefore need to gather as much information as possible on farmers observations and experiences with Diddle-dee especially concerning attempts to control, information about how the abundance has changed over the past 20 years and anything on the encroachment of greens or reseeds by Diddle-dee. Other specific problems or observations that you would like to tell me about clay patches and/or Diddle-dee (or indeed anything you would like to tell me about the Falkland Islands) I would be very pleased to receive-the more I can learn about it the better. Letters or faxes can be sent to me at the Department of Agriculture.

To gain all the necessary information on the species will need a number of different approaches. I would like to investigate Diddle-dee growth in different areas, the rate and seasonal change in growth, germination of seedlings, how Diddle-dee interacts with other plants and what mechanisms the shrub employs in order to survive in difficult conditions.

I am also compiling a herbarium for the Department of Agriculture, so I would really appreciate any news on plant species growing around the Islands, and I will include any samples which are in reasonable condition (with full acknowledgement to the collector). So, any botanists out there, or keen plant spotters, let me know what you have seen, perhaps we could set up a network of correspondence (this will also link up with the valuable work done by Falklands Conservation on endemics and plant distribution in the Islands).

### How can you help me?

I will probably be here until the end of July, then I return to Belfast for a couple of months and will be appearing again around the middle-end of September. In total I will be here for around three years so there's plenty of time to send me news and views. I will be hopefully presenting a poster at the Open day on April the 15th at Brenton Loch to stimulate discussion about the many aspects of Diddle-dee. Hopefully lots of you will make it there, please come and talk to me and let me know your views on some or all of the above. If you feel like communicating ideas to me, don't hesitate to put pen to paper or just give me a ring.

# THE 'GAP' EXPERIENCE

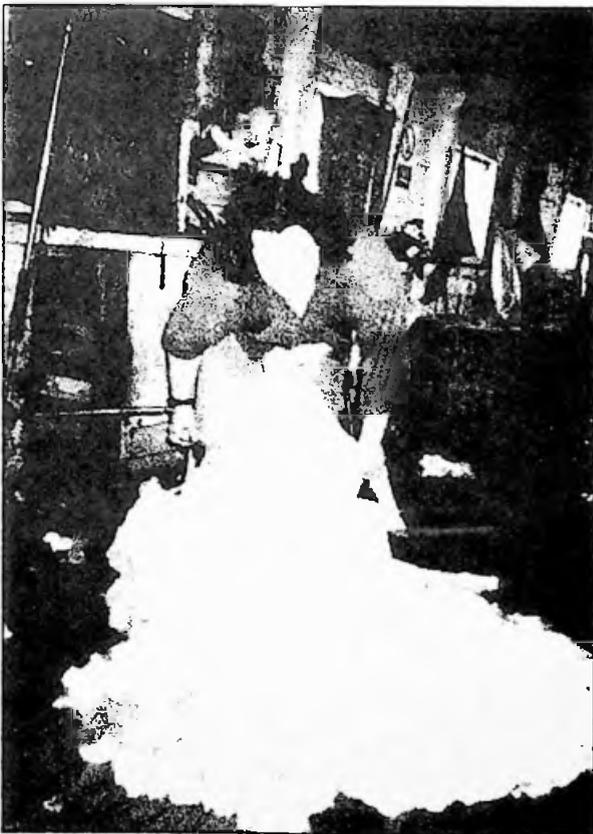
*by Louise Gregory*

After Mandy sneakily asked me if I would like to do her a favour this weekend, I have ended up writing her an article about my 'GAP EXPERIENCE' in the Falklands.

When I mentioned the Falkland Islands to my friends, they thought they were in Scotland!, My Dad asked, "What do you want to go there for? The weathers awful". My Granddad said "I thought only sheep live out there".

Nevertheless, I have just spent the last five months living and working at Port Louis Farm. I have enjoyed working out doors and getting a break from education. The first job I was assigned to was the garden. To begin with it was not my most favourite job, but after weeding, fertilising, planting and caring for the plots I realised it was a great sense of achievement to see the carrots and potatoes popping up and winning prizes at the horticultural show! Other jobs on the farm included fencing which I enjoyed, learning new skills and being in the fresh air. I did a bit of painting as people could tell from my 'greying' hair and white spotted boots.

I enjoyed the stock work like gathering and drafting, but after trying your hardest all day the sheep would do something silly like they normally do

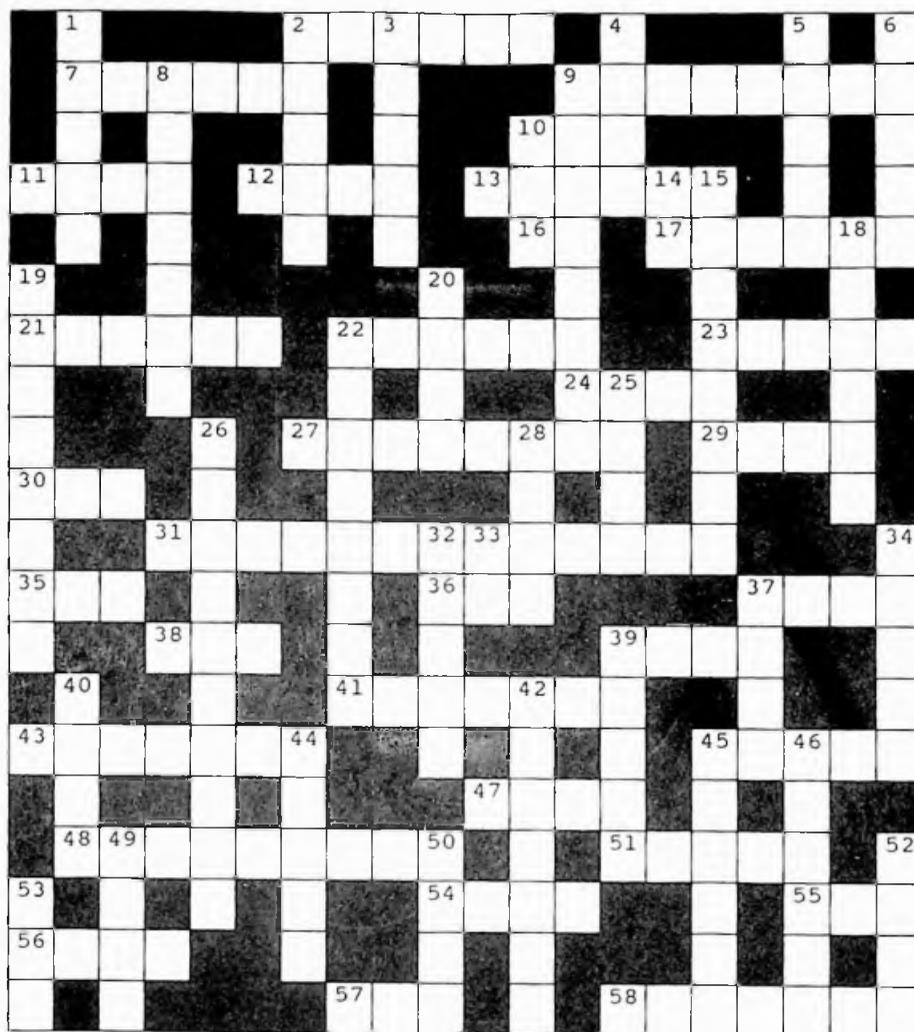


anyway. This usually ended up with frayed tempers and screaming abuse. My favourite job had to be lamb marking, but this probably had more to do with the social element (rum and port) rather than the actual job itself !!

As well as working there was plenty of partying and Islanders certainly know how to party. I was very impressed with the BBQ's and the amount of beer they can consume. I also managed to go to the west for the Port Howard sports experience.

Finally, I would like to thank everyone I have met in the Falklands for making me so welcome, and if there's only one thing I have learnt, its that there are no set rules when dealing with sheep!!!

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2. ASS
7. LUMBERJACKS CRY
9. PLACE WHERE TENTS ARE PITCHED
10. TYPE OF LETTUCE
11. TIP
12. SMOOTH
13. SMALL BREED OF HEN
16. THE TIME PRIOR TO JESUS' BIRTH
17. PRIMATE
21. ACCEPT AS FACT
22. UNIVERSITY QUALIFICATION
23. FERRY PROVIDER FROM EAST TO WEST
24. A SHARP TASTE
27. LONG STUFFED EDIBLE SKINS
29. WHEEL CENTRE SHAFT
30. KNIGHTHOOD TITLE
31. BSE
35. MALE CAT
36. SNAKE
37. LEAVE OUT
38. SPIDER'S TRAP
39. THE ONE IN CHARGE
41. SUT OUT FOR MARKING BALES
43. DRINKING PLACES
45. REMEMBRANCE FLOWER
47. LOOK AT
48. HOOF AILMENT
51. CARER
54. FORK PRONG FOR INSTANCE
55. ALSO KNOWN AS
56. BARGAIN SHOPPING TIME
57. TOOTHED CUTTING TOOL
58. INTENSIVE EGG PRODUCTION UNIT

1. STAIRS
2. OIL EXTRACTION PRACTICE
3. HALFWAY HOLE
4. SHIP'S SAIL HOLDER
5. SMALL SELLING BOOTH
6. HOLD UP
8. THE HIGHEST LIMIT
9. CEMENT SAND AND STONE MIX
10. TAXI
14. IN THE MORNING
15. LOAN SECURITY OF PROPERTY
18. MODEL MAKER'S PAINT
19. SOMETHING THAT LIVES OFF SOMETHING ELSE
20. POULTRY PRODUCT
22. A GIRLS BEST FRIEND THAT MAY BE IN THE FALKLANDS
25. VERY LARGE CONTINENT
26. BREAKFAST FRUIT
28. SUDDEN SHORT BREATH
32. YORKSHIRE BEAUTY SPOT
33. EXISTS
34. LOOSE OR LOST ANIMAL
37. A SCANDINAVIAN CAPITAL
39. STRUCK BY FLIES
40. END PART (OF AN ANIMAL FOR INSTANCE)
42. SMOKESTACK
44. STEP OVER A FENCE
45. MIMICKING BIRD
46. REQUEST FOR COOPERATION
49. COMPETENT AND CAPABLE
50. MEAT AND VEG DISH COOKED ON STOVE
52. SHE HAD A LITTLE LAMB
53. FIRE REMAINS



# WOOL PRESS

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**PLUS ALL THE REGULAR FEATURES AND MORE!**

*The Wool Press is published by the Department of Agriculture. Editors: Lilian Wallace & Julie Fisher-Smith*

## EDITORIAL

We were so lucky that the good weather stayed on our side for the Cattle Yards Opening at Brenton Loch. It was a really successful day and a big THANK YOU goes to all those farmers and non-farmers who spared their time to attend and gave us their support... and a "well done" must go to Marie and Karen for creating all those neat arrows that showed us the way there. Without them I would have ended up... who knows where!

We cannot go further without mentioning the excellent work that Robin Thompson and his "Team" (colleagues and all members of his family) have done at Brenton Loch and that it still continues. This success is a credit to you ALL and in particular to the leader. Great team work!

Sara Forster has joined our Dept this week as a Junior Agricultural Assistant and we wish her well. She has already experienced the hard and tedious work of building miles of fences at Brenton Loch! Dr Alan Low (Tree Specialist) has arrived for a two and a half week visit which during this time many of you will have the opportunity to ask his advice on trees. Our visiting Herbicide Specialist, Mr Stuart Smith, has returned to Australia after some weeks of very interesting meetings.

This month's cartoon is about the visit of our "Jefe" to the Faroe Islands last year where he was shown the procedure of how to dry mutton.

To all Farmers. We try to include various articles in our Wool Press editions, but if any of you have any articles or any ideas that you would like to share, please put them down on paper and send them in. We will be pleased to hear from you. Don't forget, this is **YOUR** magazine!



### THIS MONTHS CONTRIBUTORS

<b>Sean Miller</b>	Sheep Husbandry Officer, DoA.	<b>Cameron Bell</b>	Veterinary Officer
<b>Robin Thompson</b>	Beef Specialist	<b>Mandy McLeod</b>	Farm Manag. & Training Officer
<b>Aidan Kerr</b>	Senior Scientist/Agronomist	<b>Grant Monroe</b>	Agricultural Assistant (Forestry)
<b>Lynn Blake</b>	Farmers's wife	<b>Andrew Coe</b>	Senior Veterinary Officer
<b>Robert Hall</b>	Falkland Woolgrowers	<b>Doug Cartridge</b>	Sheep/Wool Adviser

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THE ARTICLES PRINTED IN THE WOOL PRESS DO NOT NECESSARILY REPRESENT THE VIEWS OF THE DEPARTMENT OF AGRICULTURE.

# WHAT IS THE SHEEP NUTRITION PROGRAMME?

by Sean Miller

The objective of the sheep nutrition programme is to improve the production and survival of young sheep in the Falklands. Young sheep do it tough down here; poor quality feed, very cold winter conditions, snow buries feed, we have almost no control over where animals graze, and to top it all off, internal parasites give young sheep a real pizzling at times. Is it any wonder then that so many lambs and hoggets die, and those that survive take 2.5 years to reach weights that other places in the world would see after 18 months?

Two statistics that make interesting reading come from the Falkland Islands Sheep Assessment Project (FISAP), and the National Stud Flock at Saladero. Firstly, half of the sheep that die in their first year come from the lightest quarter of the flock. And secondly, up to one half of all lambs born die in the few days following birth. The obvious question is 'Why is this so'?

The purpose of our work is to answer this question and develop solutions for the problem.

The first stage of our work will be to determine exactly what it is that is stopping young sheep from growing to their potential. The data from FISAP and Saladero clearly tells us that poor nutrition is a major limitation. Young, weak animals die more easily than strong ones (including in ditches), lambs suckling ewes with little milk suffer growth setbacks and extremes in weather are fatal, and ewes fed poorly during late pregnancy produce light lambs with poorly developed wool follicles. Sheep with poorly developed follicles grow 10-20% less wool than would otherwise be the case. FISAP shows us that this is already happening, year-in, year-out.

By following the pattern of nutrient intake over the first year, we will be able to determine these factors. Several methods are available to us to do this:

## *Plant alkanes*

The wax coatings of the plant contains compounds called alkanes. There are many different types of alkanes, and each individual plant species contains it's own pattern of alkanes (quantity and type). These chemicals pass through the sheep undigested, and by measuring the type and quantity of alkanes in sheep faeces we can gather valuable information on the species of plants preferred by sheep, how much they actually eat, and how much energy they provide.

## *Microscopic techniques*

Each plant species has its own pattern of cells that make up its cuticle (skin). Under the microscope, these patterns are clearly recognisable, and since the cuticle is not digested by the animal, it too passes through into the faeces. Therefore, examining faecal samples through the microscope allows us to gain further information on the plants, and plant parts (stem or leaf) preferred by sheep.

## *Oesophageally fistulated sheep*

We may also use surgically fistulated sheep. Often, what is in the pasture and what sheep actually eat are two very different things. OF sheep allow us to collect pasture samples that truly represent what sheep eat. Nutrient analyses can then be performed on these samples to see what nutrients are consumed and what is missing from the diet.

## *Blood and tissue chemistry*

Throughout the experiments we will be conducting blood, tissue, bone and faecal sample analyses. When combined with the information provided by the techniques above, these analyses provide a complete picture of the nutritional balance of the animal.

Together, these four series of measurements provide a powerful tool to identify the real factors contributing to the apparent crash that young sheep suffer during the late autumn to early spring period in the Falklands. Knowing these limitations will then allow us to develop strategies to efficiently and economically correct deficiencies.

*Experiments underway*

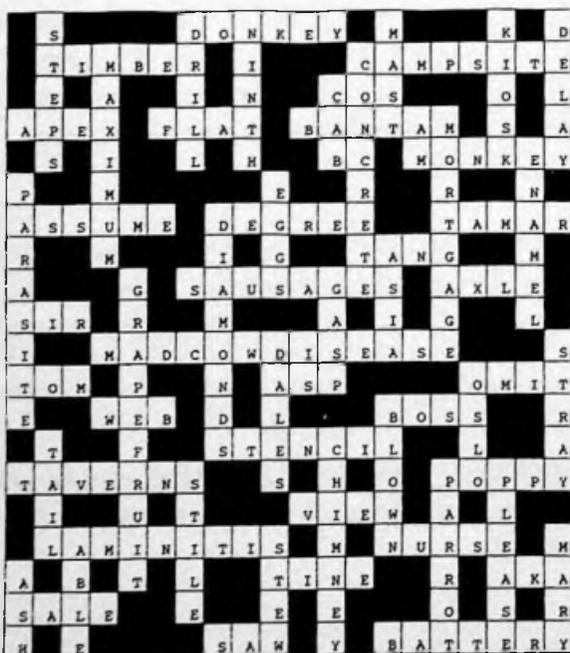
At Goose Green, we are working with Tony McMullen and this season's drop of hoggets to gain an appreciation of nutrition on some 'better' ground. To do this we have groups of hoggets in which we are eliminating the effects of internal parasites (worms) for the entire year (and periods within), and comparing them to undrenched sheep. The sheep are being kept worm-free with the aid of new drench technology - drenches in controlled release capsules which release the chemical continuously for 100 days. This sort of experiment hasn't been possible in the past since normal oral drenches last for just 24 hours before worm re-infection is possible, and injectable drenches last between 2 and 4 weeks. Providing 1 capsule every 3 months is a far easier management option than daily oral drenches or fortnightly injections!

By keeping sheep worm free for various periods we can get a better idea of how sheep use the nutrients they consume, what effect internal parasites have on nutrient absorption, and how sheep cope. Whilst we are doing this work, the diet techniques mentioned previously will be applied. This will provide some quality information on hogget nutrition on the East's whitegrass.

This coming May, we will also conduct diet experiments on the West. The differences in country and vegetation between Goose Green and areas on the West will provide information on just how sheep respond to different diets across the Falklands. By gaining data from a range of areas and environments, we will ultimately be able to make recommendations that are applicable throughout the Falklands.

*Thank-yous*

Since we do not have an Agricultural Research Station as such, our work at the Department is almost totally reliant on the good will of Falkland's farmers for providing access to land and animals. We are ever grateful that so many of you are so willing to trust us with these resources to test our theories, the results of which we hope will ultimately benefit all of the local agricultural industry. We can only hope that this good-will continues, and we thank those who have in the past, are at present, and will in the future help us along the way.



THE  
SOLUTION  
TO  
APRIL'S  
CROSS WORD

## EXOTIC DISEASE WATCH: FOOT AND MOUNT DISEASE

2nd in the series

by Cameron Bell

Foot and Mouth Disease (FMD) is a highly contagious viral disease of cloven footed animals (cattle, pigs, sheep, goats, etc.), that fortunately hasn't been reported in the Falkland Islands. An outbreak of it would cause devastating production losses and affect international trade in livestock products.

FMD is one of the most contagious animal diseases.

It could enter the Falklands either by (i) live animals, (unlikely, as animals entering the Islands originate from FMD - free countries) (ii) animal products (skins, salami, other meats, etc.) or (iii) people (through contaminated clothing for example). The most likely scenario would be illegal importation of infected animal products.

Pigs, if become affected, produce vast numbers of the FMD virus. This could happen if a pig was fed a piece of infected salami, for example. The virus would then rapidly spread to other animals by either direct contact, wind (the virus has been suspected to travel 250km across water!) or by people (clothing, hands, nostrils).

FMD is a vesicular disease. This means that vesicles or fluid filled cysts (like a blister) are produced by the disease. They tend to be in the mouth (tongue, lips, gums etc) and on the feet (between the toes, at the coronary band and the bulbs of the heels), as the name of the disease suggests. Vesicles may also be seen on the udder and teats.

Affected animals may be lame, depressed and stop eating, but don't normally die unless they are very young. Many other diseases can cause similar signs, but all warrant contacting the Veterinary Service for further investigation. Remember that you, the farmer, could be the first to see affected animals in an outbreak of FMD.

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### **Subsidies to upgrade pasture**

*Source: Wool Record, March 1998.*

The Uruguayan Wool Secretariat (SUL) are taking an active role in a project to promote pasture improvement over the next 10 years (writes our South American correspondent). State subsidies of up to 50% are available and the total investment is estimated at US\$300 million. The project includes the use of "Lotus", white and red clover, direct sowing and improved fencing and watering.

A typical cost breakdown gives an average of US\$150 per hectare. It is estimated that farmers are upgrading their pastures at a rate of 100,000 to 150,000 hectares a year.

\*\*\*\*\*

## Grazing Management - Proof that it pays off.

*by Robin Thompson*

Australian farmers are now using improved grazing management strategies as their weapon to combat declining wool and meat prices. A recent Rural Industry Research and Development Corporation sponsored study highlighted some of the benefits of improved grazing management based on understanding the requirements of plants and animals. The study showed that since 1994-95 adoptees improved animal production per hectare by 60% and increased stocking rate by 34% despite rainfall being 20% below average during the analysis period. Other qualitative benefits claimed included reduced labour and machinery costs, improved sunlight and water utilisation, improved sustainability and drought tolerance.

The system adopted by these farmers involves sub-dividing their property into about 40 paddocks. These range in size from 8 to 50 hectares and together run 2000-11000 sheep as a single rotationally grazing mob. Grazing in this manner ensures the animals utilise all the available plant material and enables the plants to be rested from grazing for a long period resulting in improved animal production and pasture composition. Rotational grazing also ensures the animal manure is more evenly spread thus reducing the camp effect whereby large quantities of nutrients accumulate in small areas favoured of the animals.

Certainly, the Falklands is NOT Australia but I am confident that such a grazing management system has potential benefits for the Falklands. It should improve utilisation of native plant material and may be a means of conditioning areas for the introduction of more productive desirable plant species. During this winter the cattle at Brenton Loch will be rotationally grazed in conjunction with supplement blocks and a small quantity of hay.

Grazing management cannot be learnt as a recipe but rather must be the result of understanding the basic biology of the plant and animal system. This is vitally important because each year is different usually requiring a specific refined strategy.

During this winter we hope to provide some farmers with the opportunity to participate in a training course aimed at developing their understanding so as improved grazing management discussions can be made.

\*\*\*\*\*

### **INTO THE NEXT CENTURY.....SHEEP EMBRYO TRANSFER**

*By Cameron Bell*

I have received word from a veterinarian in Tasmania (Australia) who is keen and available to visit the Falkland Islands next year to undertake embryo transfer in sheep. This procedure involves surgically collecting embryos from pure-bred ewes elsewhere (eg. Australia), transporting them here, and then surgically implanting them in 'recipient' ewes here. The procedure is the next best thing to an import of live sheep. This way, you just need to be patient for the lambs to be born to see the real thing. I will be obtaining further information so that during Farmers Week, I can provide details of the programme and approximate costings. In the mean time, think about this, and also consider your long-term breeding plan: what you are trying to achieve now, how you are going about it, and what you hope for several years 'down the track'. Your farm breeding plan is no different to a business plan, and is critical for success.

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# THE DEPARTMENT OF AGRICULTURE OPEN DAY BRENTON LOCH - THE GRAND OPENING OF THE CATTLE YARDS

*a report by Mandy McLeod*

The beautiful Stanley sunrise was left behind as Karen and I headed off to Brenton Loch where the New Cattle yards were being put on display as the centre point of the open day. With the sky being so red I thought we might be in for a blowy day later on, nevertheless we continued, knowing that there was a marquee for shelter if it got too bad, and I was looking forward to one of the 'Brenton Loch Burgers' that I'd heard about.

On the way through Goose Green we stopped off to pick up some FIGAS passengers from the wild west. Fully loaded up we set off again, following the little red arrows (made by Karen and Marie) and, along with several other vehicles, arrived at the yards. I was surprised how wet the track had become in the few weeks since the NSF sale, when it was so dry that the school bus got all the way to Saladero.

There was an excellent turn-out of people from all areas and of all ages. At one point seventy plus motors were counted, but I gave up trying to count the people because they wouldn't stand still long enough (I never was much good at counting sheep out of the letting go pens!)

As the cattle yards were the main attraction the cattle were brought in and were herded around the yards to emphasise the easy flow of the animals through such a design. Although they didn't run as well as usual, probably due to amount of people looking at them through the rails and standing by the gate areas to get a good view (or to take a photo!) the demonstration did what was intended



In the marquee there were many poster displays which looked at a variety of topics including Herbicide versus Cultivation (with a 4wd ATV and boom sprayer on show); Fox Control on Weddell Island with some horrific but factual photographs showing the ruthless nature of the fox; Diddle-dee revegetation; Parasite Identification; Feed Blocks; Cattle Yard History; Fertility; Wool and Condition Scoring. There were various legumes on display and some imported Corriedale rams and Polwarth ewes. There was plenty of discussion going on and much interest shown. Griz Cockwell had printed some great T-shirts specially for the occasion which were also on sale in the marquee.



By late morning the aroma of freshly cooked beef filled the air and the queue at the kitchen was there until late afternoon. The food was delicious, I had two burgers and a hot dog! Diana and Myra look like they are enjoying theirs as well. Thanks indeed must go to Rhondda Reid, Arlette Betts and Jenny Luxton for all their hard work, both on the day and in preparation.

The meat was one of the Brenton Loch Herd, and if that was anything to go by, the future of Falkland Island Beef tastes promising! There was no charge for the food, but a donation box was on the counter and approximately £250 was collected. A cheque will be presented to the Red Cross.

Throughout the afternoon interested people were ferried to and from the herbicide trial which was about 15 minutes from the yards and cattle were run through the yards again for anyone who may have missed it the first time.

His Excellency, Governor Ralph had arrived to officially open the yards. At this point a large crowd gathered beside the marquee where Bob Reid gave his introduction and thanks to all those who had helped in anyway with this successful project.

The Governor reiterated the comments and declared the 'Brenton Loch Cattle Yards Officially Open'. This was marked by the planting of four trees by His Excellency the Governor, Bob Reid, Rodney Lee and Hugh Normand.

Afterwards, as people had seen all they wanted and knew that there was a fair journey ahead of most, they headed off. I'm sure I can say for everyone that it was a great day, the weather was brilliant with the sun shining with hardly a breath of wind and the food was superb.



However, even with all those good things, the day would have been nothing without the hard work and team spirit of the Department Staff, particularly Robin Thompson who is the driving force behind the Beef Project. I think his family should also have a mention for their patience while Robin worked long hours, brought fellow workers home for food and sleep, not to mention the hours that they have volunteered their services at Brenton Loch since their arrival in January. Finally, many thanks to the military personnel who set up and later removed the marquee and latrines (there aren't many valleys, rocks or peat bogs in that area!)

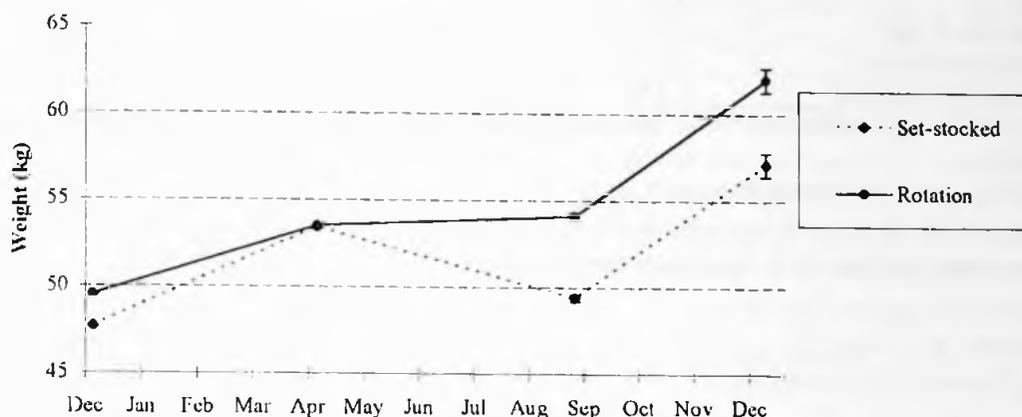
**SEE YOU ALL NEXT YEAR - LET'S MAKE IT AS GOOD AS THIS ONE**

## Grazing systems trial - sheep results 1996-97

by Aidan Kerr

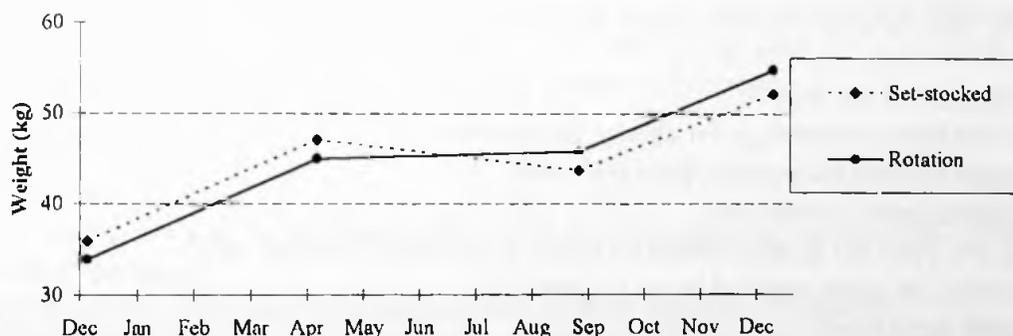
The sheep performance results of the second year of the trial are shown in the graphs and table below. The trends support those found in the previous year i.e. wether sheep in the 'rotation' system generally performed better than set-stocked sheep.

**Wether live weights (all ages) 1996-97.**



Graphs of live weights are presented separately for all ages of wethers (above), including those previously stocked on the trial, and for 2 year old wethers (below) which were new to the trial. The performance of the latter group provides a better indication of trial effects in 1996-97, while that of the older sheep was probably affected by previous performance too.

**Live weights 1996-97, 2 year old wethers.**



Despite being stocked at a rate over 4 times heavier than the set-stocked sheep from December to April the slightly inferior live weights and gains of the 'rotation' sheep were not statistically significant. Over winter all 'rotation' sheep, including the 2 year olds, gained significantly more weight than set-stocked sheep. Weight gains in Spring were similar in both systems. Over the year, all of the 'rotation' sheep (+2.4 kg), and the 2 year olds (+4.1 kg), gained significantly more weight than set-stocked sheep. However, while mean fleece weights from 'rotation' sheep were about 170g heavier, fibre diameter slightly coarser and income 28 pence better, these results were not significant.

Additionally, Doug and I will soon be able to confirm the results of fibre strength and position of break tests recently completed in New Zealand. I also hope to publish changes in the pastures as soon as they are available.

Performance of all sheep 1996-97	Set-stocked	Rotation	
Stocking rates, s/ha (ac/s)	0.9 (2.7)	summer 3.8 (0.7) winter 1.2 (2.1)	
% loss	2.1	5.4	
Live weight gains (kg)			
Summer	5.7	3.4	
Winter	-3.8	0.7	*
Spring	7.6	7.9	
Annual	9.5	11.9	*
Fleece weight (kg) <sup>1</sup>	2.10	2.27	
Fibre diameter (µm)	29.8	30.1	
£ / fleece (1997 prices)	5.00	5.28	

(Notes; 1 = skirted and cleaned. \* = the means were significantly different (p<0.05) probably due to treatment)

**Please contact me if you have any queries or would like to visit the site. The next sheep weighing etc will be in early September and those interested are invited to come along and see how the sheep have performed over winter.**

## Cattle crush competition

*by Robin Thompson*

Spot the faults of the cattle crush competition created some discussion and entries at the Brenton Loch Open Day. Toni Stephens from Sussex spotted the most faults and hence won the competition. The judges decided to award a booby prize to Sharon Marsh which she should be on the look out for in the near future.

Having used the crush we have found the following faults:

- Construction too light
- No mechanical advantage for closing the squeeze
- Cannot operate the squeeze from both ends
- Squeeze opens too narrow
- Hard to open the squeeze whilst an animal has forward pressure on it
- No back vet gates supplied in the original unit
- Scales don't work
- Floor too slippery
- Finger jam points
- Only one hinge point securing the opening bale door
- Bale door latches at operator head height
- No kick gates for behind animal operations

**FOR SALE**

**3 PURE BRED RHODE ISLAND RED COCKERELS @ £10 EACH. FAX OR PHONE RON OR FIONA ROZEE AT SPRING POINT ON 42001 (EVENINGS)**

# The Effective Control of Weeds

by Grant Monroe

The importance of effective and continued weed control around newly planted trees was stressed last month. What are the options available to achieve this control ?

## **Mowing**

Cutting grasses cannot be considered a method of weed control. As well as risking physical damage to the tree mowing actually worsens the detrimental effects of weeds on trees.

## **Ground Cultivation**

Rotovating, ploughing and hoeing cut weeds below ground level and either uproot them or bury them. Rotovating prior to planting can reduce or even avoid the need to weed through the first year and into the second. Likewise ploughing can aid weed control as well as improving initial shelter, drainage and nutrition. Hand hoeing is only practical for small numbers around the settlement. Couch grasses are hard to control through cultivation due to the number of buried rhizome roots which reshoot. In addition given damp conditions the cut weeds may not die and repeated cultivation may be necessary. Cultivation is best done during dry conditions so that the weeds are desiccated and killed. Care should be taken not to damage the tree if cultivation is performed after planting.

## **Mulching**

There are many materials that can be used as a mulch but all work by suppressing the weeds through exclusion of light. Mulches also improve tree growth by reducing surface evaporation which increases the moisture available to the tree. Many materials can be used and range from tough polythene (black polythene raises the soil temperature and promotes root growth and decomposition of organic matter), cardboard (weighted down with soil, peat dust or ashes), hessian sacking, old carpets, roofing felt, the list is endless. It is not necessary to perforate the sheets to allow rain to pass as sufficient moisture will soak in from the sides. The only caution when using mulches is to check from time to time that no pests are living under the shelter of the mulch.

## **Herbicides**

Chemical weed control is the preferred option in larger scale plantings as it is less labour intensive than the other methods.

There are three main groups of herbicides; contact, contact systemic and residual.

**Contact herbicides** such as paraquat kill any green foliage that they touch but are inactivated in the soil and are not moved (translocated) within the plant. The effect is little better than mowing as the weeds regenerate from their roots and repeat applications are necessary.

**Systemic herbicides** such as glyphosate (*Round-up*) are foliar sprays similar to contact herbicides however once the chemical enters the plant it is moved throughout the plant killing roots and leaves. Any new weeds must therefore grow from seed and weed control is limited to only one or two applications per year. Glyphosate is probably the most useful broad spectrum herbicide. It must be applied when the grass is actively growing but applications late in the year will still cause die back the following year. If trees are dormant they can tolerate some chemical wetting, however, during the growing season they should be protected to avoid any accidental contact.

**Residual herbicides** are absorbed through the roots. Since tree roots and weed roots occupy the same area the herbicide has to be selective. Propyzamide (*Kerb*) kills most grasses and also

germinating seeds, however, trees are tolerant. Propyzamide is activated in cold soils and is applied in winter. It should remain active for one season and seems an ideal low labour method of obtaining weed control. Doubt exists however with its period of activity in peat soils and the Department will be conducting a trial this winter.

In windy conditions it is hard to control spray drift and the best application technique for around trees is by direct applicators such as weed wipers. These apply herbicide from a saturated wick brushed across the weeds by hand. Spot gun applicators similar to a veterinary drench gun which deliver a measured dose from directly above the tree are also useful for winter applications when the tree is dormant, or if the tree is resistant to the herbicide used.

### **Timing of weed control**

Weed control should start before planting to give the trees the best possible start. Before planting there is no risk of damage to the trees and cultivation can be performed easily. Once the trees are planted the weeds must never be allowed to become well established. Weed control should start early each season and ideally the trees should be weed free through the winter so that come spring no moisture stress will occur. It is essential over the first few years to ensure tree growth is not affected. If a tree is weakened one year it will not set sufficient bud for full growth the next year and the effects of one seasons bad weeding can be felt five years later !

Weeding of the newly planted tree should continue until the plant has become well established. This will be for a minimum of 3 years but I would recommend longer. Continued weeding until the trees are shoulder height can only be beneficial.

Happy weeding.

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### **Meat and bone meal feed ban backed by research**

*Source: Technology Worth Watching*

US scientists have uncovered new evidence that supports a ban on feeding pigs and poultry with meat and bone meal made from the remains of cattle and sheep.

The research, published in Nature journal today, casts doubt on the assumption that certain species, such as pigs and chickens, are resistant to the transfer of prion diseases from another species. The researchers found that the infectious agent could lie dormant in a species that was not itself susceptible to the disease.

The researchers, from the National Institute of Allergy and Infectious Diseases at Hamilton in Montana, studies the impact of hamster scrapie of mice. They found that the brain and spleen of mice infected with hamster scrapie can cause the disease when re-injected into a hamster a year later - even though the mice themselves never developed clinical symptoms. The scientists said their results "strongly favour a decision to stop feeding ruminant-derived products to all animal species".

The use of meat and bone meal in feeds for pigs and poultry has been banned in the UK since 1996.

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## *Diary of the Farmers trip to Southern Chile*

*by Lynn Blake, Little Chartres Farm*

On the 7th March, 1998 we departed MPA with the first ever group tour of Falkland Island farmers to Southern Chile. There were seven ladies and ten men, two men being from the Department of Agriculture.

Robin Thompson, Beef Development Officer, had made interesting and friendly contacts with Chilean counterparts when he had been delayed in Punta Arenas on his way to the Falklands, and from this developed the idea of a group visit which came to fruition. Two officers from the Ag Department were able to join the group, Robin Thompson who was the instigator and organiser, and David Parsons - Legume Officer. There were two Councillors present, Bill Luxton and Richard Cockwell. Bill is a farmer and Richard is very much involved with the Fox Bay Mill. Both were able to speak on agricultural matters as well as discuss present agricultural policy in the Falklands.

The group went to "Look and See", to discuss and to question whatever was on offer. A very full programme was prepared by Robin Thompson in conjunction with Sr. Gustavo Stanton-Young, Veterinary Officer and Manager for the Corriedale Breeders Society, and both are to be heartily congratulated on a magnificent job.

On Saturday night, our first night in Punta Arenas, we, the group elected to all get together. At this stage not everybody knew everybody and also David's wife was flying on to Australia the next day. I *think* the restaurant was pleased to have our custom as they did us proud, and group-wise it was a good decision. In the morning to work.....

Sunday 8th am

We went to the Magallanes Agricultural Show. This is a premier event in the Corriedale sheep breeders calendar, it is THE place to compete and exhibit stock with a view to maintaining or establishing your reputation as a breeder and acquiring sales. Judges, and more importantly, *buyers* come from other parts of Chile *and* from other countries.

(A local application of this would be to see prospective buyers surveying the fleeces and stock at the West Falkland Ram & Fleece Show or the Farmers Assn Sheep Show at Fitzroy with a view to making purchases, not necessarily the animals in view, but at least stock from the exhibiting farms.)

As well as the sheep there were some cattle and some machinery on display but you will have to ask some one else to tell you about those because I found myself at the INIA stand and quite unable to get away!

INIA is the research arm of the Ministry of Agriculture and in their tent they displayed many of their current projects with posters, photographs, and the 'real' thing. There were several bales of superb alfalfa hay but the exhibit which stole the show were the pens of Alpacas. Alpacas are cameliods, native to Peru and about the size of a yearling horse. They are timid, curious and docile all rolled into one, they have long necks and the most beautiful eyes I have ever seen. The value of their fibre is being assessed and the practical day to day management monitored. Is it tomorrow's animal?

In the afternoon we went to the Races at the Club Hipico and were guests of the club president, which meant we were able to use Club facilities like the stand. We were able to have a little 'flutter' and win or lose just as one does in Stanley. Several punters put their money on a little

mare called something Grizelda and when she came in a winner our Chilean friends were amazed and wanted to know what betting system we were using and how could we pick such an outsider to win!

There were 3 races and 5 to 8 horses in each race. I do not know what stakes were involved for the owners and jockeys but the horses and jockeys were well turned out and all looked most professional. The mobile starting gates which could take up to 9 horses impressed everyone and the starts were quick and fair.

Monday 9th

There was an all day visit to Kampenaike, the research station answerable to the Ministry of Agriculture and having to stand on its own feet, i.e. they undertake work from paying clients. This is the trend in New Zealand too and certainly in wool research so it came as no surprise to see it here.

Kampenaike is 60 km from Punta Arenas and covers many hectares in several blocks. They have a horticultural unit, a crops unit, there are cattle and sheep units and now an Alpaca unit.

One of their current projects is trying to find out how to rehabilitate over grazed land, if indeed it can be (sound familiar?).

The cattle at the Research Station and generally throughout the region are Herefords, just as sheep are generally Corriedale, but here at Kampenaike there is a study underway using Poll Dorsets, Border Leicesters and Suffolks as terminal sires, and to measure the growth of that progeny against the dual purpose pure bred Corriedale. This is for the meat trade. All projects have arisen from questions from clients of economics, efficiency and customer demand.

Tuesday 10th am

The visit to the abattoir Frigorifico S.A.

This is a very modern plant working to E.U. standards with considerable use of New Zealand expertise and consultants. It processes the majority of sheep slaughtered in this region and was doing Corriedale lambs during our visit. Hygiene was scrupulous and like all employees we had to wear white hard hats, white shop coats and white wellingtons. Men and women were working on the slaughter chain and there were continuous veterinary inspections of all carcasses and offal. All the procedures were done by people standing in a comfortable upright position, each person had a very specific task which seemed to take only two or three seconds and then the carcass moved on very quickly. This abattoir cuts down, packs and freezes the meat ready for retail outlets. All the small goods are prepared and packed for marketing, brains, tongues, livers, intestines and even testicles. They looked like penguin eggs neatly packaged on little polystyrene trays, and are used in the manufacture of pet food.

There is a meat meal plant adjacent to the abattoir that processes the blood, bone, guts etc. The meat meal looks like red saw dust and is packed in sacks for transporting. The pelts are air dried in a huge airy building - shed - then baled for despatch to Santiago or overseas. There is no tannery in Punta Arenas.

Tuesday PM

The visit in the afternoon was to the Instituto de la Patagonia, part of the University of Magallanes. Here we saw a project in its infancy that aims to grow native trees that can be planted out to re-establish forest areas. There was a lot of very interesting discussion from seed collection, seed storage, preparation of soils and temperatures to aid germination, the mediums and containers most suitable for use etc.

The day after our visit technicians were going to visit a site where Guanaco had ravished an earlier planting of trees and electric fencing was being considered. (This disaster had a certain familiar ring about it!)

Very close to the Institute is an excellent outdoor museum of old carts, drays, engines, all sorts of transport used in the development and servicing of the area. There are several complete buildings, houses, shops, stables, school etc and a wonderful small collection of vintage cars. It is on a very grassy area and well worth a visit.

Wednesday 11th am

The visit to Standard Wool (Chile) S.A.

This is a scouring and combing plant. Some wool is processed 'on commission' for clients but most is bought by Standard Wool, processed and sold on by them to spinners. One group of farmers we met decided to put their clips together, have them processed on commission and then took the tops to the market place themselves. They weren't immediately successful but by persevering they say they now have very satisfactory arrangements for selling direct to manufacturers. One area of selling they worked particularly hard at was ridding their wool of the old image of South American wool being 'inferior', and establishing international recognition for the quality they produce today.

PM. A very enjoyable afternoon was spent visiting two Hereford cattle farms. At the first farm we met 16 year old Pablo Fernandez who was over here to school last year. He had taken the day off in order to talk to us and interpret for his uncle. We all enjoyed seeing the cattle and hearing how they are managed, and for in depth details I think Robin is the man to speak to! We saw Alfalfa hay being baled and saw the hay barn where it is stored for winter feeding. As I understood it only lactating cows and young weaners are privy to this treat when there is snow on the ground. The rest of the mobs live in the camp, much as they do here. All together we saw cattle on four different farms and each time we were invited to walk amongst them, even a pen of bulls! The owners are very proud of how quiet and manageable their cattle are, and I have now learnt this is a trait in Herefords. Of course there is always the exception to the rule and we saw that too!

Their dogs were *very* interesting, a cross of Alsation and Greyhound. I do not know if this was just on this farm or not, but they were friendly and efficient workers. The cattle are rounded up by riders and horses. Most of the horse gear was familiar, only the stirrups were a little different and very short.

At the second Hereford farm we saw an area where Fachine had been flail mown but strips of Fachine had been left, forming a sort of hedge and providing good shelter. I am sure agronomist David can explain what was going on here but basically once the Fachine was removed, just cut down with the flail mower, *grass and clover grew!*

This was the second time we had seen this. On the previous occasion the land had not been grazed sufficiently and the Fachine was coming back very quickly. Oh, for just a little more sweetness in our soil.

Thursday 12th

A very big trip out to camp. Departed Punta Arenas 9am. Returned two minutes to 11pm. For this trip we set out in the ever faithful 20 seater bus, with our ever excellent driver and with Gus, the vet, who if it was humanly possible, would arrange anything. For instance, along the way he pointed ahead to some distant rocky hills where condors are sometimes seen. As we drew alongside, as if one cue, one the natures most majestic birds came sweeping and gliding down in our direction, circled the bus, appeared to have satisfied his curiosity and was off looking for thermal current to lift him high into the rocky hill tops.

The direction of the trip was north east of Punta Arenas, past Seno Otway and along the edge of Fitzroy Channel, looking over to Island Riesco and for some onto Seno Skyring. Otway and Skyring were both naval officers with Fitzroy. The round trip was about 250km on sealed and unsealed roads. On top of this there were several off road excursions to things of interest.

The whole group made a morning visit to a Corriedale sheep farm that is also building up a herd of guanaco. This farm has a well established stud flock and is very successful in the shows. We had seen the prize winners at the show on Sunday and now we were also able to see flock sheep off the camp. Answers and discussion on all aspects of what we saw were very patiently and informatively given, and then there was an excellent lunch in the farm house for all.

After lunch the group split into two, one group went by boat over to Island Riesco and the other group back into the bus and continued around the shores of Seno Skyring. At Estancia Skyring we were able to drive quite some way up into the forest and see some beautiful native bush. These are the type of trees that have provided timber for every conceivable need for the people in these parts. We visited a salmon hatchery where the little salmon called smoults are raised and are then transported north for 'finishing', just like the cattle! The shearing shed is a very large timber building, beautifully maintained, as was the whole farm.

The group who went to Island Riesco were impressed by the sanitary precautions taken routinely when going to the island for the prevention of the spread of scab or anything else. This farmer is another well established and successful Corriedale breeder but what the group seemed to have spent most time with were the Holstein horses. Several of the group were able to try the horses and were singing their praises all the way home.

All three farms had extensive vegetable gardens and beautiful flower gardens. They all have snow in winter and speak of too much wind. So what is the difference? As I see it much of the soil is richer than ours, probably because it was formally forest, they have easy access to timber and labour is more readily available.

Friday 13th am

In the morning there was a very useful meeting with the Corriedale Breeders Federation where discussion focused on identifying and developing topics of common and mutual interest to the farmers of Southern Chile and the Falkland Islands. Two areas thought to be of possible mutual benefit were in the fields of trade and agricultural science. Everyone agreed that the personal contacts made during the week were a good beginning and the Chileans indicated their desire to make an exchange trip to the Falklands in the near future.

In closing I would just like to add that I am aware I have not mentioned the hospitality and many kindnesses extended to us by the Chilean agricultural community during the week. They were superb, so welcoming and so generous with their time. We were really spoilt and look forward to a return visit from them. I would also like to say from the whole group how grateful we are to Robin Thompson for the tremendous effort he made to get the 'show on the road', and to say thanks to Bob Reid for his blessing.

To farmers in the Falklands, we have a wonderful team at the Department of Agriculture, be sure to use them, they thrive on questions, discussions and debate!

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## **WANTED**

**TRAILER SUITABLE FOR TRANSPORTING AGRICULTURAL MACHINERY WITH A MINIMUM LENGTH OF 14 FEET.**

**UNITS SUITABLE FOR MODIFICATION CONSIDERED.**

**CONTACT: ROBIN THOMPSON, GOOSE GREEN. TEL: 27354 FAX: 27353**

# Topical Welfare Advice.

*by Andrew Coe*

With winter approaching I thought I would write a little about some potential welfare issues that over the last couple of years have come to my attention 'on the grapevine', by hearsay, and from 'keeping my ear to the ground.'

## Dogs

Winter in the Falklands can be a cold, wet, windy and miserable time. Husky's have been selectively bred and are well adapted to sleep out in howling snow storms and to eat frozen seal meat and snow. Collies and Huntaways are not!

When putting your feet up in the evening in a warm kitchen please spare a thought for your dogs comfort and well being by ensuring that the following minimum requirements are met:

1. They must have access at all times to a dry, draft and rainproof kennel /sleeping area. This is most practically going to be wooden floored which will help to insulate them from the cold ground.
2. Check twice a day that water bowls aren't frozen over.
3. Ensure that they are given adequate food every day to enable them to generate enough heat to keep warm.
4. Give them supervised exercise every day ( weather permitting) to keep them fit in both body and mind.
5. Go and have a critical look at your dog's sleeping accommodation TODAY and ask yourself if it could be made more comfortable without too much expenditure of time and money.

Over the next few months Cameron, Diana and myself will be paying particular attention to the need for dogs to have adequate shelter.

## Beef

The traditional cattle slaughtering season is on us and I want to make a plea that all persons considering slaughtering cattle out in camp do so in the most humane manner possible. What I am trying to avoid is the operation turning into a 'big game' shoot with seriously injured animals having to be chased around in order to complete the job. My main recommendations are as to the size of gun/ammunition that should be used and the position in which the animals should be shot.

## Gun/Ammunition

Whilst a .22 rifle may be sufficient for shooting confined cattle in the head at close range, I know from personal experience that it is not sufficiently powerful to be reliable for shooting cattle under field conditions. In such circumstances a 7.62, 3.03 or at the minimum a .223 calibre rifle should be used. If the animal can be approached closely enough and the shooter is confident enough in their ability then a head shot, aiming at the point where lines drawn from each ear to the opposite eye cross on the front of the skull, is the shot of choice. If this is not possible then the animal should be shot from the side somewhere in the middle of the shoulder blade or just slightly behind. This is a

typical deer stalking shot and was used extensively and to good effect when slaughtering the bulls on Keppel. The animal will collapse within a few yards of where it was shot and if it is still alive when the shooter reaches it, it can be slaughtered with a shot to the head.

### Culling sheep

For many, perhaps most farms the advice that follows may be too late for this season but there may still be some farms that are culling sheep in the next few months.

It is tied in with the advice given above regarding the slaughter of cattle and it is again designed to ensure that the slaughter of cull sheep is carried out in a humane manner. If sheep are to be shot with a free bullet then they should be confined in a small pen or race so that close up head shots can be accomplished. Animals can then be carefully checked to ensure that they are not still breathing and any that are can be slaughtered by throat cutting. I do not believe it is satisfactory to shoot a large number of free moving sheep held up in a corner of a field. The risk of mis-hits is too great and animals could be wounded by ricochets.

The purpose of this article is to encourage people to give a little thought to the issues raised since animal welfare can often be greatly improved with not a lot of extra expense in either time or money.

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## **The gateway to Lafonia**

*Guess where?*



**Compliments of Tony Heathman.**

## CHANGING BREED FOR THE RIGHT REASONS

*by Robert Hall*

Although farming in camp is extensive agriculture, land area is the main "limiting factor of production" on most farms. Maximising income per acre/hectare is thus a major objective, with stocking rates and income per head being the main components.

In recent months a number of farms have given thought to changing their sheep breeding policies, in a move to increase their average income per head. There are a number of aspects of sheep breeding which may warrant a change of breed, particularly as changing sheep breed is one of the fastest ways to influence sheep production parameters. In recent years there has been a move to using more Polwarths, Cormos and Comeback rams, with the significant results of a noticeable shift in average microns.

The sheep importation from Tasmania in 1992 was largely designed to BOTH reduce Falklands fibre diameters AND to increase average clean fleece weights. Hand in hand with the shift in wool production therefore, as part of farm breeding strategies, there has been a welcome increase in fibre diameter testing but in general not enough fleece weighing.

These points are of significance to those who are disappointed with the body size of the Polwarth/Cormo/Comebacks on their farms: (In specialist wool production it is arguable that sheep body size is of secondary consideration: what is important is that the sheep survives, can successfully reproduce and rear its young and can get to the shearing shed each year with a valuable fleece). In any event, there is a measurable within-breed positive-correlation between body size and fleece weight (big sheep tend to have larger fleeces and visa versa). In addition there tends to be a negative-correlation between body size and fibre diameter (small sheep within a breed often have finer fleeces).

Given a practise of possibly placing more emphasis on fibre diameter than on fleece weight, sheep body size will tend to become smaller. This will happen within either breed: Polwarth OR Corriedale if breeding practises do not accurately and fully identify the most productive sheep.

In short, farms concerned about sheep body size must ensure that their selection procedures accurately identify superior performance sheep and do not select one characteristic to the direct or indirect detriment of other important traits.

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Following the arrival at the Market Garden in October of the first Renault Tractor in the Falklands a second model recently arrived on the West is apparently creating some interest amongst farmers.

For anyone interested, a very good Renault export dealer is:  
L.P.Morris, Agricultural Engineers, Dale Street, Craven Arms, Shropshire.  
Fax: 01588 673503

They give a very good price for export, spares backup and specific advice by phone/fax from their own workshop staff if required. Also a supply of the essential CORRECT oils and coolant liquids - vital with high performance engines!  
Also if preferred they can arrange for the new tractor to be carefully run-in where they will then do the all important first service and liquids change and polish up so the tractor arrives in the Falklands ready to WORK. This was the case with ours at Stanley Growers.

P.S. For the younger farmer, they also do a range of ride-on Renault children tractors!

## 1998 / 99 GAP STUDENT PLACEMENTS

*from Mandy McLeod*

For a few years now we have had a steady flow of students who are taking a year out from their studies (usually between 'A' levels and University) coming to the Falklands to experience a way of life different from their own. They have come from all backgrounds and going on to study a wide variety of subjects, including Agriculture.

The Falklands has become a very popular choice, so much so that some of this years applicants won't even put down a second choice location. It's the Falklands or nowhere! GAP students usually arrive in mid October and stay for about six months. This coincides nicely with our increased work load at a time when local labour is becoming scarce, so no local people are being deprived of work.

The GAP organisation need to know NOW how many students we can offer placements to for the 1998/99 season. Would anyone who would like to employ a student this coming season contact me as soon as possible with their requirements.

Farmers are expected to provide the student with food and accommodation and pocket money of £70 per week. If you don't feel that you can afford to take someone on for the whole season you can still get in touch. Maybe we can arrange a GAP share situation. There may even be several farmers in one area that could share a student. We have had share situations before that have worked well. Please contact your neighbours and see if that is an option to suit you. I would be grateful if anyone interested could contact me by Wednesday 20th May.

If you would like further information give me ring.

## REMINDERS !!

### AGRICULTURAL ASSISTANCE

Would all farmers who have not yet done so but who wish to receive the wool subsidy, please return their signed application form to the Department of Agriculture together with the requested accounts information. **You have until the 16th May.** Any applications not received by that date will not receive assistance as it will be assumed that you do not want it.

### ANNUAL STOCK RETURNS

Although the annual stock returns are based on figures as at 31st May each year, would any farmers who are going away this winter prior to that date, please ensure that their completed form is sent to the Department of Agriculture before they leave. If we do not have all the returns, the publication of the Farming Statistics will be delayed.

# Farmers Association Sheep Show

## Fitzroy

by Doug Cartridge

The first show was held at Fitzroy on the 11th of April, entries were far higher than anticipated totalling 127 sheep. Exhibitors were rewarded with very generous sponsorship for all classes from local individuals, companies and organisations. A good crowd of spectators turned out to join in the activities, to scrutinise the judges decisions and to sample the food kindly supplied by Donna and Mike Evans. All in all, it was a very successful day out, and I am sure the first of many such events which will be held on East Falkland in the future. Thanks go to the Judges for the day Mr Tim Blake, Mr Brian Aldridge and Mr Stuart Smith (visiting Herbicide Specialist).

Below is a list of sponsors and prize winners for each class, congratulations to them and see you next year!!

**Class 1.** Mature ram over 24 months of age.

Falkland Islands Company challenge cup plus vouchers 1st £75, 2nd £50 and 3rd £20.

**1st Fitzroy Farm , 2nd Smylies Farm and 3rd Fitzroy Farm**

**Class 2.** Shearling ram, over 12 and under 24 months of age.

Terrence and Carol Phillips challenge shield plus shields for the first 3 place getters in addition 1st £25, 2nd £15 and 3rd £10.

**1st Salvador , 2nd Hope Cottage and 3rd Fitzroy Farm**

**Class 3.** Ram Hogget, under 12 months of age.

Falkland Island Development Corporation Challenge cup plus 1st £50, 2nd Department of Agriculture voucher for ram sale £100.

3rd Falkland Farmers voucher £20 and 4th Falkland Farmers voucher £10.

**1st Kings Ridge Farm , 2nd Fitzroy Farm , 3rd Hope Cottage and 4th National Stud Flock**

**Class 4.** Mature Ewe, over 24 months of age.

1st Standard Chartered Bank £50, 2nd RM Pitaluga £25 and 3rd Falkland Farmers voucher £10.

**1st Smylies Farm , 2nd and 3rd Fitzroy Farm**

**Class 5.** Shearling Ewe, over 12 and under 24 months of age.

1st Brian Aldridge £50, 2nd Tony and Ailsa Heathman £25 and 3rd Stanley Services Ltd oil products.

**1st Salvador , 2nd Mount Kent Farm and 3rd National Stud Flock**

**Class 6.** Ewe Hogget, under 12 months of age.

Falkland Landholdings 1st £50, 2nd £30 and 3rd £20.

**1st Fitzroy Farm , 2nd Hope Cottage and 3rd National Stud Flock**

**Class 7.** Pen of three flock hoggets (male or female), under 12 months of age.

1st Department of Agriculture voucher for ram sale £100, 2nd Falkland Farmers voucher £25 and 3rd Stanley Services oil products.

**1st , 2nd and 3rd Fitzroy Farm**

**Class 8.** Pen of three flock shearlings (male or female), over 12 and under 24 months of age.

1st Falkland Islands Wool Marketing £50, 2nd Falkland Farmers voucher £25 and 3rd Falkland Farmers voucher £10.

**1st Fitzroy Farm , 2nd Kings Ridge Farm and 3rd G Butler**

**Champion Ram:** selected from classes 1 , 2 or 3

Cable and wireless Challenge Cup plus £50

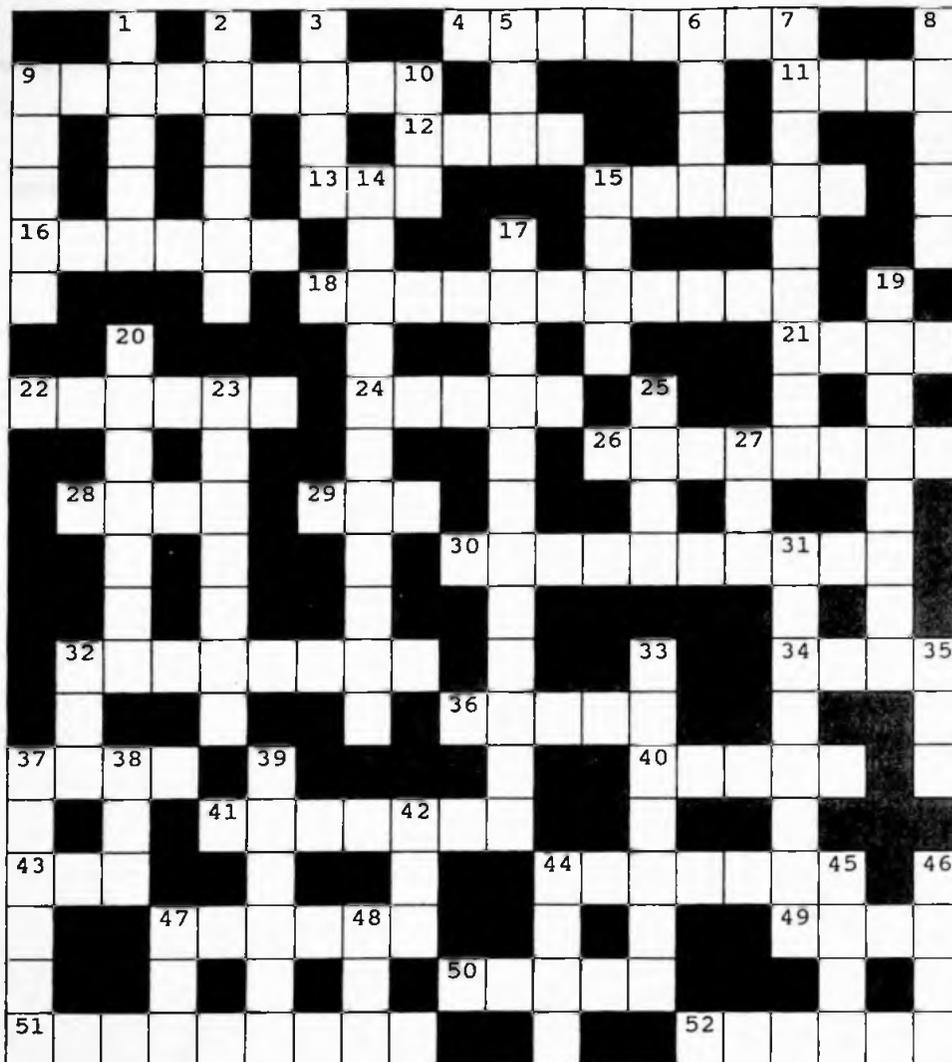
**Kings Ridge Farm , class 3 Ram Hogget**

**Champion Ewe:** Selected from classes 4 , 5 or 6

Sheepowners Association Challenge Trophy plus £50

**Smylies Farm , class 4 mature ewe**

*Finally congratulations to Carol Phillips, who against the odds won the sheep counting contest which was fiercely competitive and included entries from such well known stockmen as Eric Goss, Tony Anderson and Tony Heathman.*



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- 4. SPLIT LENS SPECTACLES
- 9. AREA WHERE THE STEPS ARE LOCATED
- 11. A REFLECTED SOUND
- 12. SQUID TYPE
- 13. PLUS
- 15. BIRTH SIGNS
- 16. ROTTEN - AS IN EGGS
- 18. OPEN DAY VENUE
- 21. AJAR
- 22. RIDING CROP
- 24. YOUNG BIRD
- 26. AIRSHIP
- 28. SWIMMING EVENT
- 29. DEDICATED POEM
- 30. MEATCAKE
- 32. SUPERNATURAL MYTHICAL CREATURE
- 34. OBTRUSIVE MASS IN THE SEA
- 36. HORSE CARER
- 37. RIVERBANK RODENT
- 40. NOT OLD
- 41. FIRE STARTERS
- 43. PORTION OF A FELLED TREE
- 44. FOOT IRON ON RIDING GEAR
- 47. BLACK FALKLAND VULTURE
- 49. SMALL RODENTS
- 50. DENIM TROUSERS
- 51. HAIRY SPIDER
- 52. PIGLET SOUND

- 1. UNDRESSED
- 2. GARDEN TOOL
- 3. SECOND LETTER OF THE GREEK ALPHABET
- 5. FROZEN WATER
- 6. CORROSIVE SUBSTANCE
- 7. SIGNAL WITH FLAGS
- 8. NECK LOOPE
- 9. GRAIN PLANT BY-PRODUCT
- 10. COVER
- 14. SOWING METHOD (6,4)
- 15. AREA
- 17. ANNUAL REQUEST FOR FARMING STATISTICS (5,7)
- 19. ANCESTRY LINE
- 20. TALL MAMMAL
- 23. SECTION OF A BOOK
- 25. FLAVOURING AND MEDICINAL PLANT
- 27. GOLF AVERAGE
- 31. POT PLANT
- 32. WHAT PERSON?
- 33. A PORT SAN CARLOS SUB-DIVISION
- 35. WEDDELL ISLAND PEST
- 37. ANTLER COVERING
- 38. LOWER LIMB
- 39. TALKING BIRD
- 42. WINTER FEED
- 44. AQUATIC MAMMAL
- 45. TOOTHED FRESHWATER FISH
- 46. CALF MEAT
- 47. REFRESHMENT
- 48. LONG FISH



# WOOL PRESS

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**PLUS ALL THE REGULAR FEATURES AND MORE!**

*The Wool Press is published by the Department of Agriculture. Editors: Lilian Wallace & Julie Fisher-Smith*

## EDITORIAL

Well, this is it, my last editorial! I don't want to sound as if I have not enjoyed editing the Wool Press during this last five month, I have, honestly, even thought there were a few occasions when I thought there was not going to be one because of a shortage of articles but I knew I could count with our staff. Thank you all for your help and keep those interesting articles coming in!

Charlene should be back at work on the 17th June after her study course in Tasmania, Australia. I'm sure she will produce an interesting article for next month's Wool Press to let us know all about her course and hopefully what she has learned will be pass on to some of us. So look out for that article!

On Saturday, the Dept of Agriculture invited the public to visit its offices to see and hear about what we are working on. It was a well attended morning with a good crowd of people flowing in and out during the morning. There were many poster displays which looked at a variety of topics including Fox Control on Weddell Island, Beef & Sheep Nutrition Programmes, Progress in legume Introduction, Native Pasture Research, Laboratory Techniques and Wool Testing. There was plenty of discussion and much interest shown. All in all it was a good turn out. Thank you to all those people who attended including Councillor R Cockwell and Councillor L Clifton.

As always, there are many interesting articles in this month's Wool Press but please read Sean Miller's article, "Progress on the wether trial", where he states that he has had a good response from farmers in getting groups of sheep together to run this trial but most of these groups are from farms in the West, so come you Easters, give Sean a ring or send him a fax. We will appreciate your co-operation. Thank you.

A date to jot down in your calendar, Farmers Week - 29th June to 3rd July - Your are most welcome to come and visit us, see you all around!



### THIS MONTHS CONTRIBUTORS

<b>Sean Miller</b>	Sheep Husbandry Officer	<b>Aidan Kerr</b>	Senior Scientist/Agronomist
<b>Sarah Forster</b>	Junior Agricultural Assistant	<b>Grant Monroe</b>	Agricultural Assistant (Forestry)
<b>Robin Thompson</b>	Beef Specialist	<b>Mandy McLeod</b>	Farm Manag. & Training Officer
<b>David Parsons</b>	Legume Agronomist	<b>Cameron Bell</b>	Veterinary Officer

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THE ARTICLES PRINTED IN THE WOOL PRESS DO NOT NECESSARILY REPRESENT THE VIEWS OF THE DEPARTMENT OF AGRICULTURE.

## KEEPING MUM HAPPY PAYS DIVIDENDS

*by Sean Miller*

Well it's that time of year again; the rams are out having a ball with their harem. From now until lambing, what happens to mum is critical for the future of her lamb.

There are 3 critical periods that rely heavily on good nutrition to ensure that a lamb is conceived, it can grow to a good size, and that it can produce a maximum amount of wool. The first period is right now. Having ewes in good condition at mating is critical for ewes to become pregnant in the first place. Even better still, having ewes that are gaining weight during the mating period increases their likelihood to get in lamb. In other words, more ewes will get pregnant, and more will do so in their first cycle. The obvious benefit of this is that the majority of lambs will be born at the same time, and that means less hassles with younger, smaller lambs at weaning and during the following winter. One of the results to come out of FISAP (Falkland Islands Sheep Assessment Project) at Blue Beach, Leicester Falls, and Bold Cove, is that half of all of the lambs that die in their first winter come from the lightest portion of the flock. Anything that you do to get smaller lambs bigger increases their survival.

The second critical period is the first 7 weeks of pregnancy. During this time, the placenta develops in the ewe, and it is the placenta that provides food to the developing lamb. A big placenta has the potential to deliver more nutrients to the lamb. Thus, well fed ewes early in pregnancy will have bigger placentas and thus bigger lambs than poorly fed ewes. After the first 7 weeks, the size of the placenta is fixed, and feed quality and availability after this time won't change it. The benefit of big lambs is that they tend to be more resilient to the cold environment they encounter after birth, and thus more likely to survive.

The third critical period is the last 7 weeks of pregnancy. As you may already know, wool is produced from 2 types of wool follicles in the skin, primary and secondary follicles. Primary follicles develop early in pregnancy. Secondary follicles develop late, and as there are many, many more secondary follicles than primary follicles, they produce most of the wool. Secondary follicles are the sheep's own wool factory! If ewes are poorly fed during the last 7 weeks before lambing, the secondary follicles don't fully develop. As a result, the lamb loses some of its potential to grow wool, and **this effect lasts all of its life**. These sheep produce 10 to 15% less wool than they could.

Over the life of the sheep, this is at least one full fleece lost, or 6 x 200kg bales every year for a 4,000 head flock! We know this is happening in the Falklands now, FISAP shows this very clearly.

Fortunately, secondary follicles continue to develop for a short time after the lamb is born. So if good feed is supplied to mum during early lactation, some lambs may recover their lost potential, but this rarely happens. Data we have collected from the National Stud Flock indicates that affected lambs do recover under Saladero's very low stocking rate. But on all of the FISAP farms, lambs did not recover, and wool production was affected for life.

In the long term, legumes and the development of improved pastures will provide the necessary nutrients at the right time to help the ewes along. At the moment, keeping good areas of feed available for these times can go a long way to satisfy the ewes' requirements. In addition, this year we will be looking at the cost effectiveness of specific, high quality supplements for lambing ewes. Watch the Wool Press later in the year to see how this goes.

So, the moral of the story; feed mum well, and she'll look after your future.

## Introduction- 'Junior Agricultural Assistant'

by Sarah Forster

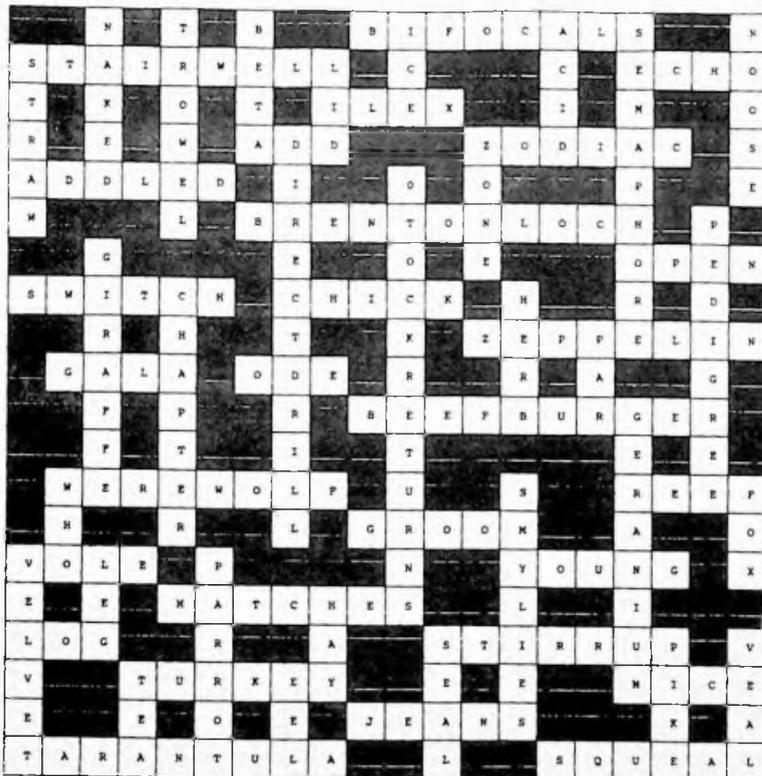
My name is Sarah Forster, and I have been working for the Department for the past month now. Up until now I have been spending the majority of my time out at Goose Green. Whilst being there most of our time has been dedicated to fencing (seemingly endless fences!) although one week was spent unloading, carting and stacking hay from the 'Penelope'.

Working as a Junior Agricultural Assistant means my jobs are varied, for example one day I may be sorting out invoices, the next I find myself sitting on the edge of the Bypass Road picking lupin seeds, much to the delight of the MANY passers-by. (I'm sure I will thank David for that particular job one day!) Working with David, I have been issued many different jobs, for example adding to progress reports on the potted plants in the garden, or helping out with some of the experiments which sometimes require an awful lot of patience.

To be completely truthful, the idea of working in Agriculture hadn't even occurred to me until after I had taken my G.C.S.E's, but during my past month with the Department, I have thoroughly enjoyed myself and have already learnt a great deal. I chose not to go away to college, but that is not to say that I have ruled out any chance of leaving the Islands for future training.

That is about all I can tell you about myself for the moment, so I will now go back to weighing out my 48 bags of fertiliser, and am sure I will see you all at Farmer's Week!

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**THE  
SOLUTION  
TO  
MAY'S  
CROSSWORD**

## **The National Beef Herd**

*by Robin Thompson*

Recent conversations with farmers suggests there is some confusion as to the role and reasons for existence of the National Beef Herd.

I was employed to develop a beef industry in the Falkland Islands. Presumably the logic behind this decision is threefold. Firstly beef cattle numbers in the Islands has been declining over recent years and if that trend continued there would not be sufficient animals remaining in the Islands to form the basis of a beef industry. Secondly, there is a domestic demand for locally produced beef which currently exceeds supply. Development of the abattoir should enhance this demand and possibly open up opportunities in other markets. Thirdly, farming income here is almost totally dependent upon wool. Beef production may be a means of diversification for farmers thus removing their total income dependency from wool.

Establishment of the National Beef Herd was a means whereby the cattle genetic resource already present on the Islands could be preserved thus negating the need to import seed stock at some later date when farmers desired to increase beef cattle numbers. In the short term there is little likelihood of a magic new farming enterprise or increase in the world wool price that will dramatically increase farm incomes. Consequently we must learn how to get more production from the sheep and cattle enterprises we know can be run here. This means adapting technologies used to increase production in other parts of the world. The major function of the National Beef Herd is therefore to provide the necessary resource of animals to enable new production systems to be tried and adapted to Falkland conditions without asking private farmers to take any of the risks that such activities inevitably involve.

I do not believe the National Beef Herd and the facility at Brenton Loch should be a 'model farm'. The concept of a model farm implies everything done there is perfect but when research, development and extension is the aim of the facility not all activities will succeed or be proved applicable to the islands. This does not mean that such activities should not be undertaken provided they are an attempt to answer practical questions pertinent to Falklands agriculture.

Activities and functions of the National Beef Herd will change as the industry and priorities develop. This may mean that in the future many of the Island's replacement herd bulls are provided by the herd or that different finishing systems are investigated. Certainly the National Beef Herd will produce animals surplus to it's requirement for replacements. Once the measurements necessary to fulfil research and development goals have been completed these animals will be available to other farmers or the abattoir depending upon their stage of maturity. Given that the current local demand for beef far exceeds available supply such animals entering the market should be welcomed by consumers. The price ultimately paid for beef should be a function of supply and demand which must be at least equal to what farmers can earn per area of land if it were used to produce wool or some alternative product.

**It is not the intention of the National Beef herd to compete with or force local farmers out of beef production but rather to provide them with the necessary information, skills and perhaps animals to develop their own beef enterprises**

## How fast does the 'camp' change?

*by Aidun Kerr*

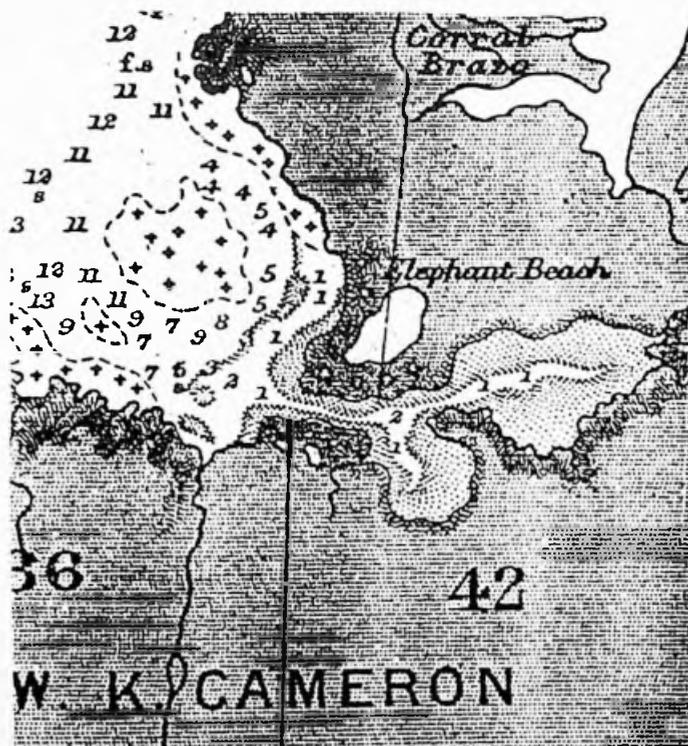
Not as fast as the horses, if these photos (on the opposite page), supplied by Tony and Ailsa Heathman, are anything to go by!

Nevertheless they show the dynamics of the dunes at Elephant Beach, Smylies Farm. The top photograph was taken about 1961-62 while the lower one was taken just recently - almost 37 years later!

The main differences are the formation of the sand (Marram) grass on the sandy beach near the centre and the vegetation that has covered the smaller patch of bare sand to the left hand side of the photo.

Over a hundred years ago the beach was much different according to the 1883 map kindly supplied by Jane Cameron. It clearly shows a depth of 1 fathom (6 feet) near the head of what was then a bay. Jane told me that her father remembered boats still sailing there up to about the 1920's. The bay is of course no longer navigable due to the considerable tonnage of sand that has been deposited.

If anyone else has photos of how the 'camp' changes we would be glad to publish them. All originals will be kept safe and returned



*Elephant Beach - 1883 map*



*Elephant Beach - photograph taken about 1961-62*



*Elephant Beach - 1998 photograph*

*Photos supplied by Tony and Ailsa Heathman, Estancia.*

## Transplanting Seedlings

*by Grant Monroe*

If you grow your own planting stock from seed the aim should be to obtain trees of approximately 15 cm with a balanced shoot to root ratio. Normally for the first growing season the seedlings will remain in the seed tray, however, if not careful over crowding can occur and a spindly seedling will result. Once 3" tall the seedlings can be potted on into individual pots or transplanted into a sheltered area of vegetable patch or flower bed.

The object of lining out is to provide greater space for the transplant and encourage the development of a stockier plant with a more balanced shoot to root ratio and a compact fibrous root system. In addition the slight damage to the root system caused during the lifting process promotes the regrowth of more fibrous roots.

Lining out is best done when the seedlings are dormant. That is in late autumn when growth has stopped, the shoots hardened off and the buds set. The plants should be carefully lifted or pricked out (holding the upper needles or tip in case the stem is crushed) and replanted immediately to prevent any drying of the roots. If the weather is windy or bright the plants should be placed in polythene bags or a bucket and kept out of direct sunlight, even during the short time they are being lined out.

Preparation of the lining out area is the same as normal garden practise to obtain a seed bed. The area should be weed free and prepared to achieve a fine tilth. To stop the soil compacting only enough ground should be prepared for that days lining out. The seedlings must be planted upright with the roots spreading evenly downwards. If the seedlings are planted squint and the roots bowed round in too shallow a hole they will thicken and harden in this position. Whilst the tree may grow in the better conditions of the transplant line, when planted out the roots will not be able to exploit the available soil and will suffer. The root collar (the original soil height on the seedling, separating stem from root) when transplanted should be at or just below the soil level to allow for any settling of the soil. The transplant should be well firmed. They should be firm enough so that a gentle, steady pull will not uproot them. If they are not firmed sufficiently they will be at increased risk from frost heave and drought injury due to insufficient root to soil contact.

The simplest method of planting out is to line out the transplant line with string and then with a dibble or small trowel plant the seedlings one by one. If you have more than just a few to plant it may be more convenient to dig a trench approximately 15 cm deep one side of which is vertical. The seedlings should be spaced along the vertical side of the trench and each plant secured by pressing a handful of soil against the roots. Once 1 - 2 metres have been prepared the trench should be refilled carefully and the ground firmed by treading.

Plants which are over crowded when lined out become spindly and do not survive well once planted in the field. The aim is not to achieve height growth but to get a strong stocky plant with fibrous roots. This is achieved by giving the plant more space horizontally. The minimum spacing which would be suitable for 1 or even 2 years growing on would be no less than 20 cm between transplant lines and no less than 5 cm between trees within the transplant lines. If space is not limiting the distance between the plants in the rows could be increased and if it was the intention to grow on the trees for several years to a larger size this should certainly be done.

The best time for transplanting is late autumn when the trees are dormant and the soil moisture high.

Transplanting could also be done in spring before growth commences, however, due to the drier conditions some additional watering might be required for the first few weeks. The transplant line should be kept well weeded. If weeds become well established they will be harder to remove without also damaging the roots of the tree.

Finally if you have any potted trees or shrubs the pots should be buried so that the roots do not freeze through the winter.

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## **USEFUL TIPS**

*by Mandy McLeod*

### **Practical fencing tips**

Plastic stoppers from fizzy wine bottles make cheap and effective insulators should you want to run a hot wire or two on a conventional fence. A nail through the centre attaches it to the fence post. The chunky ribs of the stopper keep the wire in place and prevent it from slipping and earthing against the post.

It could be quite an expensive and inebriating job collecting these stoppers, or alternatively you could keep an ear alert for any weddings, anniversaries or christenings coming up and contact the people involved and ask them to save the 'corks' for you. For long stretches of fence you could take a long time to collect enough, but for settlement paddocks I should think them ideal.

We all know the frustrations of trying to sledge a stob into the ground, seeing that with each hit it is splitting further down the post. Try putting a tin can over the top. A family size baked bean can fits nicely.

Usually you can use the same can for several posts, but if the ground is particularly hard and the can takes a bit of a hammering and becomes part of the post it doesn't matter, just leave it there and use a new one. The one stuck on the post will rust away in time.

### **Unblocking the hot water system**

Bits can get into the water pipes and cause a blockage in the hot water system if the header tank level drops and runs dry caused by a disrupted mains or well supply. An apparently simple remedy (assuming the mains supply is back on and has enough pressure) is to connect up a mains cold tap to a hot tap with a short hose (secured tightly) and turn both the hot and the cold taps on. The pressure from the cold tap will drive the debris back up the pipes to the header tank until it eventually runs out of the overflow!

## PROGRESS ON THE WETHER TRIAL

*By Sean Miller*

We're making good progress so far getting groups of sheep together to run the wether trial this year. So far, we have about 6 properties ready to provide groups of wethers. And most of these are from the West!

What we really need now is a few Easters to get in amongst the action. Also, we have several Polwarth groups. This is good as we will be able to look at the differences in production within the Polwarth bloodlines that are already here in the Falklands. It would also be good to increase the numbers of other breeds in the trial. For that, if you have a Corriedale based flock, or any other breed (or cross for that matter), and have a group of about 25 wethers that you are willing to sell to us, please let me know as soon as you can.

Some people may be hanging back thinking that they are 'not big enough' farmers to be able to be in the trial. This is not the case. The trial is for anyone can spare a small group of wethers, and who is interested in seeing just how much difference there is between different breeds and bloodlines when all of the animals are run at the same site, under the same conditions.

Some recent results to arise from wether trials in Australia present some interesting answers to some age-old, controversial questions. In particular, there is a common school of thought that sheep bred on one place or in one particular area won't do as well in other areas. Results from wether trials run in New South Wales (eastern Australia), Victoria (southern Australia), and Western Australia have used 'link' bloodlines to evaluate this idea. For example, Mirani Merinos is a farm from Armidale in NSW which provides groups of wethers from its flock for wether trials in NSW, Vic, and WA. This is what is called a link bloodline. The results of these types of comparisons have shown that the best sheep do the best no matter where they are run.

We hope to get all the sheep together by the end of July so we can get things underway. Watch this space for more information, and in the meantime, there is still time left to get your sheep in the trial, so give us a call.

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### **Extension lead goes into 25 litre drum**

Extension cable reels often don't last too long. And once it fails to turn properly the cable soon gets damaged, either by getting tangled or because it's left about and driven over once too often.

Derbyshire farmer John Smith told PFI about the impressive solution devised by his friend Tim Walker. Tim puts his lead away in a circular 25 litre drum. "You'll never believe how neatly the cable coils itself in the drum, and there's space enough for 100 metres," says John, who went out and made himself one as soon as he could. "The drum is easy to carry and the cable pays out and stows back really easily."

Tim took the cap off the drum and cut a short slit towards the side of the top. He opened the end of this enough to allow the cable to be gripped but not damaged. The socket end is fixed in there while the plug end goes through the cap hole. Like with a reel, it's necessary to pull out the full length when using the extension for heavy power work.

## **Legumes in Chile - A lucerne for us all!**

*by David Parsons*

I think that everyone who went on the Chile trip was impressed by the legumes that were able to grow on the farms around Punta Arenas. Whether it was the white clover that seemed to spread like a weed, the red clover, or the fields of lucerne (alfalfa) being cut for hay, "If only we could do *that* in the Falkland Islands" was the general feeling. Can we do that in the Falklands? The answer is both no and yes, and requires a bit of explanation. Yes, I think that we can grow legumes that successfully, no I don't think that we will have the same success with the same species.

Superficially, areas around Punta Arenas can look very similar to the Falkland Islands, with much of the same plant species to be found. In addition they seem to get the same strong winds, and the cool temperatures that we do. I'll make a bold statement, and argue that the climate is *not* the major factor limiting legume growth in the Falkland Islands. The evidence is not only from the excellent legume growth around Punta Arenas with a comparable climate, but also from experience here in the Falkland Islands. It is apparent, both from plants in pots, and in the field, that if sufficient nutrients are supplied, a number of species are able to make excellent growth here.

So what *is* the major limiting factor? The major limiting factor, and the difference between the Falkland Islands and the Magellanes region of Chile is the soils. Although they do have some peaty soils like us, they also have a range of more mineral soils, including some deep, fertile, and well-drained enough to grow lucerne.

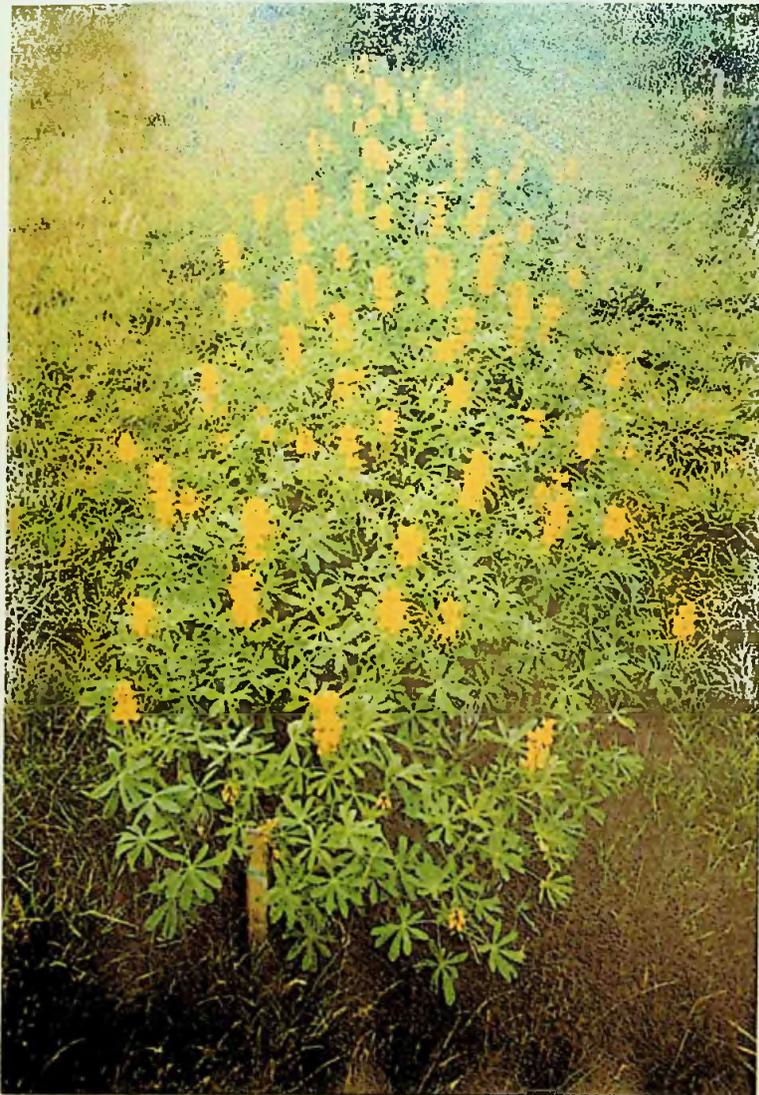
Although I am quite convinced that lucerne and a number of other species of legume will not be the best prospects in the Falkland Islands, I am just as convinced that other species will. The aim of the Legume Introduction Programme is to find out what those species are, and how we can develop them to suit our needs.

The yellow lupin (*Lupinus luteus*) pictured on the opposing page is an example of a legume that is suited to acidic peaty soils. This row of plants, grown at Fitzroy, was sown in Spring and was photographed on the 12th of April. This impressive growth was the result of only one season of growth. This particular species was not able to mature its seed, to ensure persistence, before it was subject to frost. Although it will not have a role in the Falkland Islands as a permanent pasture species, it may have a role as an annual hay or forage crop, or as a "Pioneer Species" to build the soil fertility before the introduction of perennial species.

The yellow lupin is one example of the many legumes that are currently under evaluation in the Falkland Islands. In the next Woolpress I'll discuss what has come out of the first year of the Legume Introduction Programme, and which seem to be the more promising species.



Lucerne grown for hay, near Punta Arenas, Chile



Annual Yellow Lupin, grown at Fitzroy (12/4/98)

## UPDATE ON GRASS SICKNESS

by Cameron Bell

Grass sickness (equine dysautonomia) is a horse disease of unknown cause that produces non-reversible changes in certain parts of the nervous system. Typically, affected horses have difficulty in swallowing and bowel movements are reduced. Several cases of grass sickness have been reported in the Falklands; others may have occurred without owners realising. Technically, the condition occurring here is probably 'mal seco' which also occurs in southern Argentina and Chile. However, the distinction between this and grass sickness in the northern hemisphere is small, if indeed there is any difference.

The disease has three forms:

1. Acute: such cases are severe and die within two days of onset.
2. Subacute: these cases die or require euthanasia within two to seven days, or progress to the chronic form.
3. Chronic: such cases may continue for weeks or months, often appearing to 'waste away'.

Despite the three forms of the disease being recognised, the difficulty with diagnosing Grass sickness is that many other conditions produce similar symptoms and there is not a specific blood test for it. Diagnosis is generally made by 'ruling -out' all other possibilities.

Although it was once believed that chronic cases were untreatable, a recent study in the UK has shown that this may not be the case and that 'tender loving care' can go a long way. Essentially, the treatment involves much pampering and nursing, handfeeding of high energy feeds, and sometimes a special medication called cisapride.

The following table gives times taken for the 31 cases of the study to return to normal and the percentage able to resume normal (intended) work.

Characteristics	Months or %
Time to return to normal body weight	9 months
Time before work started	12 months
Time to be in full competitive work	19 months
Competitive horses returning to original work	81%
Competitive horses returning to other work	19%
Competitive horses unable to return to work	0%

The opinions of the 31 owners served for the study were also encouraging:

Criterion	%
Competitive horses working very well	56%
Competitive horses working well	31%
Competitive horses working	13%
Horses with good or excellent quality of life	84%
Owners who considered cost and effort of treatment was worthwhile:	100%

In summary, the majority of affected animals from the studies were capable of strenuous exercise, had regained body condition and in general, returned to a normal life, despite the slow recovery period. This is certainly promising news for future cases in the Falkland Islands.

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### ***Tree Planting Ceremony***

*by Aidan Kerr*

On Tuesday the 19th May the Department held a tree planting ceremony to publicise the Shelterbelt Development Programme. The ceremony occurred at the shelterbelt site at Estancia Farm with the kind permission of Tony and Ailsa Heathman. They hosted a welcoming 'smoko' at their house afterwards.

The following people planted a tree to represent their participation in the programme;

*Tony & Ailsa Heathman, Estancia Farm, Andrew Gurr, Chief Executive, FIG,*

*Bob Reid, Director of Agriculture, Alan Low, DoA's Forestry Consultant,*

*Tim Miller, Stanley Growers Ltd. Tim Fenton, RAF, Property Manager, MPA.*

Penguin News, Teaberry Express, and FIBS came along to publicise the event and programme.

The main challenge is obtaining suitable numbers of planting stock. To this end the experience of Stanley Growers Ltd. is very important. In January 1998 they imported about 20,000 trees from a Scottish nursery. The trees were transported safely and quickly by RAF Tristar due to excellent arrangements made by Squadron Leader Tim Fenton and his staff. They arrived healthy and ready for a period of adjustment at Stanley Growers Ltd.

Most of the 2,500 trees at the Estancia site have now been planted and almost 8,000 trees should be planted at Saladero by the end of June. Eventually these will offer shelter to ewes and lambs. Another two sites have been identified at Port Howard and Bold Cove farms and will be planted in 1999. They have contrasting soils and vegetation and suit a comparative trial of ground preparation techniques. Eventually, they will provide shelter for shorn sheep and ewes and lambs. These trial sites will complement those already planted at Shallow Harbour and Fitzroy.

Finally, the Department thanks all those who participated in the ceremony.

## How do you compare?

by Robin Thompson

Have you ever wondered how your production system and farm profitability compares to that of your neighbours or how they can afford a new vehicle and you can't?

Differences in soil and climate can certainly account for some of the difference in productivity between farms but much of the difference comes down to the performance of the manager.

A farm monitoring project has been running for twenty seven years in south west Victoria, Australia and involves collecting data from ninety nine farms. This analysis allows differences in performance of the farms to be identified along with the probable reasons for the observed differences. The analysis of most interest is how individual farms compare to the top 20 %.

The study farms represent a range of grazing and cereal crop enterprises so a number of parameters are used to make the comparisons both on the basis of individual enterprises and a whole farm basis. Some of the parameters used include overhead costs, equity, enterprise gross margin, wool cut per hectare, cost of wool production per kg greasy wool sold, wool profit per kilogram, stocking rate, return to assets and return to equity. All these measures when conducted on a group or an individuals farm over a period of time can give a good indication as to the health and future of the business.

The following table shows the type of data that is available from the analysis.

Parameter	Averages	
	All Farms	Top 20 %
Wool Cut (kg per head)	4.9	5.2
Wool Cut (kg / grazed ha)	46	55.5
Wool Cut (kg /ha /100mm Rain)	7.2	8.7
Average Micron	20.9	21.3
Net Wool Price (\$/kg)	4.50	4.52
Sheep Sale Price (\$ /Head)	18.64	20.21
Stocking Rate (dse /ha)	11.5	13.2
Lambing Percentage	77	78
Pasture Costs (\$ /ha)	30	28
Supplementary Feed Cost (\$ /ha)	31	19
Wool Gross Margin(\$/dse)	12.32	17.44
Wool Gross margin (\$/ha)	142	240
Wool Gross margin (\$/ha/100 mm rain)	22	36

Note:

Gross margin is the gross income earned by an enterprise minus the specific costs incurred in earning that income.

Dry sheep equivalent (dse) is a means of comparing stock of different feed requirements to a common base.

One can certainly argue that some of these parameters may be difficult to measure here but they do represent a way of getting valid comparisons between farms and enterprises. It is interesting to note from this Australian data that the main factors responsible for setting the top 20 % of farmers apart are wool cut (per head and per hectare), stocking rate and supplementary feed cost. This comes as no surprise because all these factors are to do with producing more feed and making better use of the feed that is produced. Given the rainfall received here and improved pastures we should be able to achieve similar production figures.

If individuals know where they rate using data such as that above they can get clear messages as to what facets of their production system needs to be improved in order to improve profitability. Similarly, on an industry basis when such information is collected and compared between regions and countries it becomes a very powerful goal setting and management tool.

Because the Falklands is selling it's wool on the world market at a price set by outside suppliers and buyers our production system must be competitive with that of our larger world competitors. At the moment we do not know how competitive our wool production is so perhaps we need to undertake a bench marking study to determine both how we rate and how we might improve.

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## **PUBLIC NOTICE**

In an attempt to streamline our accounting procedures and make the system more user friendly the Department of Agriculture wishes to advise customers that we have introduced a system of cash payments for veterinary services/drugs which will now require payment at the time of consultation.

Customers are requested to make sure they bring cash with them when they visit the surgery, camp customers are also encouraged to send cash/cheques where possible with orders for drugs, laboratory tests, account books etc., however, in instances where this is not possible the usual billing system will still be used.

## **WANTED**

Rotavator and plough (3 furrows approx.). If you can help contact Mark Gleadell (MJG Haulage), East Bay Farm. Tel : 42003 or 42013 (fax/phone)

## Tree Handling

*by Grant Monroe*

Now is the time of year when plants are becoming fully dormant, growth has stopped, the current years growth has hardened off and the buds set. It is now when plants are dormant that they can be lifted and replanted safely and I am sure many of you have trees that you have grown that you wish to plant out this winter.

Plants are lifted when dormant because their water demands are less and they are less prone to suffer from desiccation. The potential to regenerate roots (root growth capacity) and shoots (shoot growth potential) is also at its highest level in the year. If however the trees are mishandled during lifting and movement to the planting site all these benefits can be lost and the tree will essentially be dead before it is replanted.

Whilst lifting the trees, be it seedlings to line out in the garden or 2nd year transplants to plant out, care must be taken to minimise damage to the roots and root exposure because it is the fine root tips that are most efficient in absorbing water and that hold the most potential for further growth. The soil around the tree should be loosened first and the tree gently lifted out.

Lifted plants should be bundled loosely to prevent heating up and placed immediately in polythene bags to prevent moisture loss from the roots. Once a tree starts drying there is an immediate loss in root growth capacity. If possible the tree should be replanted at its new site immediately and if many trees are being replanted only sufficient for the days planting should be lifted each morning.

If the planting site is some distance from where you have been growing your seedlings it is best to bag the trees and then put them in a cardboard box. This serves two functions. Firstly the box shades the trees and keeps them out of direct sunlight. If the trees are in clear polythene bags (best avoided) and these are left in the sun, even on a winters day, they act like a green house and temperatures can reach 30°C, leading to severe damage and sweating. Secondly the box saves the tree from mechanical damage. Trees should never be dropped, thrown or too many squashed together. If a bag full of plants is dropped from a height of 4 m twice, the root growth potential of the trees will have been more than halved. The trees still look fine but with such a low growth potential they may be classed as dead. The box prevents small knocks, squashing and you can see if the box has been dropped.

If not all the trees have been planted that day a trench should be dug and the roots covered with soil and lightly firmed. It is not necessary, if replanting is to resume the next day, to separate the bundles. They can be heeled in together. This keeps the roots moist and safe guards the roots from being frosted over night. Roots have little protection against frost and even potted trees should be dug in over winter to prevent the pots freezing.

The best time to move the trees and replant is now. The trees are dormant and the soil moisture good. In early spring the trees are still dormant but the soil is drying out. Planting now allows the tree to establish good root contact before the drier conditions of spring arrive.

Potted trees are easier to handle and suffer less in the process but care must still be taken that they are moved safely. If care is taken to keep the root ball and soil intact containerised trees can extend the planting season. It is possible to plant the trees when not fully dormant as root to soil contact is maintained. I would still recommend autumn planting however as moisture conditions are at their optimum and the tree has a lower moisture requirement.

## TWINE IN FLEECES UNRAVELS WOOL PRICE

*Source: The Daily Telegraph*

Sheep farmers are to face heavy "fines" which could wipe millions of pounds from the value of their fleeces after complaints that twine is creeping into wool and spoiling carpet colours.

With shearing about to start, the British Wool Marketing Board has warned producers that they will have 13.6p per lb. (30p a kilo) docked if scraps of polypropylene, used to tie straw bales and for other tasks, are found in fleeces. This could amount to half the price they can expect for their wool this season. The board said yesterday that merchants and carpet spinners were rejecting British wool after protests from customers about uneven colour in carpet yarns.

A spinning company complained that it paid £50,000 in compensation last year because its yarns contained flecks of twine. Liz Ambler, spokesman for the board, said yesterday "Once coloured twine gets on to the machines that open up the wool, it is completely fragmented and extremely difficult and time consuming to pick out." Processors find the white twine practically impossible to see. It is usually only spotted when the yarn is dyed because the fragments of polypropylene will not absorb colour".

While imported wool could also contain twine, manufacturers were finding it cheaper to buy because of the strength of Sterling. John Barraclough, production director of Joseph Barraclough, a wool spinning company in West Yorks, said his firm had already reduced its purchases of British wool and urged farmers to be more careful with their quality controls. "I understand that current prices are very low but really its a case of careless husbandry on the farm," he said. British sheep are mainly bred for meat but farmers can earn money from carpet-quality wool. Britain produced about 46,000 tons last year, three percent of world supplies, earning farmers about 36 million.

The National Farmers' Union of England and Wales regretted the board's decision and urged farmers to make every effort to keep twine out of fleeces.

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### **FOR YOUR INFORMATION**

Contact telephone and fax numbers for Ag Dept staff at Goose Green:

Sean Miller (Sheep Husbandry Officer) **new** telephone number is : **27358**  
Fax: **27353**

Robin Thompson ( Beef Specialist) telephone number: **27354**  
Fax: **27353**

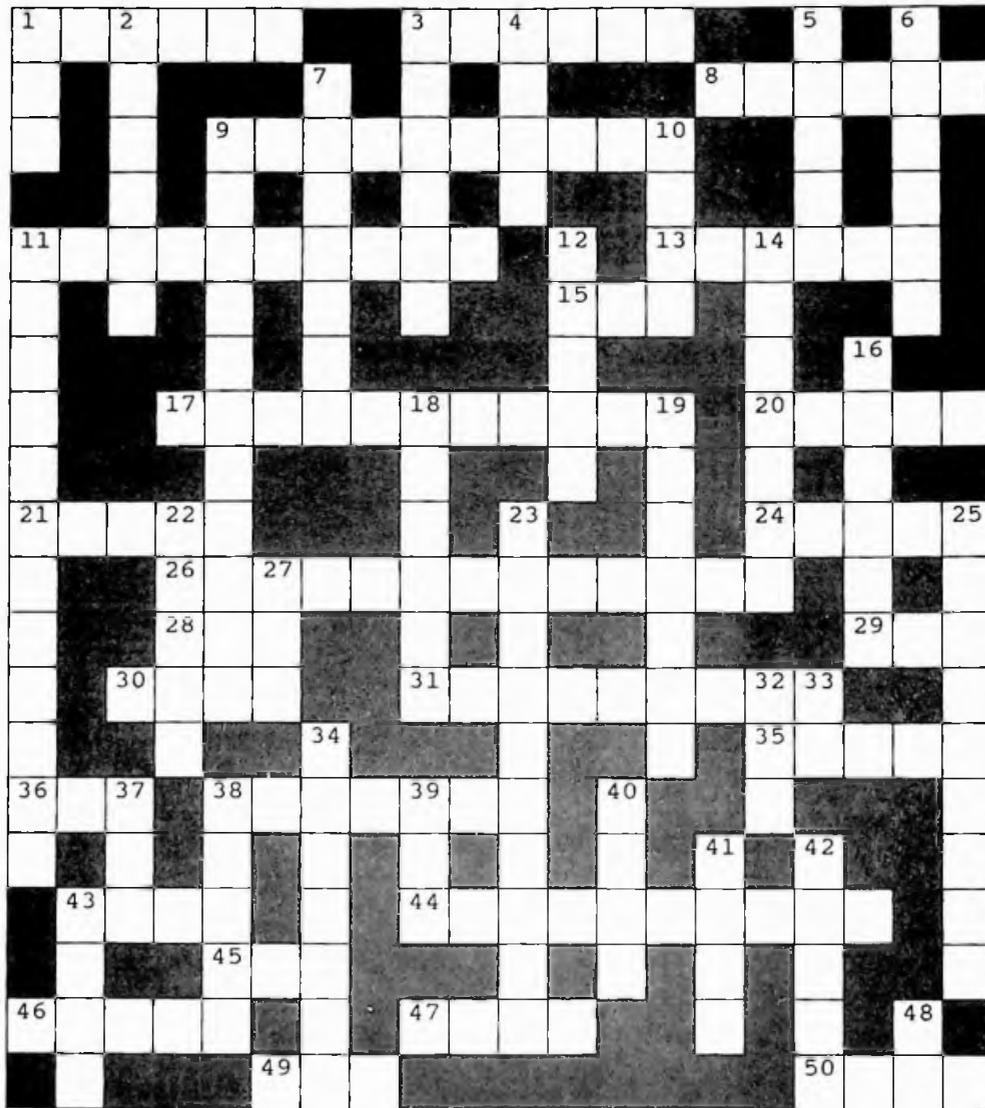
Diana Berntsen (Hydatid Officer) telephone/fax: **32244**

Robert Hall, Falkland Wool Growers Ltd., has kindly forward the following Show list for anyone who may be interested in attend while in the UK this year.

## PRINCIPAL SHOWS

Date	Show	Contact No.			
			Aug 3	NSA Wales & Border Region	01291 673939
May 13-15	Balmoral Show — Belfast	01232 665225		Early Ram Sale	
May 15-16	Shropshire & West Midlands — Shrewsbury	01743 362824	Aug 5	North Devon Show — Barnstaple	01769 560205
May 16	Otley Show	01943 462541	Aug 5-6	Bakewell Show — Bakewell, Derbyshire	01629 812736/7
May 17	Derbyshire Show — Elvaston	01332 702642	Aug 6	Honiton Agricultural Show —	01404 891763
May 18-19	May Sheep Fair & Sale — Dorset	01305 262126	Aug 6	Lake District Sheep Dog Trials —	01539 433721
May 21-23	Devon County Show — Exeter	01392 444777	Aug 6-8	Welsh National Sheep Dog Trials — Newport, Gwent	01234 352672
May 23	Heathfield Show — East Sussex	01825 713369	Aug 8	Orkney Agricultural Show — Bignold Park, Kirkwall	01856 771441
May 23-24	Herts County Show — St Albans	01582 792626	Aug 11	Taunton Agricultural Show	01823 421860
May 24	Rutland Agricultural Show	01701 223876	Aug 11-12	Anglesey County Show	01407 720072
May 26-27	Staffordshire County Show	01758 258060	Aug 13-14	United Counties Show — Carmarthen	01267 232141
May 27-28	Suffolk Show	01473 726847	Aug 13-15	English National Sheep Dog Trials — Ravenglass, W Cumbria	01234 352672
May 27-30	Royal Bath & West of England — Shepton Mallet	01749 822200	Aug 18	NSA South West Region Ram Sale	01392 276404
May 29-30	Ballymena Show — Co Antrim	01266 652666	Aug 18-20	Pembrokeshire Show — Withybusg, Haverfordwest	01437 764331
June 3	NSA Northsheep '98	01388 609322	Aug 20	Denbighshire & Flintshire Show — The Green, Denbigh	01352 712131
June 4-6	Royal Cornwall Show — Wadebridge	01208 812183	Aug 20-22	Insh National Sheep Dog Trials — Limavady, Londonderry	01234 352672
June 11-13	South of England Show — Haywards Heath, West Sussex	01444 892700	Aug 27	Monmouthshire Show	01291 691160
June 16-18	Three Counties Show — Malvern	01684 892751	Aug 27	Melpash Show — Bridport	01308 423337
June 19-21	Essex County Show — Chelmsford	01245 362412	Aug 29	Dufton Agricultural & Sheep Dog Trials — Penrth, Cumbria	01768 362015
June 23-24	Cheshire County Show — Tabley	01829 760020	Sept 3	Buckinghamshire Show — Weedon Park, Aylesbury	01296 483734
June 24-25	Lincolnshire Show — Lincoln	01522 522900	Sept 5	Dorchester Show	01305 264249
June 25-28	Royal Highland Show — Edinburgh	0131-333 2444	Sept 5	Moreton in the Marsh Show — Gloucester	01608 651908
July 1-2	Royal Norfolk Show — Norwich	01603 748931	Sept 10	Westmorland County Show — Kendal	01539 567804
July 6-9	Royal Show — Stoneleigh	01203 696969	Sept 15	NSA Northern Ireland Region Ram Sale	01820 650436
July 14-16	Great Yorkshire Show — Harrogate	01423 541000	Sept 17	Thame Show — Thame, Oxon	01844 212737
July 16-18	Kent Show — Detling	01622 630975	Sept 18	NSA Eastern Region Ram Sale	01263 761666
July 18	Caithness County Show — Halkirk, Caithness	01847 831614	Sept 21	NSA Wales & Border Main Ram Sale	01291 673939
July 18	Cumberland County Show — Wetheral, Carlisle	01228 560364		<b>WINTER EVENTS</b>	
July 20-23	Royal Welsh Show — Builth Wells	01982 553683	Nov 22-23	National Primestock — Bingley Hall, Stafford	01785 258060
July 21-23	East of England Show — Peterborough	01733 234451	Nov 26	Beef & Sheep South West — Shepton Mallet	01749 822200
July 22	Driffield Show — East Yorkshire	01377 257494	Nov 29-	Royal Smithfield Show —	01225 837904
July 24-25	Border Union Show — Kelso	01573 224188	Dec 2	Earls Court London	
July 24-26	Royal Lancashire Show — Blackburn	01254 813769	Dec 5	Anglesey Winter Fair — Anglesey Showground	01407 720072
July 25	Antrim Show — Co Antrim	01849 468952	Dec 8	Royal Welsh Winter Fair — Builth Wells	01982 553563
July 25	Mid Devon Show — Tiverton				
July 25	Penrith Show — Penrith	01931 713325			
July 29	NSA Sheep '98	01203 696969			
July 29	Cardigan & District Show — Cardigan	01239 615438			
July 29	Nantwich & South Cheshire Show	01270 780306			
Aug 1	Dumfries & Lockerbie Show — Dumfries	01461 203551			

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| <ul style="list-style-type: none"> <li>1. CULTIVATER</li> <li>3. BABY SWINE</li> <li>8. YOUNG HEN</li> <li>9. NEWEST LANDROVER</li> <li>11. PROTECTIVE ALL IN ONE</li> <li>13. AUSTRALIAN WORKING DOG</li> <li>15. IN FEAR AND WONDER</li> <li>17. FERTILISER COMPONENT</li> <li>20. OLD COOKER</li> <li>21. HIGHLY ACCLAIMED AWARD</li> <li>24. LIKE A MAD DOG</li> <li>26. SHORTEST DAYLIGHT HOURS</li> <li>28. FLOWER GARDEN</li> <li>29. FINISH</li> <li>30. BIRD'S HOME</li> <li>31. CLOVER</li> <li>35. OF THE KIDNEYS</li> <li>36. SLIPPERY FISH</li> <li>38. FIGHTER PLANE</li> <li>43. FEMALE CAT/DOG STERILISATION</li> <li>44. MERCY KILLING</li> <li>45. FEMALE SHEEP</li> <li>46. UNDERGROUND POTATO STEM</li> <li>47. GOSSIP</li> <li>49. SEEING ORGAN</li> <li>50. INTERMEDIATE POST</li> </ul> | <ul style="list-style-type: none"> <li>1. GROUP OF WHALES</li> <li>2. DRILLING PLATFORM</li> <li>3. LOWER ABDOMEN BONE</li> <li>4. HEREDITARY FACTOR</li> <li>5. SINGLE MASTED BOAT</li> <li>6. MARK A TOM CAT</li> <li>7. GUSHING HOT SPRINGS</li> <li>9. CHIPS</li> <li>10. GARDEN TOOL</li> <li>11. COULD WE ALL BE... AFTER THE OIL!</li> <li>12. SALTY PIG MEAT</li> <li>14. A COLLECTION OF BOOKS</li> <li>16. CAN'T</li> <li>18. LARGE WASP-LIKE INSECT</li> <li>19. WRAP TIGHTLY - LIKE A BABY</li> <li>22. SEMI PRECIOUS STONE FROM FOSSILISED RESIN</li> <li>23. ROTOR AIRCRAFT</li> <li>25. RED BERRIED SHRUB</li> <li>27. INSECTICIDE</li> <li>32. WATER BOILER</li> <li>33. MYSELF</li> <li>34. OFF-SPRING</li> <li>37. LONG EARED RABBIT</li> <li>38. STANLEY STUD</li> <li>39. MONKEY</li> <li>40. HORSE COLOUR</li> <li>41. HORSE GEAR</li> <li>42. LOCAL AIRLINE</li> <li>43. SHARP LEG PROJECTION ON A ROOSTER</li> <li>48. READY, STEADY ....</li> </ul> |
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**PLUS ALL THE REGULAR FEATURES AND MORE!**

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## EDITORIAL

As most of you know, I'm back from my travels around the world. I arrived back to work on the 16th June to find myself getting into the Farming Statistics for 1998. Tasmania was an extremely friendly and beautiful Island and I would recommend it to anyone.

I must thank Lilian and Julie for writing up the Wool Press whilst I was away. I have been asking farmers if they would like anything different in the Wool Press. If you should have any suggestions, please let me know.

Farmers week seems to have been a success, with a full week agenda of social events and meetings. The Farmers Open Afternoon at the Department went very well with approximately 30-40 people attending. It was good to see so many farmers at the department and catch up on their news and answer any queries.

Owen and Mandy are going from farm to farm organising replacement fencing requirements. Materials are arriving now! Grant has finished the tree planting for this year (with a sigh of relief). Andrew Pollard is working with the Department for a couple of months before leaving on a work placement year in Tasmania as part of his HND in Agriculture.

### Photographs of farmers and staff at the Open Afternoon at the Department of Agriculture.



*Eric Goss examining offal  
for Hydatid cysts.*

*Aidan Kerr discussing the sheep grazing  
trial at Fitzroy with Tony Heathman  
and Tim Blake.*



### THIS MONTHS CONTRIBUTORS

Sean Miller	Sheep Husbandry Officer.	Aidan Kerr	Senior Scientist/Agronomist
Sarah Forster	Junior Agricultural Assistant	Grant Monroc	Agricultural Assistant (Forestry)
Robin Thompson	Beef Specialist	Mandy McLeod	Farm Manag. & Training Officer
David Parsons	Legume Agronomist	Cameron Bell	Veterinary Officer

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## FARMING ON THE INTERNET

*by Sean Miller*

So what is all this internet hoo-ha then? For those of you that have computers, or have computers and kids, I'm sure the *Net*, short for the internet, also called the World Wide Web, is something you've heard about recently. With Cable and Wireless's welcome decision to establish a local access point for the Falklands, the opportunity now exists for local farmers to gain access to as much information about farming as you could possibly want.

### ***What is the internet?***

The internet is literally thousands of computers all linked together. The information that is stored on them is freely available (more or less) to anyone who can 'dial-in' to that particular computer.

### ***What do you need to get 'hooked'***

If you have a computer, in theory you can gain access to the internet. However, the basic rule of thumb is that the more powerful the computer you have, in terms of processor speed and random access memory (RAM), the faster and less expensive it is (in C&W charges) to use the internet. In all fairness, unless you have at least a '486' computer with 4 megabytes (MB) of RAM, using the internet will be a slow and costly exercise. But it can still be done; it just needs more patience and a deeper pocket! The other piece of equipment you need is a modem. The modem links your computer to the telephone system and allows you to 'dial-in' to the C&W internet number in Stanley. Modems also come in a range of speed ratings; the higher the number (eg 33.6K and 56K), the faster the modem. As you may have gathered, speed is the key to low-cost internet access.

### ***How do you tell what computer you have?***

If you have an IBM compatible computer, you may be using a programme called Windows and one called MS-DOS. When you exit from the Windows programme, type in the command MSD. The information that this programme calls up will tell you what type of processor your computer uses (e.g. 286, 386, 486 etc.), how much RAM it has (add the 2 numbers together on the first line), and the size of your hard disk. If this doesn't work, watch for a line on your screen when you start up your computer that tells you which processor you have. This may be something like 80268, 80386 etc. These are equivalent to 286 and 386 respectively; just remove the 80 from the start. Typing in the command MEM when you are in DOS will also tell you the size of the RAM you have installed, and CHKDSK can be used to tell you the size of your hard disk. Once you know this information, you can then decide whether it is worthwhile to get on the net.

### ***Getting hooked***

When you have all of the equipment in place, it's then time to call C&W and get an internet account. They'll do this for you in a couple of days and send you out some software (MS Internet Explorer) to allow you to use the internet. If all goes well, after you install the software, you will then be able to use all of the internet's features. This includes email; a system of mail but sent electronically instead of in the 'real' post.

### ***What does it cost?***

C&W currently charge £6 per hour whilst you call into and are connected to the internet. This is still very expensive in comparison to places like the UK, Australia and the US (average costs

per hour range from about 50p to £1 per hour!), but it is a cheaper method to use to communicate with other people and companies that have email addresses than it is to send faxes

### ***What next?***

At this stage, the world is your oyster! When you start up the programme called *Internet Explorer* (or another one called *Netscape* if that is what you have), you can begin to 'surf the net'. The key to finding information that is useful is to type in the address of the host computer in the box marked *Address* at the top of the screen. The form of these address usually begins with *www*. This is short for *world wide web*. A good place to start looking for information on a particular subject is to access one of the many *search engines* on the net. A search engine is simply a programme that allows you to type in keywords and it then goes and looks for them throughout various parts of the web. Each of the different search engines searches different combinations of the internet system, so if you don't find what you're looking for using one engine, try another. Some of the search engines available are *Yahoo*, *Lycos*, *Alta Vista*, and *Excite*.

### ***How will this help my farm?***

Information is the key 'product' of the internet. It allows you to get up to the minute info on almost any subject. For farmers, this may be 'road-test' comparisons between brands of tractors, information on any species of plant or animal, access to wool market information, buying or selling almost any goods or services, booking holidays .... the list is endless. The important thing to consider is that you get value for your time and money. If you believe that gaining access to those types of services and the information that they provide will help you make good decisions for your farming system, then the cost is well worth it. It is a decision that only you can make. Alternatively, there are many 'fun' things on the internet ..... but that's another story!

If you are considering the internet, the best advice is just simply to get on and try it, it is not as scary as it may appear, and 'expertise' only comes from practice. Happy surfing

#### ***Some search engines***

[www.yahoo.com](http://www.yahoo.com)  
[www.lycos.com](http://www.lycos.com)  
[www.altavista.com](http://www.altavista.com)  
[www.excite.com](http://www.excite.com)

#### ***Some interesting farming sites***

<a href="http://www.kondinin.com.au">www.kondinin.com.au</a>	Site for the Kondinin Group, a non profit organisation that tests goods and services specifically for farmers
<a href="http://www.dpi.qld.gov.au">www.dpi.qld.gov.au</a>	Farming information, farm notes and books from Queensland Department of Primary Industries, Australia
<a href="http://www.rpl.com.au/farming/">www.rpl.com.au/farming/</a>	The Australian Wool Exchange market reports
<a href="http://www.elders.com.au">www.elders.com.au</a>	Wool information - an Australian rural commodities company trading a substantial proportion of the Australian wool clip.
<a href="http://finance.yahoo.co.uk">http://finance.yahoo.co.uk</a>	Up to the minute share prices for Desire Petroleum!

## TRAINING IN TASMANIA

*By Charlene Rowland*

After a very long journey I finally made it to Tasmania. The flight was very exhausting with a short stop over in the Philippines and onto Melbourne for a 5 hour wait before boarding a small 30 or so seated plane bound for Wynyard, Tasmania. I was driven to the City of Burnie via the scenic route, along the coast line. The ladies that picked me up thought I would like to see the sea! But although it was all very nice, I desperately needed some sleep.

I stayed in the College residence where I had a small flatlet, at times sharing with two other girls. It had all the usual appliances, television, microwave and cooker. The meals were all provided at the cafeteria, but as time went by I did get fed up with the same old routine cooking.

College was what I really expected. But I hadn't envisaged being thrown into a few rough classes with Agricultural students who acted like immature 5 year olds, perhaps that's being a bit harsh, but that's how I felt!!

I did 8 modules, the first being on Sheep. This was quite a good module to start with and got me into the swing of being back at school. We looked at different methods of marketing for wool and meat, testing included microns with air flows and lasers, fibres, yields, scouring, traditional washing as well as chemical, colour, quality, lengths, strengths and styles.

Animal husbandry was also included with breeding cycles, genetics, seasons, spermatogenesis, fertilisation and the developing foetus.

Several interesting visits were arranged including a carpet factory showing how wool was washed, scoured, combed, dyed and rolled into hanks before being computer carded into Axminster carpets of all colours and sizes.

We also went to an abattoir. This was quite a laugh as everyone had to dress in white gowns, boots and hats which took the edge of what was about to be shown. The visit started off in the freezer stores and moved through to the packaging and presentation before going on to the slaughter. The day I was there 450 cattle and 900 sheep were being slaughtered. The cattle were actually shot in the head with a humane gun but the sheep were computer weighted and electronically electrocuted. This I believe was to make the meat tender. After of all that, we had a look at the by-products buildings. This is where all the crushed bone, blood, fats etc, were in big vats to ferment and made into fertilisers. The smell and heat was very overpowering.

After the abattoir we visited a Tasmanian wool broker called 'Roberts'. After having done wool testing on staple strength, colour, fibre diameter, yield and marketing, it was interesting to see the sorting of wool into their different bins (this was done by the eye method) before sales and dumping (squashing of two or three bales into one small bale, half the size of the original) prior to going off to the customer. The module also included skirting and classing of fleeces and explained how important the branding of bales and the services and sales of the wool grower is.

Fertilisers: This module was a good basis with which to begin before starting any of the other modules especially the module on soils. Six different minerals were looked at, Nitrogen, Phosphorus, Potassium, Sulphur, Calcium and Magnesium. Trace elements were also included, nutrient use in plants, deficiency symptoms, treatments assessment, methods of fertilising and applications were assessed as well as the pH effect on pastures. This also included how to assess pastures and the control of soil erosion.

A visit was arranged to a fertiliser manufacture to show what all the different rock minerals and textures felt and looked like. Another visit to a Disease Control Plant Laboratory was arranged and this showed how and what methods are used to curb diseases in plants and pastures.

Whole Farm Planning: This module covered the role of aerial photography in defining land capabilities. How to assess land using scoring points on where and how your land lies so that contour lines, pastures, lane ways, streams and cropping could be made more efficient on the farm. The TAFE's own farm named 'Freer Farm'

was assessed, firstly by photography and then visually on the ground. Soil erosion was also a part of this module looking at and assessing the fields and ideas on how to deal with this problem.

This module was very interesting, although farming in the Falklands is very different, the concept of land capabilities could, in the near future, be very beneficial to farms once the pasture programmes are up and running.

**Nutrition for grazing animals:** This module looked at ruminant animals and the workings of the stomach, which included energy, protein, vitamins and minerals to keep the animals in good healthy condition.

Pasture assessments were worked out with a herd of dairy cows on a research station, where I had to work out how much pasture would be available or unavailable on a daily basis. Condition scoring and fat thickness was also assessed on the herd with the aim of assessing whether they were fit for the market or not.

Pasture improvements which included the identification of grasses, clovers and other species such as brassicas and related forage crops were valued in the requirements of energy and protein.

**Cattle handling:** This module was aimed at the handling of cattle and looked at diseases and vaccinations. It certainly gave me more confidence in working with cattle.

A farm visit was arranged for the class to dehorn approximately 70 cows and bulls. This method of dehorning was done by guillotine. The visit also included how to manage and handle a large herd in a corral and cattle crush workings.

The farm was heavily into breeding Wagyu cattle for the Japanese market. Selling the calves at a young age and finished in regard to final growth in Japan. This kind of cattle was extremely popular with the Japanese because of the marbling in the meat. The farmer gave us a brief tour of his farm and the pasture fields he plants for the year. An A.I. programme on the Wagyu cattle was a big part of farm life.

**Computer User and Hardware Fundamentals:** This was a separate course from the Rural Sector of TAFE college. The Computer User Fundamental module looked at the functions of the operating systems. This included Operating Systems Software, Windows 95, application of software and DOS. This programme also included cleaning and maintenance of a computer. How to install programmes and fault finding were further activities.

The Hardware Fundamental module included assembling a computer and rebuilding it again, how to install motherboards, rams and voice cards. We looked at common problems encountered during installation in identifying the information required and successfully installing the utility software installation.

**Quality Assurance:** This module was based on a dairy, although the methods can be used in any environment. Quality Assurance is becoming very popular in Australia and America. The module showed how you perceive a customer, what a customer wants and how to deal with them.

A tour of a dairy farm was held with the health and safety checks shown, including health and safety checks on milk once it has been delivered to a milk factory.

**Soils:** This was a quite a big module which I didn't get to finish due to overlapping of other classes. What I learnt I can benefit from by understanding the soils and methods once the Department's programmes are under way.

Soils from the TAFE's own farm were tested in the laboratories after collection from different sites. Soil textures and structures for pore size distribution, aggregate stability, dispersions, slaking, compaction, cropping, landform, tillage, erosion, management and water logging were all included.

If anyone would like to more information, please give me a ring. I have taken a few photographs and once I have got them organised I would be willing to let any one interested in having a look at them. **SO GIVE ME A CALL.**

## THE AUSTRALIAN KELPIES (or Barb)

*By Mandy McLeod*

As many of you who have an avid interest in working sheep dogs will be aware, John and Odette at Port Howard have imported two young Kelpies. Their intention is to breed from this dog and bitch and make pups available to others who would like to work this breed.

Until now I knew very little about the Kelpie apart from the fact that it was a sheep dog of Australian origin, so with a little help from my colleagues I made further enquiries and can relay to you the following information.

The Kelpie, or old Kelpie, known by the name of 'Gleeson's Kelpie', was a black and tan, longhaired, lop-eared, medium sized bitch which had a red tinge to her coat in the sunlight. When she worked her ears went up and down. Her father and mother (border collies) were imported to Australia from Scotland. A Mr Gleeson bought a bitch from the first litter and called her KELPIE, that is the bitch described above. An old friend gave Gleeson a smooth-haired, black, prick eared dog called MOSS who's parents were also imported from Scotland.

In the early 1870's a dog and bitch (BRUTUS and JENNIE) were imported from Scotland. Brutus was a big smooth haired dog, black and tan with prick ears, and Jennie was a long haired bitch with half erect ears. Brutus and Jennie were mated and produced CAESAR, NERO and LADDIE. Caesar was mated with 'Gleeson's Kelpie' and produced a black and tan bitch known as 'King's Kelpie'. 'Gleeson's Kelpie' and 'King's Kelpie' were mated several times to Moss, and all the good Kelpies came from the cross. Laddie, a son of Brutus and Jennie was also mated to King's Kelpie and produced SALLIE, which, when mated with Moss produced BARB who was black and named after a black horse which won the Melbourne Cup in 1869.

Black Kelpies became known as Barbs and for many years were considered to be a different breed form Kelpies even though their origins are the same.

The fame of the Kelpie spread with King's Kelpie winning the sheepdog trials and her pups being in great demand were known as Kelpie's pups, then shortened to Kelpies, hence the name. They were proudly claimed as an Australian developed working dog.

There is some dispute as to whether or not there is some Dingo influence in the breed as it is so incredibly suited to the harsh conditions of the Australian climate.

The breed was first exhibited in 1908. For showing they should have the following traits: Allowable colours are black, black and tan, red, red and tan, fawn, chocolate and smoke blue. The coat is moderately short, flat straight and weather resistant with a dense undercoat. The coat on the neck forms a slight ruff and there is breeching on the rear of the thighs. The tail forms a good brush and is set low. It has a fox-like face with almond shaped brown eyes (blue dogs eyes may be paler and in general the eye colour must match the tan markings immediately above the

eye) and pricked ears at all times. They are between 17 and 23 inches in height at the withers and weigh 25 - 45 lbs. To date it still has not achieved full breed recognition in the USA.

They are said to exceed the endurance of the traditional border collie and will work alone. They are known for their 'backing' involving running along the sheeps backs in a race, releasing sheep from the front and then pushing them on from the back end. They are good 'barkers'. They are said to be robust, intelligent and a 'strong eye' herder almost hypnotising the sheep to do what it wants. However, they can be more difficult to control than other sheepdog breeds and need regular work and lots of it. This animal is not to be cooped up in a cage for too long as it needs space to run off its energies when not working.

If anyone would like more detailed information please contact me and I will send you some that was found on the internet.

### FARMING STATISTICS

**WE WOULD BE GRATEFUL IF ANY FARMERS WHO HAVE NOT YET RETURNED THEIR LIVESTOCK ORDINANCE FORM TO US WOULD DO SO AT THEIR EARLIEST OPPORTUNITY.**

**WE CANNOT COMPILE AND PUBLISH THE STATISTICS UNTIL WE HAVE ALL OF THE RETURNS. *Thank you.***

### TELEPHONE INFORMATION

Contact telephone and fax numbers for Agricultural Officers at Goose Green.

Sean Miller (Sheep Husbandry Officer)  
Telephone no: 27358 and fax no: 27353

Robin Thompson (Beef Specialist)  
Telephone No: 27354 and fax No: 27353

Diana Berntsen (Hydatid Officer)  
Telephone No: 32244 or 32296

# THE NATIONAL PASTURE IMPROVEMENT SCHEME

*by Robert Reid*

After nearly 200 years of grazing there are many signs that the unimproved camp, which has been greatly altered in its species, is declining in productivity. This coupled with reducing wool prices and no major diversification opportunities, has resulted in Falkland Islands farmers having to cope with very tough economic conditions. There is a need to consider the strategies which can be taken to arrest this decline and increase the economic viability of the farming community, to ensure the long term survival and grazing resources of the camp.

The large size and economic viability of many farms has provided little incentive to develop and improve pasture production. On most farms there is considerable development potential, but this will only be realised with inputs of fertilisers, fences, new pasture species and management.

**The sustained pastoral production from the camp is not possible without inputs, and a farm managed with no inputs will decline in production.**

Our unimproved pastures are of low quality, production from the land is low and stock performance often poor. The easiest way to overcome low production is to correct the nutritional state of the camps with fertiliser and allowing the establishment of legumes and better quality grasses. Grazing control is essential and can only be achieved with fencing. Grazing control is as important to allow spelling of a given area as it is to ensure high utilisation of pasture.

How then can we encourage a higher level of inputs? Obviously in these times of low wool prices it is well outside the resources of the majority of our farmers to invest in pasture improvement. It will be just about impossible to increase stock numbers, hence wool production, supply fat lamb or beef to the abattoir, or undertake any other form of grazing enterprise. Consequently Executive Council has agreed to the establishment of a ten year programme to provide funds for a National Pasture Improvement Scheme

The scheme has grown out of a study (and corporate knowledge) of similar schemes in Australia, Faroe Islands, New Zealand, Norway and Scotland and is focused on a government grant of fertiliser, machinery use, fuel, fencing (farmer purchased them re-imbursed), and where applicable, seed and herbicide, to approximately 80% of total cost. The farmer to provide labour, freight costs and logistical support to 20% of the total cost. The basic requirement for entry into the scheme being the provision of an approved farm plan for long term pasture development.

The core of the plan is to provide an area of highly improved pasture on every farm based on the ratio of : - for every 150 ha of farm area 1 ha be made available. e.g.

	<b>Total area (ha)</b>	<b>Core improved area (ha)</b>
Farm A	9531	63
Farm B	5252	35

There will be an upper limit imposed on the size of the core area of 50 ha of highly improved pasture this being predicated on a calcified seaweed grant of 250 tons which at 5 tons/ha (split application) will limit the area of use.

What will improved pasture offer? The overall objective must be to get lambing percentages to 80 - 100%, combined with reductions in stock losses through more intensive management, will in turn

improve the quality of the stock, increase numbers for flock selection and abattoir supply, facilitate the culling of unproductive ewes and provide quality pasture for any alternative grazing enterprise.

In general terms the scheme will provide the following -

1) There are approximately 3000 ha of re-seeds in the Islands. Some are in good condition but others are beyond the point of revival. It is proposed that enough compound fertiliser (N.P.K. 20:10:10 or equivalent) will be provided free, up to 10 tons per farm, to re-juvenate the pasture. At the rate of 200kgs/ha this equates to 50 ha per farm. Those farms that have less than 50 ha of reseed will be given fertiliser on a pro-rata basis. (n.b. only those reseeds that meet a species composition criteria will be eligible)

This is seen as a short term measure, to protect the investment already made by farmers in reseeds, whilst the Department both perfects its technology and identifies suitable legumes to introduce to the next stage.

2) This involves the direct seeding (in most cases) of legumes and grasses into both the existing reseed area, and the development of completely new improved pastures. Depending upon supply and price it is envisaged that between 180-200 tonnes of reactive rock phosphate will be made available to each farm over the term of the scheme. It is proposed that where necessary herbicide and seed will be provided. The machinery to be used, principally a rotary slasher, spray unit and a direct drill will be made available on a rotational basis (the logistics of doing this are still in the discussion -planning stage)

3) It is planned to develop the calcified seaweed deposits (known locally as "Coral") found throughout the Islands to give us the desperately needed source of agricultural lime. An assumption has been made that we will both be able to harvest, mill and deliver on farms, and be ready to do so within two years. It is proposed that 250 tonnes be provided free to an individual farm and that will be sufficient to improve, depending on the rate of application, between 10 and 100 ha.

4) Some farms do not have any reseeds and it may be some time before they can enter the programme in a major way. All these farms are likely to have either/or both whitegrass greens or diddle-dee greens that can be rapidly expanded through the use of a rotary slasher. Such a machine (plus tractor fuel) will be made available for use to cover between 100-150 ha.

In reality not all farms will be exactly the same in both the areas treated and types of pastures required, for example some farms will opt for smaller areas of highly improved pasture that will be managed intensively, others will find that more broadscale improvement will suit their long term plans. It is likely that a combination of all four of the above will be used and the operators of the scheme, the Department of Agriculture, will endeavour to ensure that by the end of the ten year period, all farms will have had an equitable share of the available inputs.

Any farm entering the scheme will have to fence, to an approved standard, any areas that are to be either fertilised i.e. current reseeds, or improved using the new technology. Once fenced the materials cost of the fence will be reimbursed. This is being requested as a measure of the commitment of the individual farmer to the controlled grazing management of the improved areas.

The Department of Agriculture will shortly be asking all farms if they wish to participate in the scheme and will need to assess those existing re-seeds as to their suitability for fertilisation.

Please note that the scheme is totally optional - If you don't wish to participate that is your choice. If you wish to change your mind you can do so up to five years after the start of the scheme on July 1, 1998.

At this point a potential "Trouble-spot" needs to be clearly identified and that is, that although the scheme is extremely generous by international standards, it still has some limitations, which will mean that not everyone will be able to participate fully from Day 1. **To put it simply there are not enough machines, labour or logistic supports to go around.** We will endeavour over the next year to work out a delivery plan and hopefully get the agreement of the farming community to its implementation. Your input to this process will be welcomed.

Here are two (somewhat simplified) examples of what the scheme offers.

Farm A - requires 63 ha of core improved pasture.

This will require over the ten year period a fertiliser component of 32 tons of rock phosphate (500kg/ha) and approximately 315 tons of calcified seaweed (5 tons/ha). With the farm being eligible for 200 tons of rock phosphate there is a clear surplus, but a deficit of calcified seaweed.

However, the farm will attain its 50 ha of highly improved pasture and still have enough rock phosphate to develop between 336 (@ 500 kgs/ha) and 420 ha (@ 400kgs/ha) of semi-improved pasture.

Farm B - requires 35 ha of core improved area

This requires a fertiliser component of 17.5 tons of phosphate rock and approximately 175 tons of calcified seaweed. In this case there is sufficient to reach the core requirement and, with 75 tons of calcified seaweed and 182.5 tons of rock phosphate in surplus further pasture can be developed. The farm can opt for a further 15 ha of highly improved pasture or develop up to 456 ha of semi-improved pasture.

In very rough terms this equates to stocking rates of:

- Highly improved pasture 10 DSE ha.
- Semi-improved pasture 7 DSE ha.

So in the interim we ask you to start thinking about where you want to go in relation to developing your pastures.

Questions to Ask:

If I had more and better quality pasture, how would I use it?

If my flock size increased by 1200 in 5 years time, how will I manage the workload?

More sheep, means more wool, do I need better (larger) facilities?

And it all sounds like a lot more work, do I really want to take it on?

Please telephone or write if you feel you need more details or clarification.

# SEED PRE-TREATMENT

*by Grant Munro*

## Conifer Seed Treatment

If you have ordered conifer seed from a seed catalogue or if you have collected local seed of *Macrocarpa* both will benefit from a moist prechilling treatment. The results of germination will be more uniform and a greater number of seeds will germinate.

Most temperate conifer seed exhibits a weak dormancy. Germination will be more erratic if conifer seeds are sown without breaking this dormancy. Fewer seeds will germinate and the germination that does occur will take place more gradually. Keeping seeds moist at low temperatures for several weeks has been found to increase the uniformity of germination. In fact this moist prechilling improves both the rate of germination and the total seedling yield of all normal conifers even when the seed has not been dormant.

Broadleaves exhibit different forms of seed dormancy and moist prechilling should not be performed without first checking in a seed catalogue what type of pre-treatment is necessary.

## Moist Prechilling Treatment

If you do not need to use all the seeds (correctly dried conifer seeds, kept in cool conditions can be stored for several years) the seed lot should be divided up in to the required amounts as once seed has been treated it cannot then be restored.

The individual lots should then be placed into suitable containers, such as thick polythene bags, and several times the volume of cold water added.

The soaking seeds should next be placed in a refrigerator at approximately 3 to 5 °C for 48 hours, making sure that the seeds do not float and remain dry.

After 48 hours the bags should be removed and the excess water drained off until only the very bottom seeds are standing in water. This is easily done by puncturing the bottom corners of the bag and hanging it up so that the water drains out through the holes.

The punctured bag should then be placed inside another bag and replaced in the refrigerator at 1 to 5 °C. Once a week the bag should be removed, opened and the seeds remixed (and remoistened with a water spray if there are any signs of drying or if there is insufficient water) to ensure uniform wetting.

For optimum benefit the seeds should remain in the refrigerator for 4 weeks before sowing but 1 week less or 2 weeks more is still acceptable. That is the seeds should be treated for a period of 3 weeks minimum but can remain in treatment for a further 3 weeks if it is not convenient to sow them immediately.

Germination and root emergence should not take place provided the treatment periods are not exceeded and that the temperature does not rise above 6 °C. If rootlets are observed the seed should be sown as quickly as possible.

At the end of the pretreatment period the seed, still in lots for sowing, should be spread thinly in trays and allowed to surface dry without artificial heat in a cool, well ventilated area.

The results of this pretreatment should be seen in more rapid and uniform germination of the seeds and thus a batch of more uniform seedlings.

The seed dormancy of broadleaved tree species is more complicated and the storage of seeds more difficult. In many species drying of the seeds for storage will be damaging as would a moist prechilling treatment. If you wish to store or pretreat broadleaved seed it is best to check with a seed catalogue (we have a copy at the Department). Generally it is safest to try and sow broadleaved seed as soon as possible after the seed has been collected. If you have any queries then call me at the Department.

## **GETTING SPAYED**

*Andrew Coe, Snr. Veterinary Officer*

A couple of years ago I wrote an article encouraging farmers to have their cats spayed and castrated. If there are still any of you out there wavering on whether to or not I should like to encourage you to 'bite the bullet' and give us a call. It will be the end of unwanted kittens and help prevent your cats getting into fights with all the abscesses that brings.

I also want to encourage people to have spayed any bitches that they don't require for further breeding. For those of you on the West or on islands, we are happy to come and do this in your own house. For people on the East, we would still like you to bring them to the clinic in Stanley.

What are the pros and cons of spaying bitches?

### **Pros**

- She won't ever come in season/in heat again so you won't need to shut her away from other dogs.
- She will never have pups again.
- She won't develop a womb infection (pyometra) in later life.
- If spayed before her first heat it will significantly reduce the likelihood of her developing mammary tumours (breast cancer) later in life.

### **Cons**

- You won't be able to breed from her if she unexpectedly wins the dog trials.
- She may put on weight if you don't carefully control her food intake. She doesn't have to get fat, you just need to feed her less.

Bitches mustn't be spayed when they are in season/in heat. The best time to spay them is from two weeks after they've finished their heat until a couple of weeks before the heat is due. If you want her spayed before she ever comes in heat then six months of age is ideal.

It is easier to spay a lean bitch than a big fatty! If you want your bitch spayed make sure she isn't fat before we start or if she is, put her on a diet of a couple of months prior to us operating.

If you're not sure what to do or there is anything you don't understand, give myself or Cameron a ring to discuss it.

# SYNOPSIS OF MINUTES OF AGRICULTURAL MANAGEMENT

COMMITTEE 29th MAY 1998.

*Robert Reid*

The committee agreed that a brief synopsis be put in the **Wool Press** after each meeting so that the farming community could at least see what topics were under discussion. If anyone wishes to have a more detailed briefing on any subject discussed they are urged to contact their representative on the committee (the members are listed below).

1. Membership of the committee - Needs to be rotated every two years
2. Falkland Islands Medal of Agriculture - The criteria for nomination to be drawn up by Bob Reid
3. Bob Reid and Rodney Lee (Farmers Association) to meet with farmers groups to discuss aspects of the National Pasture Improvement Scheme and input to Island Planning Committee
4. Port Harriet - Potential land use to be recommended by F I D C. and DoA. The land returns to FIG on 31 March 1999
5. Exchange Trip - Chilean Farmers - Recommended that Farmers Association take responsibility
6. Income Tax Claims - A paper will be developed for next meeting of AMC
7. National Pasture Improvements Scheme - Funds have been approved by select committee and the May Exco approved policy implementation. An article will be prepared for the **Wool Press**.
8. Machinery for Grassland Improvement - Various methods for providing a service were discussed. It was agreed that this subject will come under the Pasture Scheme.
9. Agricultural Incentive Scheme - A paper is to be drafted for Exco.

Next meeting - Friday 31st July

## **List of Members:**

Cllr L Clifton  
Cllr R Cockwell  
R Reid  
O Summers  
H Normand  
R Binnie  
P Robertson  
D Minnell  
R Hansen  
N Watson  
R Wagner

## **Name of Organisation:**

Chairman  
Councillor  
Director of Agriculture  
Deputy Director of Agriculture  
General Manager, FIDC  
Farmers Association  
Farmers Representative, Falkland Farmers  
Farmers Association  
Farmers Representative, FIDC  
Sheep Owners Association  
Economic Adviser

## **HAPPENINGS AT GOOSE GREEN DoA**

*by Robin Thompson and Sean Miller*

### ***Brenton Loch is Moving Forward***

During the last few weeks at Goose Green we have been busy setting up and starting some new projects. Fencing at Brenton Loch has been time consuming but necessary to allow us to get good control of grazing management. To date we have established two 60 ha paddocks which will be grazed by the dry cows during the next couple of months. Within these paddocks the cows are being 'block grazed' between single electric wires and shifted every three days. As winter progresses, hay and lick blocks will be used to supplement the supply of natural pasture feed. This form of grazing management is forcing the cows to eat most of the rank whitegrass that accumulated during last spring and summer. Hopefully, these whitegrass plants will produce fresh green leaves next spring. These leaves should be ideal organs by which to introduce herbicides to the plants so they will die and allow us to replace them with more preferred species. These new plants will be introduced by direct drilling using our new, recently arrived machine.

### ***The Calves Are Weaned***

All the calves have been weaned and moved to Saladero where they are being rotationally grazed around the four camps at the Northern end of the property. Six cows with small calves are also with this group. All the cows and calves have been weighed and condition scored so we can follow their progress over the coming seasons.

### ***Suspect Electric Fences***

Observations over the past few weeks have made us suspicious about the effectiveness of insul timber electric fences in this environment. We find that under damp conditions there is a lot of power leakage through the posts and battens. This causes the fence voltage to drop to ineffective levels for stock control. We are looking into possible reasons for these observations as well as at more effective fencing materials.

### ***Sheep Eat Our Home-made Lick Blocks***

Evaluation of our home made lick blocks is continuing. To date we have a group of sheep adapted to them which until now have had no previous exposure to blocks. After a conditioning period these animals are each consuming about 100 grams of block per day. We have also found that sheep will readily consume dry fish meal. During the next few weeks we will be getting some cattle accustomed to using blocks. These animals will then be used to 'teach' others about the blocks so we can get some measurements on how they affect the animals over winter and early spring.

### ***'New' Drenches are Working for Hoggets***

The hogget nutrition experiment at Goose Green is progressing well with the second set of measurements now completed. In this experiment we are collecting data on the effectiveness of some new drench technologies, and at the same time measuring the way in which sheep gain nutrients from the pasture that they are eating, and which

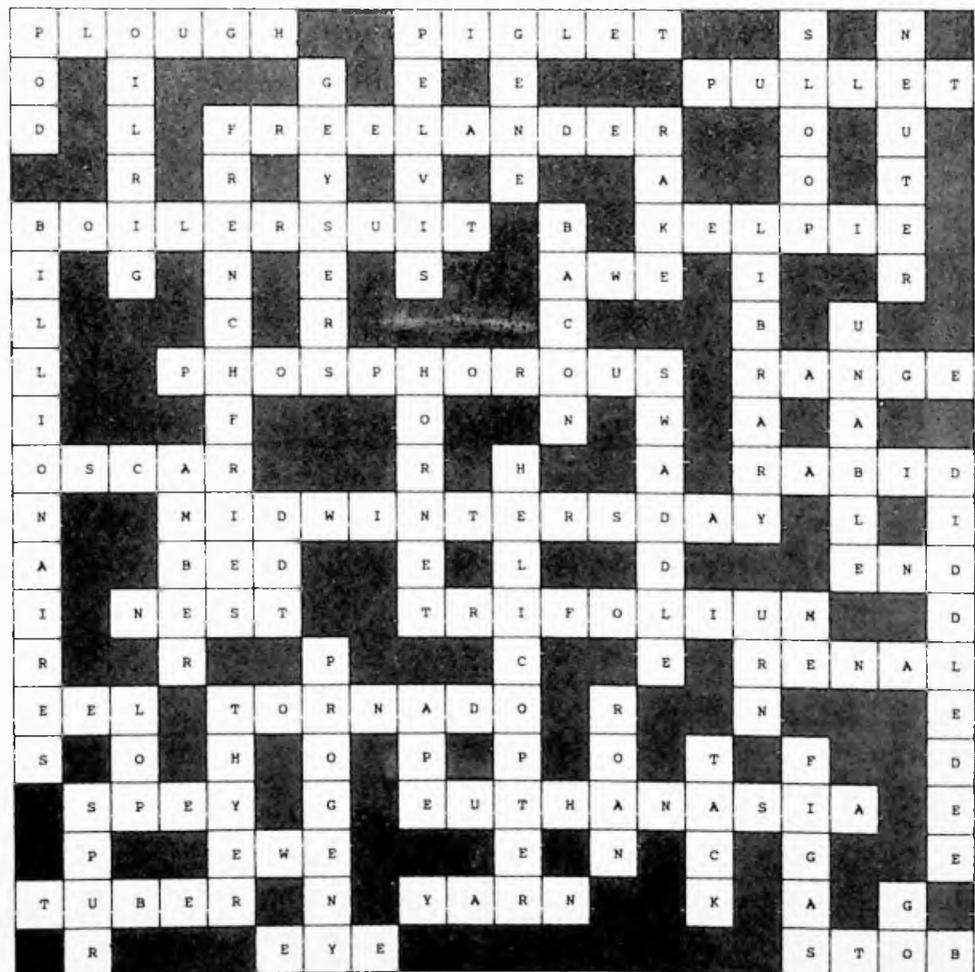


## PUBLIC NOTICE

In an attempt to streamline our accounting procedures and make the system more user friendly, the Department of Agriculture wishes to advise customers that we have introduced a system of cash payments for veterinary services/drugs which will now require payment at the time of consultation.

Customers are requested to make sure they bring cash with them when they visit the surgery, camp customers are also encouraged to send cash/cheques where possible with orders for drugs, laboratory tests, account books etc., however, in instances where this is not possible the usual billing system will still be used.

SOLUTION  
TO  
JUNE'S  
CROSSWORD



## LEGUME INTRODUCTION UPDATE

*By David Parsons*

The legumes planted at Fitzroy have now had a full growing season. This has given us the opportunity to assess:

- How vigorous the plants are in the first year.
- Whether or not they flower and set seed.
- How they react to such factors as strong winds and frosts.
- Whether the plants respond strongly to phosphorus application

The summer was unusual in that there was more rainfall, but less sunlight than normal. The high rainfall meant that the plants did not experience drought, which may be a factor in following years. The low levels of sunlight and temperatures that the plants experienced means a longer time is needed, to flower and ripen seed. So if a plant was able to ripen seed in the summer of 97-98, then barring other effects such as frost and strong winds, it should be able to ripen seed most years.

Here are a few comments on some of the species growing at Fitzroy and Bertha's Beach

### **Lotus (*Lotus uliginosus*)**

This plant that likes wet, acidic soils did quite well in its first year. It is unlikely to set any seed unless it is in a sheltered site, and experiences a frost-free summer. This is counteracted by the fact that it spreads by underground runners, particularly in the autumn. The plants at Fitzroy have started to spread, however we should see some major growth and spread in the second summer and autumn.

### **Birdsfoot Trefoil (*Lotus corniculatus*)**

This plant is closely related to the previous one, and looks quite similar, but has smaller, less hairy leaves, and does not spread vegetatively. In addition it is not as tolerant as Lotus to wet acidic soils. However, it did survive at Fitzroy and grew relatively well. Where it does seem to have promise is drier "diddle-dee" soils, which tend to be low in nutrients, but not as acidic as "whitegrass" soils. There may be many areas on the West where Birdsfoot Trefoil may thrive.

### **Russel Lupin (*Lupinus polyphyllus*)**

Russel Lupin was not as successful as I had hoped, as compared to many other plants the yield was low. However, this occurs in other countries where it is grown, and the second year of growth may be more exciting

### **Narrow-leaved Lupin (*Lupinus angustifolius*) & Yellow Forage Lupin (*Lupinus luteus*)**

Both of these types of lupins grew exceptionally well, and were among the highest yielding of all the legumes. Unfortunately, they did not flower and set seed early enough for the seed to ripen, which means that if grown they would in effect be an annual "forage crop". This in no way rules out their use, due to the excellent yields, and the high quality of the feed, not to mention the input of much nitrogen into the soil.

### **Pink Serradella (*Ornithopus sativus*)**

Pink Serradella was the most vigorous plant variety, both at Fitzroy, and Bertha's Beach. It seems to be adapted to a range of soils, including acidic soils, and those of low fertility. Unfortunately, it is quite late flowering, and was not able to ripen seed before winter. However, there is opportunity to use it as a "Pioneer Plant", sown before permanent pasture to raise the soil fertility, and there is also the possibility of using earlier flowering varieties. A close relative, Yellow Serradella (*Ornithopus compressus*) was not as high yielding but produced ripe seed.

### **Caucasian Clover (*Trifolium ambiguum*)**

Caucasian Clover is said to *sleep, creep* and then *leap*. In other words it is slow growing in its first year, as it diverts its energy into root production. In the second year, it spreads, by underground rhizomes, and it is not until the third year that there is substantial production. Once it is established it is tolerant of most harsh conditions, including frost, drought, acidity, low fertility, and water-logging. Well, it certainly slept in its first year, and we are waiting for the creep.

### **Red Clover (*Trifolium pratense*)**

Red Clover grew quite well, especially with the addition of phosphorus. It does not spread by runners, will set very little or no seed, and is intolerant of continual grazing. However it is a prime candidate for hay production, and we are growing the plant with this possibility in mind.

### **Subterranean Clover (*Trifolium subterraneum*)**

This annual plant get its name from its ability to bury its seed underground, providing an increased chance of germinating. It may have potential for drier "diddle-dee" soils, particularly on the West, where it seems to mature earlier. At Fitzroy, much seed was produced, and although a few seeds germinated in the Autumn, we are waiting for germination in the Spring.

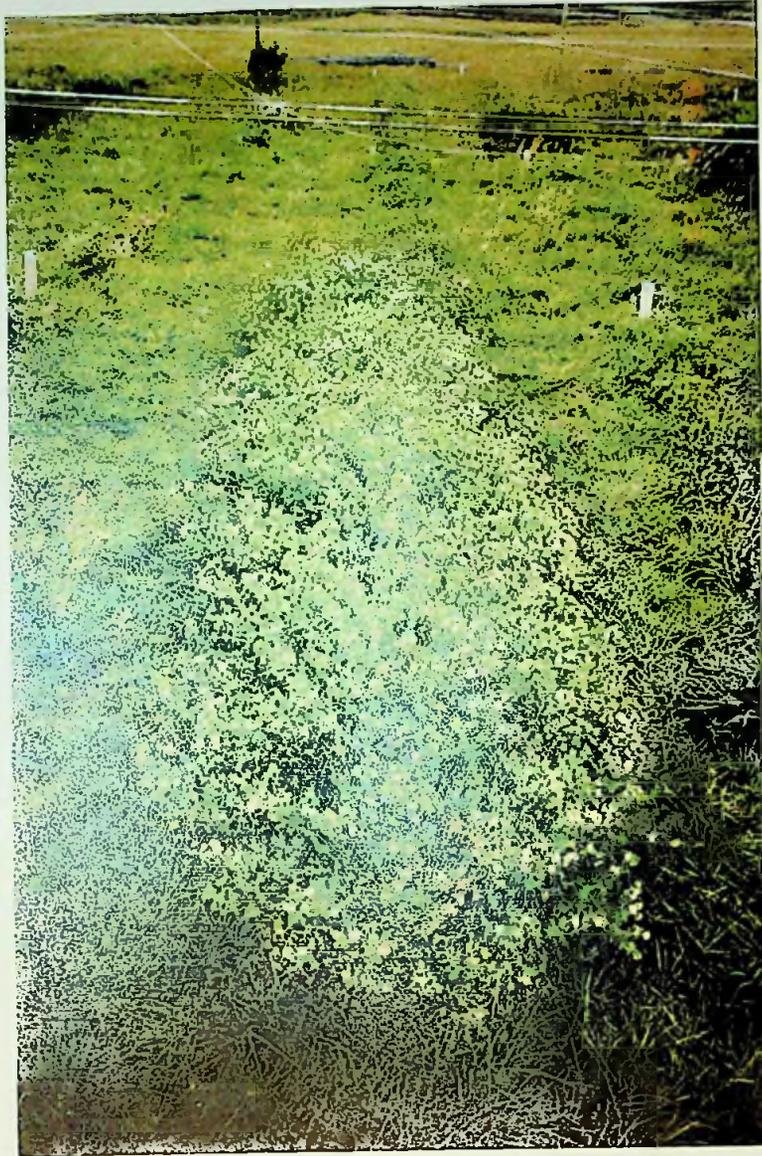
### **Vetch (*Vicia sativa*)**

In early summer, this was the best species at Bertha's Beach, and one of the best at Fitzroy. It is early maturing, it responds strongly to fertiliser, and produces large amounts of high protein seed. Although it initially grows very quickly, after flowering the vegetative growth slows down as energy is diverted to seed production. Vetch would not be expected to be long-lived in a pasture, but could be valuable in producing a lot of feed quickly, and raising the fertility for the growth of more permanent species.

The main legume plot at Fitzroy has now been grazed quite heavily, exposing a few select sheep to a smorgasbord of exotic leguminous delights. There were no species that were rejected, and even the perennial lupins were eaten back to the wood.

The plan for the immediate future is to assess the survival over Winter, and the germination and re-growth in the Spring. In addition, the most promising legumes will be further evaluated in small plots and another new group of legumes will be evaluated in rows.

Don't hesitate to call me if you have any comments or questions.



### WANTING TO BUY OR SELL CATTLE?

*By Robin Thompson*

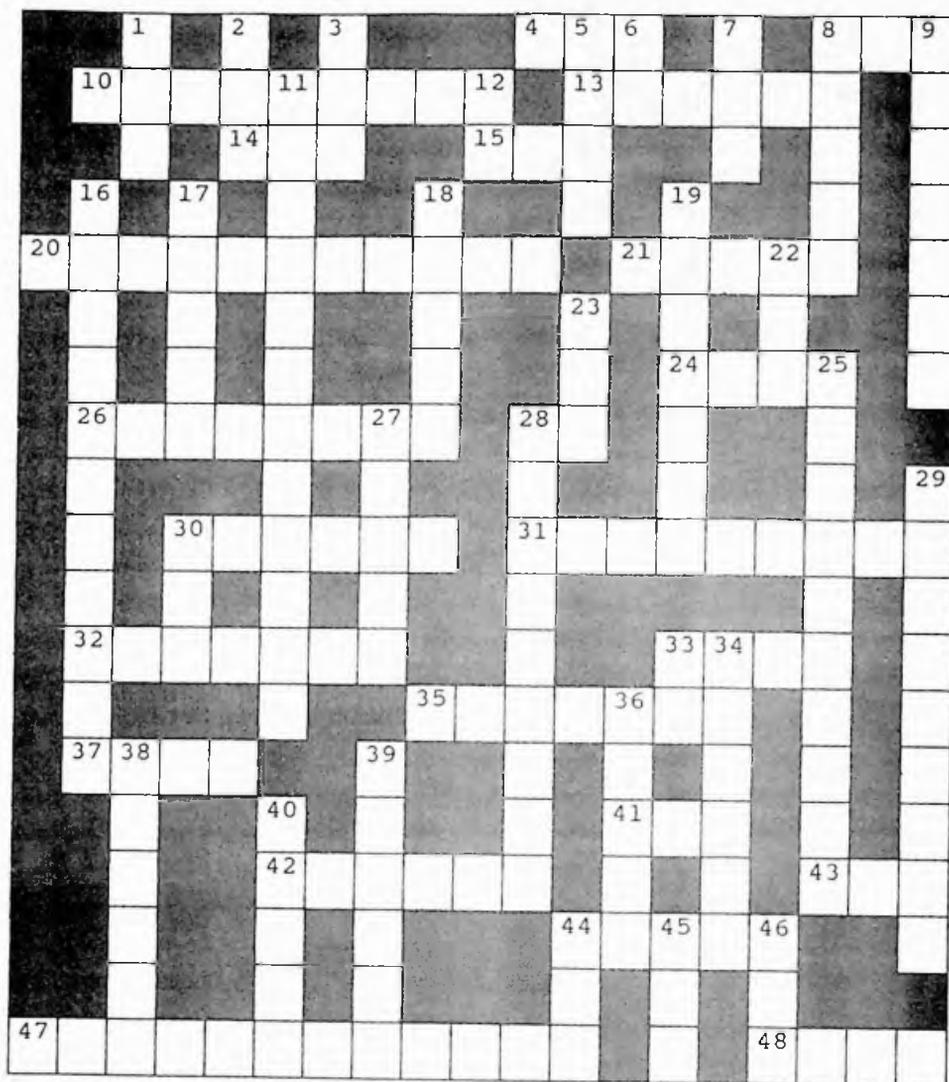
A number of farmers have approached me either wanting to buy or sell cattle. The problem with selling livestock here is that we have no established marketing system or in the case of cattle established prices.

A group of potential cattle buyers and sellers have talked with me about the idea of having a cattle auction. This may mean bringing cattle from the West or Islands to a central point (probably Goose Green) so as they can be viewed and sold.

- We need some feedback on this proposal.
- What do you think of the idea?
- Are you interested as a buyer or seller?
- When would be the best time for such a sale to take place?
- Would you be happy to purchase animals unseen but described according to age, sex, liveweight and pregnancy status?

I look forward to hearing from interested parties as soon as possible as we need to organise transport for this to happen in early spring.

# JULY CROSSWORD AND CLUES



ACROSS

DOWN

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| <p>4. LARGE PIG<br/>             8. NOAH'S.....<br/>             10. AGRICULTURAL NEWSPAPER<br/>             13. TO BREAK AWAY<br/>             14. THROW AN OBJECT<br/>             15. MINERAL SOURCE MATERIAL<br/>             20. LOSS OF SENSATION WHEN APPLIED<br/>             21. GAME PLAYED WITH POINTED MISSILES<br/>             24. ICY WHITE FLAKES<br/>             26. TYPE OF MONEY USED IN COUNTRIES<br/>             28. NEXT TO<br/>             30. AS IN GREENFLY<br/>             31. TRIED<br/>             32. LAND SURROUNDED BY WATER<br/>             33. GROWS ON BODY<br/>             35. VARIOUS SEED-POD PLANTS<br/>             37. POULTRY PRODUCTS<br/>             41. FROZEN WATER<br/>             42. CROSSBRED ANIMAL OR PLANT<br/>             43. ANIMAL EXHIBITION PARK<br/>             44. SPEED OR RHYTHM OF MUSIC<br/>             47. WHERE HORSES ARE KEPT FOR WINTER<br/>             48. TO STRIKE WITH FOOT</p> | <p>1. WILL.....(REFUSE TO DO)<br/>             2. SICK<br/>             3. SPHERE<br/>             5. FOLLOW COMMANDS<br/>             6. TO PROCEED<br/>             7. PIGS HOME<br/>             8. GOODBYE IN SPANISH<br/>             9. DOG HOMES<br/>             11. MOST SOUTHERN SETTLEMENT ON WEST<br/>             12. IN A WAY OR MANNER<br/>             16. CHEMICALS FOR KILLING PESTS<br/>             17. THE THIGH BONE<br/>             18. NOT BELONGING TO ANYONE<br/>             19. MINCED-SEASONED PORK/BEEF<br/>             22. AFTER ONE BUT BEFORE THREE<br/>             23. WINTER FEED<br/>             25. TEAM GAME PLAYED AT FIBS<br/>             27. SECRETIVE MESSAGES<br/>             28. NICK-NAME FOR OIL<br/>             29. SCHOOLING<br/>             30. EVERYTHING<br/>             33. A MALE PERSON OR ANIMAL MENTIONED<br/>             34. NOT AWAKE<br/>             36. ALSO KNOWN AS CORN<br/>             38. FASTEST HORSE GAIT<br/>             39. MADE BY SPIDER<br/>             40. HEAVY, POWERFUL BREED OF HORSE<br/>             44. GOLF BALL SUPPORT<br/>             45. MALE SPECIES<br/>             46. TYPE OF TREE</p> |
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# WOOL PRESS

ISSUE 105

August 1998

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## EDITORIAL

Who would have thought it's winter, I was speaking to some elderly people the other day and they cannot recall ever having such a mild winter - lets hope it will continue.

Owen and Mandy are still trying to get to as many farms as possible to estimate what you will need over the coming years for the Replacement of Fencing Scheme. Most of the fencing has arrived and been distributed by Falkland Farmers. I am trying to get the last few EDF fences inspected and completed before all the new Replacement of Fencing is erected. If you are one of those farms waiting for the EDF inspection, please give me a call.

Aidan Kerr and Lilian Wallace are on holiday at the moment, Lilian should be back in August and Aidan in September. Doug Cartridge left the Falkland Islands on Saturdays Lan Chile heading for home in New Zealand. Doug has signed up for another two year contract and should be back in the Islands again in October. Mandy McLeod is flying to the United Kingdom in September to partake in an Rural Computer course and finishing up at Belfast University.

Crossword fanatics - this month I couldn't resist Derek's contribution to a Logic problem. Most of us here in the Department have had a go, but once you get the pattern going its all plain sailing. I will publish the answer next month.

I have include in the August **Wool Press** some newspaper cutting from **Wool Record** supplied by Peter Marriot of Falkland Island Wool Marketing in Bradford. As I don't have any more space for them, I will include on this page.

### RISE IN PRICES IS 'INEVITABLE'

*Mr T. Kodama, president of Sydney-based Itochu Wool, said that a sharp rise in auction prices of wool was inevitable when the stockpile, which on June 12 totalled 1.2 million bales, runs out (writes our Tokyo correspondent). He estimated that prices, on an Eastern Market Indicator basis, could rise by 100 cents per kg.*

*Mr Kodama viewed the looming lack of supplies as serious. He called for increased wool production to offset the winding down of the stockpile. And to encourage growers to increase production, Mr Kodama urged buyers to put forward attractive prices*

### LOW PRICES FOR BRITISH WOOL

*With more than 60% of the clip exported, either in its raw state or in product, the strength of sterling has severely affected British wool prices during the last selling season. At the same time, the price of competitive wools is considerably cheaper. As a result the British Wool Marketing Board will be paying an average 62p/kg this season, described by the Board's chairman. Mr Alun Evans in the Price Schedule, just published as "very disappointing".*

### **THIS MONTHS CONTRIBUTORS**

Robin Thompson	Beef Specialist
David Parsons	Legume Agronomist
Aidan Kerr	Snr. Scientist/Agronomist
Grant Munro	Forestry Assistant
Cameron Bell	Veterinary Officer
Doug Cartridge	Sheep Scientist

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## OF TREES & TOADSTOOLS

*By Grant Munro*

There are many stories of a sudden increase in tree growth associated with the appearance of toadstools around the trees. During Farmers Week I was asked by several people about this and how they might be able to speed the appearance of the toadstools.

The phenomenon is a mutually beneficial interaction between a soil fungus and tree roots known as a "Mycorrhizal association". The fungi colonise the tissues of the fine roots of the plants and depending on the species either grow between the individual plant cells or pass through the membranes into the cells themselves. It is this specialised structure of fine plant root, fungal sheath around the root and colonised root cells that is termed the mycorrhiza. The association is termed symbiotic because it benefits both parties.

Fungi do not have chlorophyll and cannot manufacture carbohydrates from the energy of the sun. Trees on the other hand do and are more adapted to exploitation of the aerial environment. By colonising the tissues of the plant the fungus can obtain carbohydrates and other necessary substances, such as vitamins, from the plant. In exchange for this the plant benefits from improved mineral nutrition due to the fungus' greater ability to exploit the soil. Although generally only visible through their fruiting bodies (toadstools, etc.) fungi have thousands of near invisible "roots" called hyphae which permeate more intimately than plant roots through the soil. The hyphae can pass through pores in the soil structure and minerals that are too small for plant roots. Hyphae can therefore exploit a greater soil volume than plant roots. This means that via the fungus more mineral nutrients and water is available to the plant. In conjunction with this fungi contain enzymes which can convert unavailable minerals into plant available mineral compounds. Furthermore, fungi can sustain higher water tensions than plant roots as the soil dries meaning that water transfer and nutrient uptake can continue for longer in dry conditions and drought stress is lessened. In addition, due to the more rapid turnover of fungal hyphae as compared to plant roots, fungi are better able to react to changing soil conditions. Finally there is thought to be a form of protection conferred on the host plant by the fungus due to the suppression of other pests and pathogenic fungi.

It can be seen that mycorrhizas positively benefit the growth of plants and the introduction of the correct fungi to new plantings could help establishment and subsequent growth. It is at this point that things become more complicated as many mycorrhizal forming fungi are host species specific, forming an association with only one species of plant. In addition to this there is often an age progression. Some fungi are only found in association with young plants while others occur only with relatively mature trees and are not found in nature with seedlings. Apart from legumes, important crop species, alders and eucalyptus commercial preparations of inoculum are not available. In the UK infection of trees in the nursery and in the forest occurs naturally from surrounding trees. On new tree sites inoculation is often from the small amount of soil brought to the site on the roots of the transplants. Here due to the distance between plantings natural colonisation is liable to be slow. The process could be speeded up by importing soil from around established trees and scattering it across the site. It is fortunate that within the pines and spruces the fungi that form mycorrhizal associations are not species specific and hence it would be possible to collect soil from where fruiting bodies are known to occur around the spruces (or pines) at say, Hill Cove, and spread the soil around the pines at Shallow Harbour with a good chance that colonisation will occur. I do not know whether *Macrocarpa* or other species will benefit from this and these species might have to be matched like with like - it may be that a full range of fungi

couple of bags) should improve the chances of successful inoculation as the fungi can spread vegetatively from the hyphae within the soil. Taking only the fruiting bodies will lead to spore dispersal which is equivalent to spreading seed but vegetative growth will be limited.

In reality little is known about the forms of mycorrhizal association present here. It may be that fungal colonisation is delayed initially only by the distance separating the trees. However it could also be that the fungi are age specific and will only colonise more mature trees, or even that the fungi will not colonise until the trees are vigorous enough to produce sufficient carbohydrates. Regardless of the processes involved mycorrhizal association will ultimately benefit the trees even if the imported fungi remain passive over the first few years. For the little work involved it is worth a try.

Farm diversification ? If you've got mature trees with toadstools all around - that soil could be valuable !

## WHAT IS THE AFFECT OF EXCHANGE RATE CHANGE ON WOOL PRICES.

*By Doug Cartridge*

The wool record publishes weekly quotations for New Zealand greasy wool c.i.f Bradford dry. That is to say delivered to Bradford in a raw state but quoted on a clean basis. This is a good comparison for our own wool as it is delivered on a similar basis to the same destination. In the table below you can see the effect the change in exchange rate has had on the cost to the manufacturer in Bradford over the last few months.

Date	<u>Micron</u>						SNZ/£ Exchange
	24	25	26	27	28	29	
Feb-13 (NZ c/kg):	761	740	729	719	687	681	2.78
p/kg:	274	266	262	259	247	245	
Mar-13 (NZ c/kg):	N.A	N.A	730	719	687	682	2.84
p/kg:			257	253	242	240	
Apr-24 (NZ c/kg):	N.A	741	730	720	688	682	2.97
p/kg:		249	246	242	232	230	
May-29 (NZ c/kg):	751	730	724	719	681	665	3.05
p/kg:	246	239	237	236	223	218	
Jun-19 (NZ c/kg):	751	730	725	709	688	678	3.22
p/kg:	233	227	225	220	214	211	
Jun-26 (NZ c/kg):	752	725	707	690	683	671	3.25
p/kg:	231	223	218	212	210	206	
<b>Mean (p/kg clean)</b>	246	241	241	237	228	225	

In the period from 13th February to 26th June the exchange rate has appreciated by 17%. If we take 28 micron wool as an example, the price paid in NZ c/kg has basically not altered during this period, yet in Sterling terms it has depreciated by approximately 35 p/kg. This has a direct effect on the price that we can achieve for Falkland wool.

## SHELTERBELT PLANTING PROGRESS IN 1998

By Grant Munroe

Now that the majority of the trees have been planted at Estancia and Saladero it seems like a good time to report what has been done and what still remains.

The original prescription for preparation of the sites was to fertilise (60 kg P/ha) followed by shallow rotovation to control weed growth in the first year. At Saladero this was followed by ripping of the site to 40cm both length and crossways to break the impeding iron-pan. This should lead to increases in both the rooting depth and the moisture holding capacity of the soil. At Estancia, due to the depth of peat, ripping was not necessary. Finally both sites were ploughed, inverting the plough turf to windward. This was to create localised shelter for the planting positions. The trees were to be planted close against the ridge, in its' lee, but above the plough furrow.

In practise we encountered problems with this ordering of operations. The initial rotovation of the site and breaking of the turf mat interfered with all subsequent operations. The brash produced by rotovation balled up in front of the cutting edges of both the ripper tine and the plough and the unconsolidated surface caused the tractor to lose traction. Ploughing at Estancia was particularly problematic as the brash and broken turf was not thrown over correctly and tended to fall back into the furrow. Several days had to be spent repairing the plough ridges by hand. At Saladero the plough was modified with the addition of a second, off set, cutting disc ( so that both sides of the plough furrow were pre-cut) and a mouldboard extension made from an old Land-Rover spring. Results were much better but traction was still lost from time to time and the plough had to be lifted clear occasionally to clear the impeding brash. In the future if ploughing is to be performed it may be more advisable to flail mow or mob stock and then spray herbicide to kill the vegetation so that the turf mat remains intact. Alternatively the site could be ripped first and then deep rotovated ( and burnt to remove the brash ? ) with ploughing being dispensed with or the ground allowed to reconsolidate before ploughing. Some alternative site preparations will be tried at Port Howard and Bold Cove.

Subsequent to ploughing the intention was to use a tractor mounted post hole borer to create planting positions at 1.5 metre centres in the 20 prepared rows. This proved not to be possible. At Estancia the planting holes were dug by spade, a spade blade square and deep. At Saladero a hand held post hole borer was used. At both sites care had to be taken to return only soil to the planting holes and not the whitegrass brash which often became mixed with it.

In total 9750 trees have been planted so far. At Estancia 2500 trees have been planted. The majority (70%) are Alaskan Lodgepole pine but Skeena River Lodgepole pine, Sitka spruce, and Southern beech are also being tried. At Saladero 7250 trees have been planted. Again the majority (60%) are Alaskan Lodgepole pine. Skeena River Lodgepole pine (12%) and *Macrocarpa* (12%) were also planted in significant numbers with lesser numbers of Austrian Pine, Southern beech and *Radiata* pine planted for trial purposes.

Approximately 1000 trees remain to be planted. The majority of these will be planted in September to see if time of planting has an effect upon survival. The remainder are unavailable at present (*Nothofagus antarctica* and *Radiata* pine) and will be planted next winter.

Trials are also to be conducted on the benefits of supplying additional shelter through paraweb fencing and tree shelters. The paraweb fencing will remain in place throughout the establishment phase. The use of short (40cm) tree shelters will be limited to the first winter/spring to protect the plants from desiccation until their roots become established. The intention is to remove the shelters in the summer to allow the plants to harden up. The risk of leaving shelters on for too long is that the trees will become too tender and be wind scorched when the shelters are removed. At present every second tree in the first 4 windward rows will be protected to allow comparisons of survival and growth to be made.

We have had a few unforeseen problems this year but have managed to overcome them and the trees are now planted. Next year we will adapt our techniques in light of what we have learnt and also start to look at ways of reducing costs. It is also hoped to look at the use of shrubs or tree lupins as a nurse crop to give shelter to the newly planted trees. Again I would urge anyone with experience or ideas on ground preparation and planting to get in touch. In the meantime growth and survival at Shallow Harbour, Estancia and Saladero will be monitored and reported.

Finally, many people have helped with planting this year, too many to mention by name but thanks to everyone.

## FARMERS SPURN LOW PRICES.

*By Doug Cartridge*

Headings like this one have been common over recent months in wool market publications, others that come to mind are "Wool workforce shrinks by 20%", "Sterling claims more casualties", "Prices plunge as stocks soar" and then every now and then "Experts probe hi-tech wool", "Europeans the star customers" and when times are really tough "Secret club accusation".

So where's the wool market heading???

**My personal opinion** is as follows however when it comes down to it anything could happen!!

### **Short-term:** (next few months)

With the resumption of sales, over the next few weeks, in Australia and New Zealand we should see a levelling or slightly / firming market which should correct the very pessimistic end to the season. Buyers like to see a firming market at the beginning of a season which will stabilise their outlook for the rest of the year. I suspect buyer held stocks will have been devalued at the end of the financial year which to most money lenders is not encouraging thus most wool buying companies will not want to see the prices drop too much lower at this stage. With a slight weakening of Sterling over recent weeks this should mean a firming in prices in Sterling terms. By the end of this period there will be more optimism in the market with a stimulation in demand through reduced exchange rate pressures and induced demand through low volumes of wool in the manufacturing pipeline.

I predict: August; Prices will remain stagnant with little movement up or down.

September; We will see a firming market with the resumption of manufacturing in Europe, though this will be at a relatively slow rate; average for month + 2%

October/November; Best bet months if you're still holding stocks. If prices haven't moved upwards by this stage this is the time to sell. Better quality wools come onto the market in other Southern Hemisphere countries at this time which usually tends to drag the rest of the market upwards. I reckon on a 10% lift for this period.

**Summary: If a 27 micron wool is now worth 200p/kg clean, I predict it will be worth 204 by the end of September and 224 by the end of November!!**

### **Medium Term:** (a years time)

The next 12 months will be difficult for wool trading but will become slightly easier by the end of the year. There will be continued restructuring of the processing industry with efficiencies identified. This will be good for the future though it will be disastrous for some companies in the short term. Processing will continue to expand in the countries of origin and in countries with lower average wages. Wool will maintain its competitive price advantage over man made fibres but will find it difficult to maintain demand for quantity. Wool is becoming more and more of a luxury fashion product.

I predict, this coming wool trading year will follow the same pattern to the last, though it will make a rally late in the year, ending the season 10% above last years close. The average price for the year will be 5 % above last year and will stand at 215p/kg clean for Falkland wools.

### Longer Term:

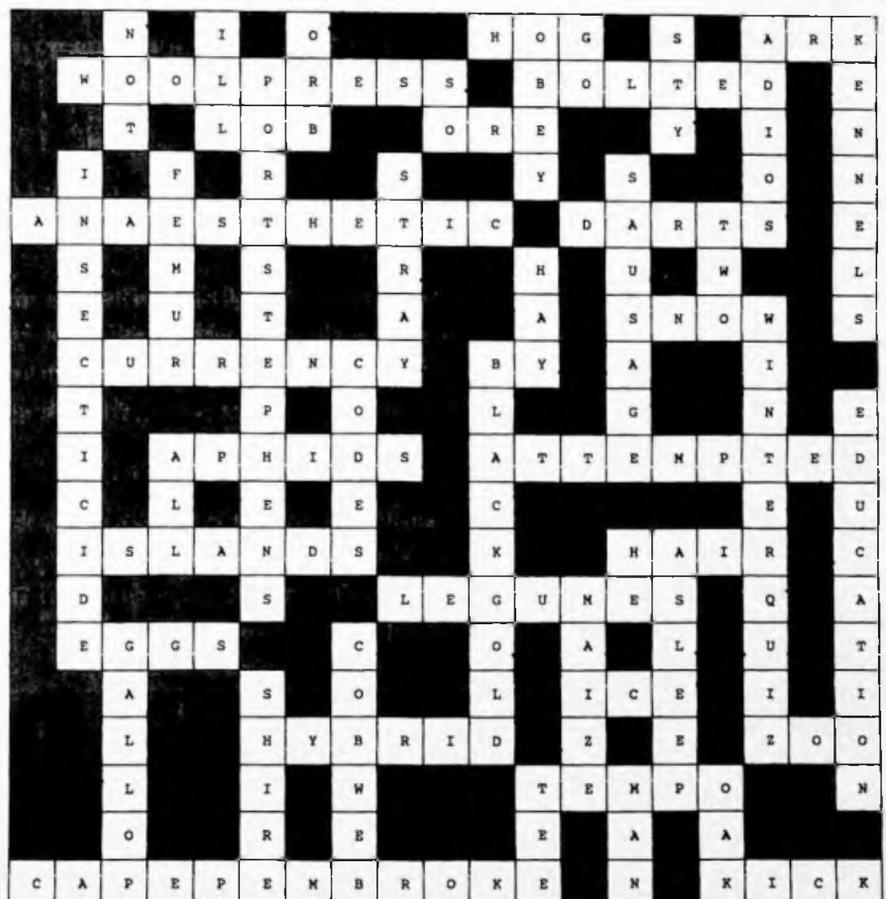
As stated previously wool will maintain its price advantage of 30% above man made fibres as it has for many years. As for a huge surge in prices, I personally can't see that happening. There will be an increase in demand for new season wools once the Australian stock pile is disposed of however this demand will be very price dependent. The economies in Asia will improve sporadically which will bring some upward pressure on prices though with the further development of their economies will come restructuring and rationalisation as we have recently seen in China. Their wool purchasing has and will continue to become more structured with more attention paid to quality and price. Manufacturers as a whole will continue to demand better quality wool which will consistently meet or exceed their expectations and specifications. Comprehensively targeted marketing strategies will need to be developed to hold wool's position in the fibre market in conjunction with improved farming practices to limit the incidence of variation in productive parameters which alter processing performance such as fibre diameter, tensile strength and colour. There will be greater pressure applied to reduce Organo-Phosphate residues which will in turn bring wool back to being the great natural product that it was in the past. Research will develop more cost efficient means of manufacturing in conjunction with effective ways of removing contamination in wool before it reaches the final product stage.

**There are a lot of changes ahead if wool is to remain a premium fibre into the 21st century.**

I predict that the long term future for wool is not as good as its past though it will over the next 10 years float around an average for Falkland type wools of 250p/kg clean in today's monetary terms.

*So that's my crystal ball gazing, I challenge some others in the industry to give us their thoughts in writing. It should all make interesting reading in a years time!!*

## SOLUTION TO JULY'S CROSSWORD



## **SUBCLOVER - A HIGHLY ADAPTABLE LEGUME**

*By David Parsons*

I have mentioned Subclover (*Trifolium subterraneum*) a couple of times in Woolpress articles, and those who came to the Open Day at Brenton Loch, or during farmer's week may have seen the plants on display. I have written this article for those who are interested in a little more detail than what I have already given.

Subclover is a winter annual legume of Mediterranean origin, which has been developed for pastoral use and soil improvement, particularly in Australia. A Winter annual legume is one that is sown in Autumn, grows through Winter and Spring, and sets seed and dies in the Summer, germinating again the following Autumn.

Subclover is self-fertile, meaning that unlike white clover, it does not need bees for pollination.

Seed of subclover is pushed into the ground by the plant after flowering (hence the name subclover), reducing losses of seed when grazed in summer.

### **Where it can be grown**

In Australia, early maturing varieties of subclover can be grown in areas receiving as little as 250mm of rainfall per year, in winter-dominant rainfall areas. With a rainfall of over 400mm per year, subclover can be quite prolific. There are three sub species of subclover, which are adapted to different types of soils:

*subterraneum* - includes most commercial varieties, grows in neutral to acid soils

*brachycalycinum* - grows best in neutral to alkaline soils

*yanninicum* - better adapted to wetter, acidic sites and will tolerate some waterlogging

It appears that the sub species *subterraneum* and *yanninicum* may have the most potential for Falkland Island soil conditions.

Sub clover is relatively tolerant of cold conditions and frosts, but will be damaged by severe winter conditions.

### **Sowing and Establishment**

Subclover, sown in Autumn, or in Spring can be sown into a prepared seed bed or direct drilled less than one centimetre deep. Seed could be dropped onto the soil surface and harrowed or rolled in. Generally it is best to sow at 4-10 kg of seed/ha, with the price of seed approximately £1.50/kg in Australia. If sown in a mix, for example with white clover, or with perennial grasses, then a rate of 4-6 kg/ha would be sufficient. The seed should be inoculated with group C inoculant to ensure nodulation. This is a different strain of rhizobia to white clover, so inoculation in the Falkland Islands would be essential, even where white clover is already growing. The seed should also be lime pelleted to help the germinating seedling to establish.

### **Grazing Management**

After seeding, there should be no grazing until the seedlings are firmly established, and cannot be pulled out or trampled by sheep. Once established, subclover can be grazed continuously, or rotationally, as grazing will prevent grasses and weeds growing over and smothering the clover. In terms of plant height, production of subclover is greatest if the plants are grazed

down to 4-8 cm. However, once the subclover has started flowering, grazing pressure should be reduced to increase seed set. This is extremely important in the first year, to ensure that a good reserve of seed is put into the soil.

#### **Subclover Varieties**

There are a number of factors to consider when choosing a subclover variety or "cultivar". In the Falkland Islands, the most important factors are likely to be maturity and hardness of seed.

The maturity time for a subclover variety is particularly important in many parts of Australia, where summer drought occurs at approximately the same time each year. It is important that the cultivar flowers and sets seed before summer drought kills the plant. Thus where the drought occurs early in the summer, an early flowering variety should be used. Alternatively, in higher rainfall areas, a late flowering variety could be used.

Hard seed enables subclovers to persist through dry seasons or other harsh conditions, where there is little seed set, by accumulating a seed reserve in the soil. Hard seed cannot take in water, and so will not germinate. A period of hot weather, bare ground and other factors will slowly break down the hard-seededness, enabling the seed to germinate.

Subclover varieties also differ in their tolerance to various diseases, a problem that we are currently not faced with but may possibly be a factor in the future.

#### **Subclover Varieties for the Falkland Islands**

A number of varieties of subclover are currently being tried in the Falkland Islands. It is unclear if late or early maturing varieties will be more suited, mainly because we don't yet know if subclover will grow as a Winter annual (like in Australia), or a Summer annual, if the winters prove to be too harsh. This winter has been very mild, and a number of seedlings have germinated at various places around the Islands during the late spring and winter. They have survived the infrequent frosts and the few covers of snow that we have had. In some cases the original plant that produced the seed is still alive, growing next to the seedlings it has produced. It could be the case that subclover will grow as both a winter annual and a summer annual in the Falkland Islands, germinating whenever the temperatures are high enough. Some winters will probably be too cold, killing the plants, however the hope is that there will be germination from seed in the spring.

The most important characteristic of subclover for the Falkland Islands is possibly hard-seededness. It is likely that hard-seeded varieties will be the most persistent here, ensuring growth after a particularly hard winter, or a dry summer.

Cold tolerant varieties are also likely to have an advantage. The variety "Denmark" is thought to have some cold tolerance, and has been included in the trials. The most cold tolerant subclover that we have appears to be a non-commercial line that was collected in the UK. We are currently getting a small amount of seed produced of this line for use in further trials.

In his report in 1939, William Davies commented on the occurrence of subclover:

"At Hill Cove a sowing made about 1929 is still producing plants in gregarious patches, and these were flowering freely during the summer of 1937-38. It is of considerable significance to have it on record that subterranean clover is able to withstand a series of Falkland winters. Also that this plant has been able to re-establish itself annually in a very dense matted turf such as is characteristically found in settlement fields. It is interesting, therefore, to note that this clover has been able to ripen its seed annually over an eight-year period in the Falklands."

Subclover growing in 1929 was most likely of the cultivar "Mt Barker", which is late flowering and has very low levels of hard seed. There may be now more suitable varieties for the Falkland Islands.

The results so far are encouraging, however time will tell whether subclover has a role to play in improved pastures in the Falkland Islands. If you have any questions don't hesitate to give me a call.



Photo - Subclover seedlings that have re-grown from seed. This variety, "Nungarin" is very early flowering and very hard-seeded. It may be a suitable variety for the Falkland Islands.

**FOR SALE**

STANLEY DAIRY LTD. have for sale one second hand  
Vicon Varispreader 602.

600kg capacity hopper.

Complete with spreading charts, spare spout and grass seed attachments.

Offers and enquiries to Malcolm Ashworth - Telephone or fax: 31011

## REVOLUTIONARY WOOL HARVESTING TAKES OFF

*Source: CSIRO, Media Release*

Australian science and industry have notched up another world first with the commercialisation of a wool harvesting process without the use of a mechanical handpiece, according to an announcement today by the Minister for Industry, Science and Tourism, John Moore.

The development of *Bioclip*, a process which uses a naturally-occurring protein that causes sheep to shed their fleece, would benefit the nation's \$Aus3 billion wool industry, by improving wool quality and reducing chemical use at the top of the national woolclip, the Chief Executive of CSIRO, Dr Malcolm McIntosh said.

The Woolmarket Company (formerly International Wool Secretariat) is also pleased to see the commercialisation of this innovative technology.

Managing Director, Adrian Kloeden said, "Bioclip is a tangible result of the Woolmarket Company's research investment on behalf of Australian Woolgrowers: an innovation that could revolutionise wool harvesting for many producers".

The *Bioclip* process is being displayed today by *Bioclip Pty Ltd.* at an open day held by a leading stud, "Roseville Park", near Dubba, NSW. The display will feature sheep that have been defleeced using the new process.

"From its very beginnings, it has taken almost twenty years to research, develop and commercialise this natural protein which causes sheep to shed their fleece, just as happens normally in certain special breeds of sheep", Dr McIntosh said.

"Not only is this a world first for Australian science, but it also underlines the long lead-times and the great patience and persistence required to bring a revolutionary new product successfully to market."

Dr McIntosh added that it was a fresh example of how technology was likely to be called on in the 21st century to perform many tasks that hitherto involved mechanical equipment and large inputs of energy.

*Bioclip* managing director Mr John Le Breton said *Bioclip* had been trailed on more than 15,000 sheep over the past 20 years, including one flock in Yass which had been treated annually for the last seven years.

The main advantages of the *Bioclip* process over conventional shearing was that it added value to the clip by eliminating second-cuts, skin pieces and reduced the need for chemicals used to control parasites, he said. *Bioclip* is a major step forward in the welfare of the sheep.

"*Bioclip* also reduces variability in wool fibre length, increasing carding yield and hauteur and decreases wool lost as noils during combing," he added.

It was particularly useful for adding value to the top end of grazier's wool clip, by improving the quality and marketability of the best wool from Australian sheep. It also added value to sheep leather by avoiding shearing cuts to the skin.

Sheep using *Bioclip* are fitted with a retaining net and given a single vaccination of the protein. Stained wool that might devalue the fleece is removed as part of the process.

The protein causes a natural break to occur in the wool fibres, and a week later the fleece is shed as a whole inside the net, and is easily removed by hand - in a process known as doffing - in a purpose-built mobile trailer.

The nets and specialised coats are made in Lithgow, NSW, by workers retrenched not long ago when the well-known Beriel lingerie factory closed.

Administration of the defleccing protein produces a short-lived elevation of the protein in the sheep and this returns to normal within 24 hours. The wool begins to grow again after this period. The sheep can be marketed within 7 days of treatment.

The technique has added benefits in that it helps reduce the incidence of lice and dermatitis, so lowering the need for chemical control and the risk of contaminated wool in processing.

It also reduces the amount of stress, cuts and injury to sheep that can occur during mechanical wool harvesting.

The *Bioclip* process introduces a totally new concept in wool harvesting to an industry, which has been using mechanical techniques for more than 5 thousand years.

*Bioclip* was developed by a team of scientists at CSIRO Animal Production after they showed a naturally-occurring protein would defleece a sheep. The research and development phase of the project was funded by CSIRO and the Woolmarket Company, formerly known as the International Wool Secretariat. The final phase has involved collaborative research with Solutions Marketing and Research Group.

## NEW AUSTRALIAN REPORTING SYSTEM

*By Robert Hall*

Australia is the largest producer of internationally traded wool, thus prices achieved at the Australian auctions have considerable influence over the world's wool markets. Until recently the Australian auction prices were summarised by Wool International's (WI) eastern and western market indicators.

With effect from 1 July 1998, the Australian Wool Exchange (AWEX) became the sole source of public market reporting for the Australian Wool Industry.

To complicate matters, the still evolving AWEX system is different to the WI system. From August 1998, there will be three regional indicators (northern, southern and western) and a new Eastern Market Indicator based on the northern and southern regional sales, (making four indicators in total). The old and new systems cannot be directly compared. The AWEX EMI includes more fine wool in its representative sample, reflecting the change in the Australian flock over the last five years. Currently indications are that the AWEX EMI will average about six percent higher than the old EMI.

“AWEX's regional indicators for each sale day are designed to provide the highest-level overview for each regional market. The regional indicator (quoted in cents/kg clean) are based on a basket of fixed AWEX-ID quotations designed to suit each region's predominant *offering*. Therefore, AWEX, point out, the three regional indicators are not directly comparable with each other.”

(The new AWEX national market indicator (NMI) ceased to be used on 9 July 1998!!)

Of the new indices, the new EMI will probably again become the main barometer of market performance to buyers and sellers of Australian wool.

*Ref: Wool Textile Publications Ltd*

## SO HOW WAS YOUR 'BACK END'?

*By Aidan Kerr*

As previously reported in *Wool Press* (Feb. 1998), November and December 1997 were wetter, calmer, duller and cooler than usual (thanks to data kindly provided by the Meteorological Office at MPA).

To follow this up I thought I would examine the weather data for the 'back end' of the season. Overall January to June 1998 was drier, calmer, not as cold and less wintry than the same periods in 1986-98 (see the table in which I have bolded some of the most important differences). January was wetter, sunnier and windier. February was cooler and duller. March was warmer, sunnier and drier. April was warmer, much drier and calmer. May was calmer and not as cold. June was warmer, not as cold, much drier, calmer and generally less wintry. We probably all experienced most of this anyway but its good to see the data to back up what we felt!

The milder temperatures since April could explain why grass is still actively growing in many areas. On the grazing systems trial near MPA, Whitegrass leaves grew by up to 5 cm and 'finer' grasses on greens by up to 3 cm since then. This fresh growth should benefit feed availability for sheep and improve their condition and weight gains for a possible late winter.

The wet early summer and milder 'back end' may have caused so many plants to grow so well and produce seed. Thus a **word of caution** seems appropriate to anyone (including us!) who has established new pasture grasses, legumes, trees or crops during this season with great success. Don't become over optimistic about the chances of successful establishment in the drier, colder and windier conditions that usually prevail! Recommendations for establishment of any plants should be based on experience over a few different years.

The drier than usual 'back end' is worrying! If the early part of the season had not been so wet then I suspect that many greens and reseedings would have 'browned off' much earlier. Consequently feed availability to sheep may have been severely reduced.

The drier conditions fit well with conclusions that Gerry Hoppé (my predecessor) is coming to in his study of climate change here. He is working on this DoA funded project with Jim McAdam at Queen's University Belfast. Gerry will soon complete his report for us but in the interim he sent us some results which I displayed during our recent 'open days' and which generated considerable interest.

He has examined weather data, mainly from Stanley since the 1920's. His conclusions to date are;

- there is considerable variability between years,
- the islands' climate is changing,
- springs and summers are sunnier than previously recorded,
- the temperatures are increasing very slightly,
- rainfall is decreasing, especially in summer.

I hope that Gerry will be able to report further findings in **Wool Press** soon. In the meantime my climate will be changing soon too as I head north! I would like to hear what you think about climate change and how your 'back end' was!

**A comparison of weather data for January to June between 1998 and 1986-98 average. (Data courtesy of the Met. Office).**

Weather variable	Jan	1996-98		Feb	1996-98		Mar	1996-98		Apr	1996-98		May	1996-98		Jun	1996-98		6 month averages	
	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
Mean maximum (C)	15	15	13	15	15	13	24	21	11	10	16	15	13	7	7	11	4	14	11	11
Highest maximum	23	22	19	22	24	21	20	16	20	16	15	13	13	7	7	11	14	19	19	18
Lowest maximum	10	9	8	8	7	7	5	4	5	4	2	2	2	2	3	3	-3	-3	6	4
Mean minimum	6	7	6	6	7	6	5	4	5	4	2	2	2	2	3	0	0	5	5	4
Highest minimum	12	12	11	11	12	11	12	11	12	9	8	7	7	7	6	8	8	10	10	10
Lowest minimum	3	3	2	2	1	1	-1	-1	-1	-1	2	-2	-2	-3	-3	-8	-8	1	1	-1
Rainfall in (mm)	74	65	41	47	46	45	15	56	49	50	26	26	60	42	54	60	42	42	54	54
Max daily total	17	16	17	14	25	11	7	11	22	14	8	8	26	16	15	26	16	16	15	15
No. of rain days	25	20	17	15	13	16	11	19	20	20	19	20	22	18	19	22	18	18	18	19
No. of wet days	17	13	8	10	4	10	4	12	9	12	9	12	9	9	13	13	9	9	9	12
Sunshine hours	245	222	150	183	176	160	111	109	77	77	51	51	58	135	135	58	135	135	135	135
Average daily	8	7	5	6	6	5	4	4	2	2	2	2	2	4	4	2	4	4	4	4
Maximum daily	14	14	14	13	11	11	9	9	8	7	7	7	7	10.6	10.6	7	7	10.6	10.6	10.4
No of days of:-																				
Snow/sleet	0	1	1	1	0	2	0	5	7	9	3	3	14	2	2	14	2	2	2	5
Snow lying	0	0	0	0	0	0	0	1	1	3	3	3	11	1	1	11	1	1	1	3
Hail	1	4	2	3	2	4	1	5	3	6	2	6	7	2	2	7	2	2	2	5
Thunder	1	2	0	1	2	1	0	1	0	0	0	0	0	0	0	0	0	1	1	1
Fog	0	1	1	1	6	1	4	3	3	4	2	4	6	3	3	6	6	3	3	3
No. of gale days	10	4	2	3	5	4	1	2	0	2	0	2	0	2	0	2	2	3	3	3
Mean wind in knots	17	15	14	15	15	16	10	14	11	13	12	13	14	13	12	14	14	13	13	15
Maximum gust	64	56	54	57	57	57	47	57	48	55	44	44	70	52	52	70	52	52	52	59
No. of days > 33knts	25	18	15	17	15	19	7	14	7	13	8	8	14	13	8	14	13	13	13	16

## FOR SALE FROM MAIN POINT FARM

Susie Hansen has the following food for sale surplus to requirements and currently being stored in Stanley. This is all from Dobson & Horrell who are UK market leaders in the production of horse feeds.

English Whole Oats 25 kg	£ 9.20
English Rolled Oats 25 kg	£ 9.70
Pasture Mix 20 kg	£10.70
Phase Three 20 kg	£12.70
Micro Feed 20 kg	£10.70
Stud Cubes 25 kg	£10.70
Dog Food 20 kg	£13.90

The Chudleys Original dog food is a maintenance ration of mixed cereal and meaty chunks. Pasture Mix is a low energy muesli mix with oats and has more energy concentrate than oats. Phase Three is a high oil, high digestible fibre competition mix.

Please contact Susie on the following:

Telephone: 41008

Fax: 41009

e.mail: [shansen@horizon.co.fk](mailto:shansen@horizon.co.fk)

## IMPORTATION OF BIRDS AND HATCHING EGGS

*By Andrew Coe*

I should like to remind people that just as with live birds, fertile eggs for hatching cannot be imported into the Falkland Islands without a licence granted by the Department of Agriculture Veterinary Service. One of the conditions of this licence is that the eggs must be accompanied by a health certificate that has been agreed by the MAFF UK and ourselves.

The requirement for a licence is encompassed by proclamation No 6 of 1985 made under Section 35 of the Customs Ordinance. The current charge for issuing such a licence is £25.00

The reasons for requiring a licence and health certificate are that as far as we are aware, Falklands poultry are every bit as disease free as Falklands sheep and cattle and it makes sense to keep it that way if at all possible. Hatching eggs can carry a number of important diseases which the hatched chick could then pass on to the local poultry.

So please, don't be tempted to sneak a few hatching eggs into your hand luggage when travelling southbound on the Tristar. If they are discovered they will be confiscated and destroyed.

If you do want to import some hatching eggs apply to us in good time for a licence and make arrangements with a reputable supplier in the UK to undergo any testing of the flock of origin that may be required. Don't end up with egg on your face!

# CROSSBREEDING

*By Robin Thompson*

## **What is crossbreeding:**

Crossbreeding is the combining of existing breeds to produce a hybrid which has a combination of the inheritable characteristics of both parents. Crossbreeding can be applied to both animals and plants. Hybrid vigour or heterosis is generated by crossbreeding. This is the genetic gain that results from the combination of genes from different breeds. In purebreds the expression of beneficial genes may be masked by the lack of genes for another characteristic such as disease resistance. Heterosis therefore usually has the largest effect on fertility and survival. The amount of heterosis in any cross is determined by the degree of relationship of the parent breeds and the environment in which the progeny are to be reared. Generally, the more unrelated the parent breeds and the more stressful the environment the greater the heterosis. Interbreeding the first cross animals and backcrossing to either parent results in a loss of half the heterosis benefit because the progeny no longer have the best combination of genes. The key to maintaining heterosis is to cross the progeny to another unrelated breed that is well adapted to the environment.

## **Practical implications:**

Crossbreeding to take advantage of improved performance due to heterosis is often used to produce progeny for slaughter or processing. Animals bred in closed studs for long periods have essentially been genetically isolated from the rest of their breed. Many Australian merino studs have been operated in this manner. When animals of the same breed from two such studs have been crossed the resultant progeny have exhibited high levels of heterosis. Crossbreeding can therefore be a means of producing rapid genetic change and reducing the rate of inbreeding depression. The corno breed was developed as a hybrid between corriedales and merinos but the resultant progeny have been in bred thereby reducing the initial hybrid vigour. On average, the corno would be expected to exhibit characteristics equal to the average for the two breeds.

The cattle in the Falklands have basically been genetically separated from those in the rest of the world for a long period. Hybrid vigour should therefore be apparent in progeny produced from crosses between Falkland Island cattle and those from elsewhere. The artificial breeding programme is a means of taking advantage of this expected hybrid vigour. Interbreeding the progeny will result in the loss of some of this advantage but the many of the characteristics will remain. Such characteristics should include a more 'beef like' conformation, increased muscling and increased growth rate.

## **Pure or crossbreds:**

Commercial beef producers in many countries are moving away from purebred herds in an effort to capitalise upon the benefits of heterosis and increase profitability without increasing costs. The benefits of heterosis can be gained from crossing two crossbreds derived from unrelated parents. Although there will always be a place for purebreds, commercial producers need to develop breeding programmes that profitably produce products required by the market place. Being able to say that all my animals are 'purebred something' and that they all look the same may not be the most profitable animal production enterprise. In any animal production system it is essential to firstly identify the characteristics of the product that is the main determinant of price in the market place and then use the combination of animal breeding and selection to maximise production. I therefore do not see any reason why Falkland Islands cattle have to instantly be of a recognisable breed. The challenge to managers here is to ensure their animals are able to express their full genetic potential by providing better feed and to select replacement breeding animals that are top performers in this environment.

# METABOLIC DISEASES OF EWES DURING PREGNANCY

by Cameron Bell

There are two main diseases that can affect the metabolism of ewes during the later stages of pregnancy, both typified by animals going 'down' and being depressed. It is worthwhile being aware of them because they can potentially lead to high losses (depending on the cause) and are easily prevented. If you suspect either of these diseases please contact either myself or Andrew at the earliest opportunity so that we can arrange to examine cases and/or provide the necessary treatments. Also, if you have had a history of these conditions on your farm, we are more than happy to help devise a preventative programme.

## 1. PREGNANCY TOXAEMIA OR "TWIN LAMB DISEASE"

During the *last trimester of pregnancy*, the dietary requirements of ewes for glucose (=energy) almost doubles. Hence, any factor that reduces a ewe's energy intake will result in a state of *energy deficiency*, the cause of this disease. Factors that reduce energy intake include grazing poor quality pastures, transportation of stock ('stress'), poor weather, sudden change of diet, intestinal worm infections, conditions resulting in lameness, and starvation. Pregnancy toxaemia can occur in ewes carrying a single foetus, but is more commonly observed in ewes carrying twins or more because of the increased energy demands. The same condition can also occur in over-fat pregnant ewes, as their voluntary food intake is often reduced and as a result, they literally starve themselves of energy.

Clinical signs of this disease tend to be related to *low energy levels*:

- **early signs:** generalised weakness, standing still, hanging back from the rest of the flock, staggering.
- **intermediate signs:** gone 'down' and unable to rise, trembling, twitching, teeth grinding, licking & chewing movements, unwilling to eat & drink, looking up to the sky ('stargazing'), and breath smelling of nail polish remover (result of 'ketones' in the blood which are formed when body fat is broken down as a source of energy).
- **late signs:** coma and death

The course of the disease can take up to 7 days. Treatment is generally only successful for those cases that can stand. A majority of cases die despite medication. Treatment involves the provision of extra energy by a high energy oral drench and terminating the pregnancy by drug-induced abortion or caesarean section (this removes the 'energy drain'). Humane slaughter is the only other option and is probably used in a majority of cases.

Prevention of this disease is much easier and successful than treatment. Do not allow ewes to have condition scores less than 2.5 or more than 4 in late pregnancy (if you are unsure about condition scores I can send you a copy of details and explanatory diagrams). Condition scored ewes can be separated into groups and fed at different rates if that is possible in your situation. Energy blocks and sheep nuts would be the most common

means of providing supplementary feed here in the Falklands. Further, avoid any undue stress or sudden dietary changes for the pregnant ewe flock.

## 2. HYPOCALCAEMIA OR LOW CALCIUM LEVELS

Hypocalcaemia is an acute disease occurring anytime between *approximately 6 weeks before lambing and up to 10 weeks after lambing*. If not treated quickly, cases will rapidly die. The signs result from low blood calcium levels. Calcium is in high demand in late pregnancy because of the requirements of the foetus and just prior to birth, colostrum and milk production. Both colostrum and milk are high in calcium. A diet deficient in calcium and/or roughage (eg. grazing a cereal crop without hay supplements, very lush pastures), increasing age, physical exertion and stress, are all factors that may lead to this disease.

Because calcium is essential for the normal working of muscle, signs of this disease are:

- **early signs:** excitable, anxious, trembling, staggering, remain stationary.
- **intermediate signs:** ewes go down, appear very weak.
- **late signs:** shallow breathing, coma, death.

Treatment involves administering calcium. This can be done either directly into a vein (vet would do this) or by injection under the skin. Response to the treatment should be rapid (minutes to few hours, depending on the method calcium was given), seen as the ewe passing dung, getting up and walking off.

Reported cases of this disease are uncommon in the Falklands, however the best advice is to avoid stressful situations for ewes in late pregnancy & early lactation. For snow or bad weather of long duration, access to energy blocks or sheep nuts should be considered. We can supply calcium for treatment if necessary.

## BROTHERS UP IN ARMS

*By Hugh Marsden*

Thanks to modern technology and the globalisation of the media, I'm sure that most people in the Islands will have witnessed the strength of feeling being expressed by the U.K. farming sector in recent months. The Countryside March held in London earlier in the year was perhaps the clearest indication of the despair being felt in much of rural Britain.

With the economics of farming in the Falkland Islands also deteriorating, I think that we can draw a little comfort by knowing that we are most certainly not alone. We are also better placed in being relatively free of quotas, beef bans, food mountains and endless red tape. U.K. farmers are becoming increasingly frustrated by a highly regulated industry. Moves towards highly intensive

systems of farming in the post war period are now being actively discouraged. The shift is now towards larger farm size, a less intensive farming system and a fragmentation of farming communities. Ranching is now becoming the buzz-word on many hill farms. Many farmers are having to re-invent the wheel or simply get out of the industry !

Just as the strength of the pound is seriously undermining the U.K wool market, it is causing even greater problems to U.K farmers. The high value of the pound not only makes imported produce cheaper, it also makes U.K agricultural exports more expensive. (adding to the problems created by the beef export ban) E.C . support prices are also lower as a result. Whereas most E.C countries compensate their farmers for currency fluctuations, the U.K government has been reluctant to do so.

### **B.S.E Crisis**

While the U.K government has provided 1.4 billion pounds worth of support to cover the cost of slaughtering cattle over 30 months old, the amount of compensation paid to farmers has actually been less than the value of cull cows had the 1996 B.S.E crisis not occurred. Many beef farmers are now making a net loss on every animal slaughtered. The last straw for many beef producers was the introduction of the boned beef ban at the end of last year. Farmers understandably found it ironic the ban was introduced while the government was unwilling to discourage cigarette advertising. The risk of death from contracting CJD from eating beef in the bone has been estimated to be 1 in 1,000,000,000. (The probability of winning the National Lottery is 1 in 14,000,000)!

### **Farm Incomes Continue to Fall**

Official government figures have confirmed that U.K 1997 farm incomes have declined by 37%. Projections made by Exeter University suggest that 1997/98 farm incomes are even lower:

<b>Farm Type</b>	<b>Projected Net Farm Income 1997/98</b>	<b>% Fall on 1996/97 Income</b>
Specialist Dairy	7,800	59
Mainly Dairy	12,400	55
Lowland Livestock	1,600	85
Hill Livestock	12,000	37
Arable	7,800	70

A lowland West Country livestock farmer who typically works 70 hours a week, every week of the year, is estimated to be earning £1,600 per year after deducting expenses. These types of farmers are the backbone of the U.K industry.

### **Supermarket Power**

Perhaps the most worrying aspect of the farming crisis is as a result of developments in the food retailing industry. Supermarket chains have become increasingly powerful in the way that they operate and have recently come under the spotlight for not passing on their lower input prices to the consumer:

<b>Farmgate Price</b>	<b>Dec 1996</b>	<b>Dec 1997</b>	<b>% Change</b>
Beef Cattle (per lb)	95p	80p	-16
Milk (per pint)	12.5p	11.0p	-12
<b>Retail Price</b>			
Topside (per lb)	£4.98	£5.13	+3
Standard Mince	£1.24	£1.27	+2
Milk (supermarket)	28p/pint	28p/pint	no change
Milk (doorstep)	39p/pint	39p/pint	no change

Supermarkets have also deservedly received considerable criticism for providing their customers with misleading labelling. The practice of labelling re-packaged imported farm produce as being "processed in the U.K" (with little or no mention of the country of origin), has been quite understandably criticised by farmers. Intense competition amongst the big retailers has meant that the farmer is doing much of the fighting the supermarket war. (While shareholder profits continue to rise.) Another disturbing trend in recent years has been the tendency for supermarkets to encourage abattoirs (and other food processors) to purchase directly from farmers rather than through the traditional auction market system. In doing so, they are having an increasing influence on farmgate prices and the level of farm incomes. Falkland Island farmers still have a lot to be grateful for!

## **THE NATIONAL PASTURE IMPROVEMENT SCHEME** **CONTROLLING THE PARASITES (part 1)**

*By Derek Clelland*

As many of you will know already the National Pasture Improvement Scheme will be helping farmers with the costs of fencing and fertilisers to help re-seed areas to improve pastures. One of the components of the controlled grazing management reasoning for this scheme needs to be discussed, that of the parasite worms that infest sheep and methods to control them.

The whole point of the scheme is to improve the pasture so that stocking rates can be increased. However the increase in stocking rates will cause problems in itself. If sheep are

kept in a confined area at a greater density, the potential parasitic burden will be raised significantly.

With continual regrazing of the same ground, the potential for worm pick-up increases as more faeces is deposited by the sheep. Their faeces will become more liquid as they develop diarrhoea and this will help the parasites to spread. This could be the start of a vicious cycle.

This parasitic burden can effectively wipe out the good that the improved pasture gives by decreased growth rates and decreased wool production, this could be significant enough that an untreated sheep on an improved pasture will actually be in a worse condition than a sheep raised on the traditional camp. This burden will also cause the sheep to be more susceptible to other infestations or infections as they are compromised with the infestation of the worms.

This means that there may be another added cost to maintaining the improved pasture, either the pasture and the animals must be totally free of parasites before the animals are put into it or the animals must be continually dosed to ensure that the parasites on the pasture do not overwhelm the sheep. This is due to the fact that most of the sheep on the improved pasture will be from the most susceptible groups to parasite infestation i.e. pregnant ewes whose immune system is low due to the pregnancy, younger sheep who have not built up a sufficient immunity

However this is not a statement that farmers should be using chemicals on all animals with a view to getting rid of all worm burdens as this would not be cost effective nor is it likely to work. All farmers should be aware of parasites and that if stocking rates do increase so will the parasite population, therefore measures should be taken to control this unwelcome burden on the sheep.

The measures taken to ensure that parasites do not get out of control will need to be part of the controlled grazing management of the area as mentioned last month in the article by R Reid. These methods will probably have to be considered on an individual basis for each farm taking part as no two farms will have the same number of sheep or hectareage in the scheme. Different solutions may be required for each farm on a cost management basis.

The Falklands are fortunate as the weather is not particularly suited to parasites and we have such low stocking rates. Right now a lot of sheep in the Falklands have sub-clinical doses of parasites i.e. not large enough to affect them significantly. However this may change with modifications in management of the grazing.

A parasite control regime will have to carefully monitor the animals making sure that sheep are dosed before being put onto the re-seed also making sure that when they are on the re-seed they do not pick up a fresh burden of parasites that may be already there. It will be especially important to be careful with the young animals that are more susceptible to parasite challenge than their older counterparts.

## DEREK'S PROBLEM WITH LOGIC

This hypothetical problem can only be solved through logical, methodical working.

First read the statement carefully, then consider the clues. Next enter the information given in the chart provided, using a cross to show a definite 'no' and a tick to show a definite 'yes'. This narrows down the possibilities and might reveal some new information.

Now re-read the clues and, using a process of elimination, you will find the rest of the puzzle can be solved. Remember that where you can put on a tick that this automatically discounts other possibilities and these should be crossed off.

### RAINY DAYS

One week in June each of five Department of Agriculture staff had an activity affected by a sudden shower of rain. Each shower took place at a different time on a different day. From the clues below can you work out the full details of who was doing what, on which day when it started to rain?

#### CLUES

- 1) The member of staff who was baling hay at 11 o'clock shared their surname initial with the one who got wet on Friday.
- 2) Sean got rained on at a later time of day than Mandy
- 3) It rained on Charlene on Tuesday; she was not taking photographs of plants at the time.
- 4) It was only 10 o'clock in the morning when Grant got soaked.
- 5) One shower started at exactly noon on Wednesday.
- 6) Bob had just started to plant some trees when he got caught in the rain; this was the day before the 3 o'clock downpour.
- 7) It was Thursday that one member of staff was caught in a shower as they were building fences.

		TREE PLANTING	BALING HAY	BUILDING FENCES	OUTDOOR PRESENTATION	PHOTOGRAPHING PLANTS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	10:00 AM	11:00 AM	12:00 PM	2:00 PM	3:00 PM
SEAN MILLER																
MANDY McLEOD																
GRANT MUNRO																
BOB REID																
CHARLENE ROWLAND																
10:00 AM																
11:00 AM																
12:00 PM																
2:00 PM																
3:00 PM																
MONDAY																
TUESDAY																
WEDNESDAY																
THURSDAY																
FRIDAY																

NAME	ACTIVITY	DAY	TIME

RESULTS WILL BE SHOWN IN NEXT MONTHS WOOLPRESS



# WOOL PRESS

ISSUE 106

SEPTEMBER 1998

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**PLUS ALL THE REGULAR FEATURES AND MORE!**

*The Wool Press is published by the Department of Agriculture. Editor: Mrs Charlene Rowland.*

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## EDITORIAL

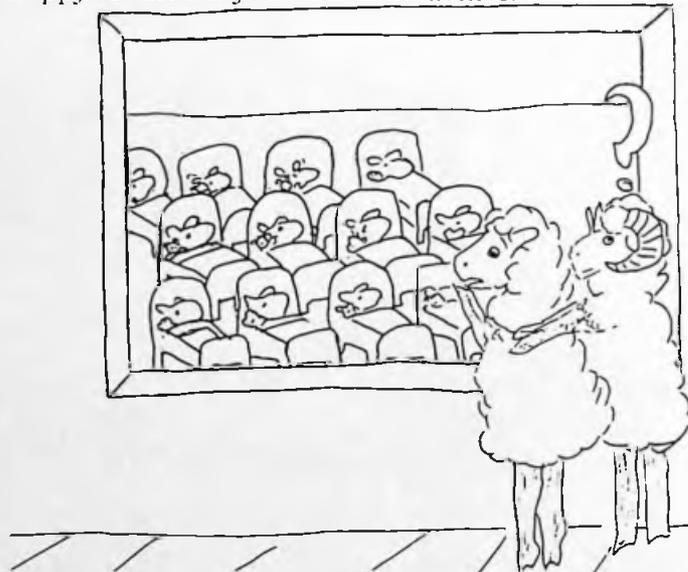
Firstly I must apologise for the blank page at the back of the August edition of the **Wool Press**, although I expect a few of you found this spare page came in handy when you got round to tackling Derek's logic problem.

On the 29th of September our new vet, Steve Pointing, will arrive from Britain. He is married with three children and is currently working for MAFF. His previous experience includes work in veterinary practices in the UK, Vanuatu and in the Yemen. I will, hopefully, be able to persuade him to provide an article of introduction for next month's **Wool Press**.

Cameron will be going on leave in early October, arriving back in late November. Bob will be going to Tasmania on holiday at roughly the same time as Cameron.

Karen Marsh leads a series of departures from the Department having already left for her course at Bicton College in the UK. Zoe Luxton, having done yet another stint in the Veterinary Department, will be departing to continue her veterinary studies. Andrew Pollard will be leaving for Tasmania to work on a farm there for a year. This is a year taken away from college which is necessary for the completion of his HND. Another big loss for the department will be Julie Fisher-Smith who has accepted a posting with the Customs and Immigration Department. Her final date has not yet been finalised but all the Department staff wish her the very best for the future in her new position.

The department has three GAP students arriving in early October. Salvador, Philomel and Rincon Grande will be giving them work for the next six months. We also have a young lad that is willing to take the Youth Training Scheme in January and if any farmers that would like to train this youngster in farming could give me a call I will be happy to furnish you with more details.



*Which one is Larry..... By Marie Summers*

### THIS MONTH'S CONTRIBUTORS

Aidan Kerr	<i>Snr. Scientist</i>	Robin Thompson	<i>Beef Specialist</i>
Derek Clelland	<i>Lab. Technician</i>	Sean Miller	<i>Sheep Scientist</i>
Grant Munro	<i>Tree Technician</i>	David Parsons	<i>Legume Specialist</i>
Zoe Luxton	<i>Student-Veterinary</i>	Cameron Bell	<i>Veterinary Officer</i>

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THE ARTICLES PRINTED IN THE WOOL PRESS DO NOT NECESSARILY REPRESENT THE VIEWS OF THE DEPARTMENT OF AGRICULTURE.

## THAT TIME AGAIN.....

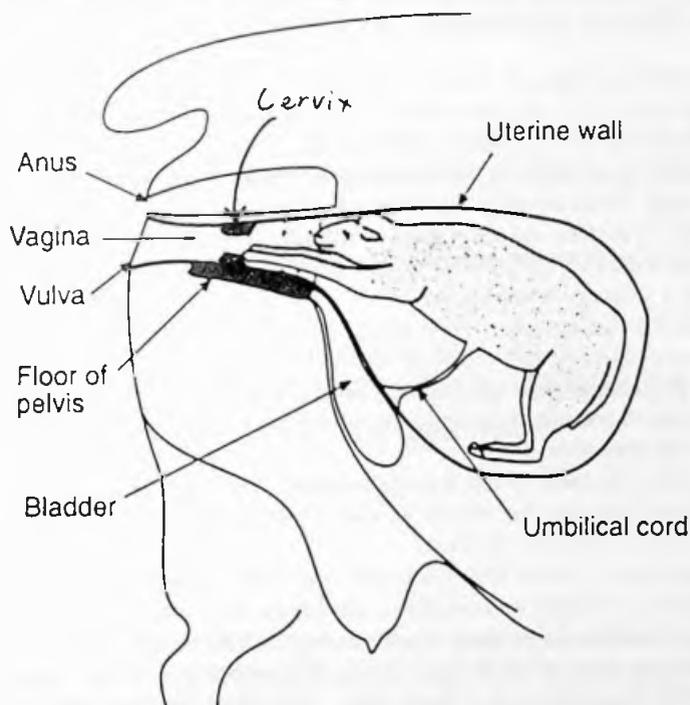
By Cameron Bell

As lambing season is just around the corner, now is the time to get prepared and to think maternal thoughts. It would be impossible to cover every lambing problem in a Wool Press article, however, reiteration of some basic information may be helpful. Extrapolating from this and adapting to your particular situation may be of help. Remember that Andrew or I are just a phone call away....

### The lambing process as nature intended

Pregnancy in ewes generally lasts for 140 to 150 days. Figure 1 depicts the normal anatomy of the ewe's reproductive tract. At the end of pregnancy, the unborn lamb(s) starts producing increasing amounts of a hormone called **cortisol**, which starts the ball rolling. A cascade of hormonal changes follow in the ewe, resulting in udders increasing in size and producing colostrum, relaxation of the ligaments that hold the pelvis together, and softening of the **cervix**.

Contractions of the **uterus** (womb) push the lamb towards the cervix. Once the lamb enters the **birth canal**, conscious straining by the ewe moves the lamb towards the outside world. The **water bag** (fluid filled membranes) is normally seen at the **vulva**, followed by the lamb. The normal presentation of the lamb is front legs first, with the head pointing downwards (Figure 1). The lamb is finally expelled, the umbilical cord is broken and the newborn lamb takes it's first gasp of air.



**Figure 1.** Reproductive anatomy of the ewe and normal presentation of a lamb during birthing (from Crean and Bastion, 1997).

### How do I know there is a problem?

Signs suggestive of a problem include:

- the ewe has been straining for an hour or more and no lamb is visible
- the water bag has been delivered or has burst (stained/wet backend of ewe), but no lamb is visible after 30 minutes
- the ewe is walking around with part of a lamb visible at the vulva
- the lamb's head is visible, but not the feet OR the tail is visible and not feet, and the ewe is not moving the lamb any more
- the ewe is down for no obvious reason.

### **What do I do if I recognise there is a problem?**

Firstly, you need to have on hand some basic equipment:

- bucket and warm (if possible) water
- mild antiseptic and/or soap
- lubricant (eg. obstetrical lubricant, KY jelly, cooking oil, paraffin oil or mild soap flakes)
- soft lambing ropes
- penicillin, syringes and needles
- pessaries (antibiotic 'tablets' to go into the uterus after lambing)

Then, examine the ewe:

1. Check the udders for warmth, swelling, or discoloured/smelly milk. Such changes could indicate mastitis (infection of the udder) and may need antibiotic treatment (contact Veterinary Service for further advice or start a course of penicillin).
2. Check for any other abnormal signs with the ewe
3. With the antiseptic solution, thoroughly wash your hands, then the vulva/backend of the ewe, and then your hands again. Cleanliness is most important as you can act as a source of infection for both the newborn lamb and ewe.
4. Apply lubricant to the hand to be used for the internal examination. **You can never overdose on lubricant.** The more you use the better. As a guideline, 20-30 ml (1 oz) is enough for a normal lambing, but you may need more particularly if the lamb is dead and dry.
5. With the ewe on her side or standing, insert the lubricated hand into the vagina and assess what is happening:

**Is the lamb alive or dead?** Live lambs may or may not be moving. Placing a finger in the mouth will often induce sucking or other movements. Dead lambs can often be very dry if they have been dead for some time.

**What can you feel in the birth canal? Head? Tail? Forelegs? Hindlegs? Upside down?** There are many combinations of the way in which the lamb can be presented, and not possible to cover them in a Wool Press article. If possible, try and picture in your head how the lamb is positioned in the birth canal; this will make it easier to work out a solution. A foreleg has all joints below the elbow bending in the same direction, whilst a hindleg has an ankle joint ('hock') that bends in the opposite direction to the lower joints (eg. fetlock). Look at the ewe's legs to work this out.

**Is there more than one lamb in the birth canal?** Try and match up the legs to a body, to ensure you aren't holding onto the foreleg of one lamb and the hindleg of another lamb at the same time!

6. If possible, manipulate the lamb so that it is in the normal position (figure 1). Generally, you will need to gently push the lamb back into the uterus (ie. away from the ewe's backend) to give yourself room to make the corrections to the lamb's position.
7. **Gentle** traction (or pulling) on the lamb's legs with your hand or lambing ropes (depending on how much traction is needed) may be then be necessary to extract the lamb. **Be gentle at all times and use lots of lubricant.** Ropes should only be used if you are experienced or have had recent instruction as more damage than good can be done. Soft ropes are needed, with a loop in the end so that a noose can be made. Only loop the ropes above the fetlock joints. Sometimes the head needs guiding and this can be done by passing the rope behind the ears and through the mouth. Alternatively a specifically designed snare can be used for the head.
8. After the lamb has been delivered, always do another internal examination to check for more!
9. Two pessaries (supplied by the Veterinary Service) can then be placed in the uterus to reduce the chance of infections developing in the uterus.

As mentioned earlier, it is not possible to cover all the problems you can encounter in lambings in a single Wool Press article. My advice is to think about what happens naturally, visualise in your head how the lamb is positioned when a problem exists, be very gentle, use plenty of lubricant and contact the Veterinary Service if you need further advice (whether it is general information or specific to a particular ewe). The reference list includes books that many farmers have and are also available for loan from the Department of Agriculture's library. Good luck!

### **References and further reading**

- Anonymous (1972). TV vet sheep book.
- Crean, D. and Bastian, G. (1997). Sheep management and wool production.
- Eales, F. and Small, J. (1995). Practical lambing and lamb care.
- Henderson, D. (1990). The veterinary book for sheep farmers.

## **STOCKPILE FREEZE IN WOOL CRISIS**

*Source: Yorkshire Post Newspapers Ltd, dated 6/8/98*

Sales from the Australian stockpile have been frozen for 12 months by Australia's federal government.

The decision took the industry by surprise. Urgent measures were already being discussed with farmers being asked for the views on how to deal with the stockpile and the wool crisis.

It is understood that Wool International, the organisation with the task of stockpile disposal, has already called a halt to sales. What will happen in the next 12 months to their staff and storage is not known. The stockpile amounts to just over one million bales, having started when the floor price scheme collapsed at five million bales.

Legislation will presumably be needed to put the freeze into effect officially, and since the Australian political scene is precarious uncertainty in the industry and in the world wool-using trade is considerable.

Australian Wool Council president Rod Thirkell-Johnson called the move absurd and thought it would create substantial uncertainty in the international market.

### **SYNOPSIS OF AGRICULTURAL MANAGEMENT COMMITTEE MEETING FRIDAY 31st July 1998**

- 1). Previous minutes approved
- 2). Matters arising:
  - a). An agreement between Falkland Landholdings and Department of Agriculture on the management of the Corriedale Stud Flock was passed to Exco. for approval.
  - b). Membership representation required attention by relevant bodies.
- 3). Owen Summers reported on the Farmers Week sessions.
- 4). Bob Reid reported on the U.K. Agricultural shows.
- 5). Papers marked Confidential and Draft only had been leaked out of the Committee.
- 6). Beef pricing was discussed and an auction suggested as a way to establish the market.
- 7). Department of Agriculture/Farmers Association consultative tour.
- 8). Port Harriet Land - A joint DoA/FIDC project.
- 9). The Agricultural Incentive programme was finalised for circulation to Councillors and ultimately Farmers for information.

## CATTLE AUCTION

*By Robin Thompson*

Details of the first Falkland Islands cattle auction are as follows.

**Date:** Thursday October 1st. 1998

**Place:** Department of Agriculture, Stanley office

**Time:** 2.00 PM

Animals included in this sale will be objectively described so as potential buyers know age, liveweight, sex and possible breed. This information will be gathered by myself and should be sufficient to allow buyers and sellers to arrive at realistic prices.

The Helsmans system of bidding will be used for the sale. This system allows all lots to be bid on at any one time by recording the bid and bidders name next to the lots. The sale is complete when no further bids are received within any one two minute period.

Purchasers are responsible for transport of their purchased animals at a time of mutual convenience for both vendors and purchasers.

Vendors are responsible for invoicing and collection of funds from purchasers

We need to have all animals intended for inclusion in the sale assessed prior to Friday September 20th so as the catalogue can be prepared and available by Tuesday September 24th.

Please contact me now if you would like to include cattle in the auction or if you require a catalogue

### CATTLE AI 1999

We are currently organising semen for insemination of the National Beef Herd at the beginning of next year. This may seem a long way off but some semen has to be custom collected so as it meets the health requirements for importation to the Falklands. Currently we have organised to purchase semen from an Angus bull and two Shorthorn bulls all of which meet our criteria for producing low birth weight calves with high growth potential.

If you require semen or cows to be synchronised we need to know now so as the necessary semen and drugs can be received in plenty of time.

### FOR SALE

#### PORTABLE MILKING MACHINE

The CUB25 is a carefully designed milking system which is highly moveable, robust and hygienic for milking small herds. Powered by a Honda 4 stroke petrol engine. It has a 6.6us gal, polyethylene bucket with a stainless steel vacuum tank and pulsation claw.

For further details contact: Linda Binnie at Fitzroy Farm on telephone 32384

## 7 GOLDEN RULES OF DRENCHING

*By Sean Miller*

### *1. You can't reliably tell if a sheep has worms if you haven't got a microscope*

The only way to determine if sheep have enough worms to need drenching is to get a faecal egg count done. The white worms that you see in sheep dung are harmless tapeworms and it is not necessary to drench sheep for these.

### *2. A sheep with a shitty backside is not always wormy*

Don't just drench because it looks like it could do with one (see above). Our lab does faecal egg counts. Just collect a handful of dung pellets from 20 to 30 sheep, put each handful in separate plastic bags in the fridge. Send them into the lab as soon as you can. A faecal egg count is simply a count of the number of nematode eggs present in the dung. And since eggs mean nematodes, they allow us to estimate the level of infection in the stomach.

### *3. Don't under-dose (WEIGH, WEIGH, WEIGH)*

Weigh the heaviest sheep in the mob and drench all of the sheep at the dose rate for those heavy sheep. Correct dosing saves money and prevents drench resistance developing.

### *4. Empty them out*

You can increase the 'killing' power of the drench by leaving the sheep in a yard for several hours or overnight, and then drenching them. After drenching them, leave them in the yard overnight so they empty themselves of the dead larvae and their unhatched eggs.

### *5. Check your drench gun*

Does your drench gun squirt out as much as it says? Check this before you start drenching by squirting several doses into a measuring cylinder and check this measurement with what your gun is supposed to be putting out. Remember the rule about under-dosing!

### *6. Clean sheep for clean pastures*

If you've followed the drenching rules so far, your sheep are as clean as they'll get. Sheep get worms from the pasture they eat. Older sheep (more than 2 years old) are immune to the worms, and their immune system kills the larvae they eat. Young sheep are not immune, and they are the ones that suffer most from infection. A clean pasture is one that has very low levels of nematodes on the pasture. It is one that has been left ungrazed by sheep for a long period of time (possibly 1 year +), or one that has been grazed by wethers or dry ewes for an equally long time. Leaving the pasture ungrazed allows the effects of the weather to kill the nematodes, and grazing with older sheep allows those animals to vacuum the pasture for nematodes which are then killed by the animals' immune system. Cattle have different worms to sheep, and sheep worms will not infect cattle, and cattle worms will not infect sheep. Thus, cattle can also be used to clean a pasture for sheep. The result - very few nematodes left to infect the young sheep.

### *7. An oral drench only lasts for 24 hours*

When used properly, oral drenches can kill all of the nematodes in the stomach. **BUT**, if the sheep are placed back onto a pasture where nematodes are present, they will re-infect the sheep the following day, and within 3 weeks, the sheep are full of 'worms' again. **AND THEY ARE RE-INFECTING THE PASTURE.**

## THE NATIONAL PASTURE IMPROVEMENT SCHEME

### CONTROLLING THE PARASITES (Part 2)

by Derek Clelland

Most sheep nematodes (worms) spend part of their lifetime as free living larvae. This is their 'preparasitic phase' and they must undergo development through three stages before they become 'infective'. Where the first two stages feed off of bacteria, the third is sealed off from its environment, in the sheath of the stage before, and therefore lives off stored nutrients. The growth of the larvae will be interrupted during its moulting with periods of time that it neither feeds nor moves.

The fact the third stage larvae retains the sheath of the second is important in survival terms as it acts like a 'cocoon' helping to protect the larvae from drying out until it is eaten by a host (i.e. a sheep). This sheath also helps protect the larvae from freezing.

Temperature and humidity are the most important factors determining survival of larvae on pastures. The optimum temperature is usually 18-26°C. If the temperature rises above this, the larvae become hyperactive and die sooner. If the temperature is cooler, in the case of the Falkland Islands, the process of maturity slows. Below 10°C the development from egg to larvae cannot take place. Below 5°C the movement and metabolism of the larvae become minimal, this favours survivability, as it allows the nematode to survive for longer, until the temperature increases and it matures and is eaten. Optimal humidity is 100% but many species can develop at 80%. It is worth noting that the microclimate of faeces, or on the soil surface, are usually humid enough for sustaining larval development.

Infection will normally result from the third stage larvae being eaten, at which point the larvae will shed the external sheath, the stimulus for this coming from the host's (sheep's) digestive system. The larvae will then undergo another two moults before becoming sexually mature and starting to breed.

Larvae usually undergo a stage of 'arrested development' in climates such as found in the Falkland Islands. In these cases the larvae stop their development at a certain stage. This is usually done in response to external climatic conditions i.e. if it is excessively dry or cold the larvae will not become sexually mature until the weather improves. This ensures that any offspring have the best chance of survival on pasture and that more larvae are available for contamination of the pasture.

Eggs passed out in late autumn can take five or six months to develop to infectivity whereas those passed in early spring will only take a few weeks. Therefore most of the larvae will become infective at the same time.

Over the summer, the wind will dry out grass leaving an extremely harsh environment for the larvae. Therefore, any shelter that provides some protection from the wind, can potentially help to protect the larvae from drying out. This could leave the sheltered areas with a higher degree of infestation. Such areas will probably be a haven for sheep that want to shelter from the wind. As a result, the amount of parasites deposited could also be greatly increased in this area. These sheltered areas could be advantageous for *Ostertagia*, which is one of the species of parasites that

develop to the third stage of larval development after hatching. On the other hand, *Nematodirus* species are already protected as they mature into the third stage larvae within the egg and are therefore more resistant to drying out.

The parasites will also increase in numbers during the times that the host animal will be pregnant or giving birth. This is due to the fact that there will be a temporary drop in the immunity levels of pregnant animals, allowing current infestations to multiply. Once the ewe has given birth, its young will not have a properly developed immune system to cope with the parasites.

Unfortunately it is not possible to control the temperature or humidity levels and there is a great need to give the sheep shelter from the exposed conditions in the Falkland Islands. This means that other avenues of investigation/enquiry for the control of parasites have to be used.

An easy way to reduce the level of infestation on the pasture is to have alternate grazing, this is where the animals that are most susceptible to parasites (e.g. hoggets, pregnant ewes, lambs) will have an alternate year-about on any one area with a group of animals that are not as susceptible. e.g. hoggets could be alternated with wethers. Alternatively pregnant ewes and lambs (in the lambing area) could be alternated with cattle for example, as many parasites are host specific (e.g. sheep worms will only infest sheep) and therefore sheep will clean up the camp for cattle and vice-versa.

To have maximum benefit, susceptible groups could be drenched when being moved onto the 'clean' area. This would reduce the contamination of the area. It would be especially important to do this, for example if moving the hoggets onto the reseed areas as there will be a greater concentration of animals in this area, therefore greater likelihood of encountering parasite larvae on the pasture.

Most drenches work on the parasite by causing paralysis or decreased uptake of nutrients, however in many parts of the world parasites have fast become resistant to the drenches. It is clear that researchers have to either continually develop new and better drenches, or investigate other methods of control.

One of the areas of investigation the Department of Agriculture is hoping to study is the development of immunity in young sheep and whether this can be increased in both rate of acquisition and level of immunity. This could mean that less emphasis will be needed on drenches and the extra immunity should enable sheep to have higher growth rates and heavier fleeces.

Increased levels of immunity could also result in less subclinical infestations (i.e. low level infestations that don't produce obvious signs of disease but still have an effect). Such infestations may be limiting sheep growth but also acting as a reservoir of infection for future generations.

The possibility of manipulating the level and rate of acquisition of immunity are still in the future. For now, a combination of drenching and grazing management will need to be used to control the parasites. Obviously this requires a basic understanding of parasite biology.

# THE BENEFITS OF APPLYING LIME AND PHOSPHATE TO WHITE CLOVER AT FITZROY.

*By Aidan Kerr*

As in many other countries with acidic soils and low levels of soil phosphorous, white clover establishment in pastures here is greatly improved with lime and phosphate applications. GTU/ARC experiments in both the 1970's and 1980's showed this clearly. Given the high level of interest in legumes I thought I would pass on my thoughts following a recent visit David Parsons and I made to an old trial on the reseed near Fitzroy Bridge.

Of the 64 small plots in a clover establishment trial we found white clover (the sown UK hill variety 'S184') still present and growing well on 16 (25%) of the plots.

Results of our preliminary assessment (clover present/ absent?) are tabled below. There was no clover on any of the unlimed plots. 25-50% of plots which had been limed still had clover present. It was also present on plots which did not get any P or received a low level (30 kg P/ha as triple super phosphate), but **only** where combined with 2-4 tonne/ha of lime. It was interesting to note that all four plots which received the highest rates of lime and P still had clover present.

## The number of plots with white clover still present 12 years after sowing.

Phosphorous kg/ha	0	30	60	90	Total per lime level
Lime t/ha 0	0	0	0	0	0
1	0	0	2	2	4
2	0	2	2	0	4
4	2	0	2	4	8
Total per P level (16 plots per level)	2	2	6	6	

As expected, there was no residual effect of the applied Potash. The slight negative effect of a starter application of Nitrogen (N) fertiliser, first seen in 1988, was still apparent. 10 of the 16 plots with clover had not been fertilised with N, compared to 6 plots that had.

Overall I was very surprised and pleased to see the clover growing so vigorously, given the tough conditions and competition which it endured since the establishment trial ended in 1988. The plots remained ungrazed for at least 6 years, until the fence was removed. Only then were sheep able to graze down the tall rank grass which was probably shading the clover. I suspect that much more clover would have present if we had been able to manage the pasture better!

Later on David and I hope to test the soil in the plots for residual effects of the lime on pH and of the triple super phosphate on soil P levels. Maybe the soil improvements measured in 1988, i.e. reduced acidity (up to 0.7 pH increase) and superior P levels, might still be present.

In conclusion, I am quite optimistic that good establishment of white clover (and other legumes) can be achieved here using a one-off dressing of phosphate and a liming material, such as calcified seaweed. These results show that the costs and benefits of using lime and fertilisers to improve pasture and wool production are best assessed over a long term.



Successful clover establishment on Fritzroy Bridge Reseed, 1988.

## **AGRICULTURAL (YOUTH) TRAINING SCHEME**

**THIS YEAR WE HAVE A SCHOOL LEAVER WHO IS VERY KEEN TO JOIN OUR A.T.S. PROGRAMME.**

**WOULD ANYONE WHO IS INTERESTED IN BEING A HOST FARMER OR REQUIRES MORE INFORMATION,**

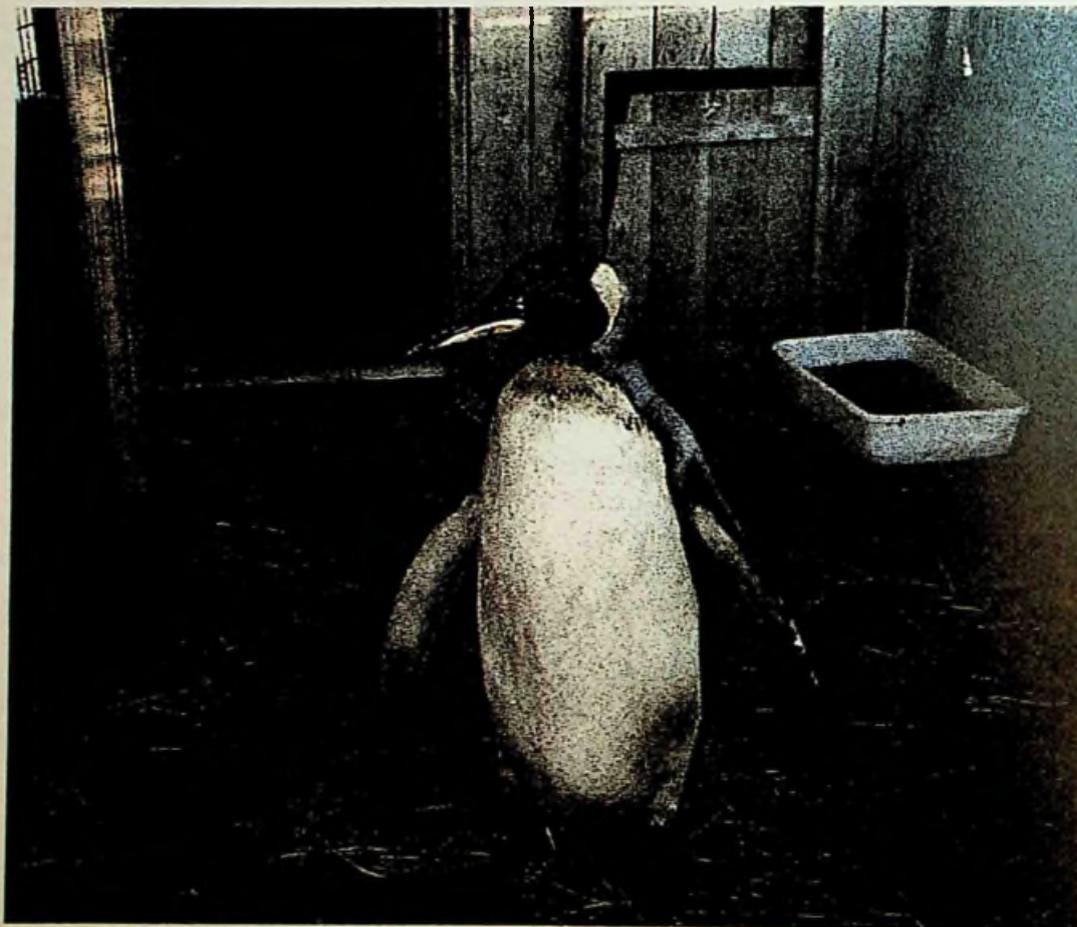
**PLEASE CONTACT ME EITHER AT HOME (telephone: 21892) IN THE EVENINGS OR AT THE DEPARTMENT DURING THE DAY. *Charlene***

## THE THREE KINGS

*By Zoe Luxton*

Have you ever tried running up a beach wearing wellies 2 sizes too big, a set of water proofs belonging to Andy Coe, and carrying a big net-on-a-stick???? Well, it's not particularly easy so it was lucky for Lucy and I that the first oiled penguin we were called to was not a particularly fast runner.

Off we went to surf bay armed with the dog catching net and the biggest cat cage we could find, bundled the poor oily bird into the back of our trusty vet rover and brought him home to Maggie for some TLC. ( I say 'him' even though it might be a 'her', if anyone knows how to sex King Penguins please give us a ring!!) This chap we deduced was pretty much a youngster as his colouring was very pale, what we could see of it under all the oil. So, it was into the sink for him. If you do happen to find an oily bird at any time, it appears Fairy Liquid is the best thing to remove the rotten stuff as it dissolves the oil but is the kindest thing on the penguin's skin. Vosene shampoo apparently works quite well too!! Unfortunately a quick dip in Fairy Liquid infested waters is nowhere near sufficient to remove the layers of grime from a penguin.



Penguins have tiny, tightly knit feathers and getting between each and every one for a scrub would take until Christmas. A good method we found is to put some Fairy liquid on your fingers, rub it into the feathers in a circular motion and rinse by hosing in the opposite direction to the run of the feathers. Use luke warm water, as although it is a penguin you are dealing with, you are also washing off his covering of waterproof oil, so the water will get to his skin, our first chap got decidedly shivery after his 3 hour bath in the surgery sink so we tucked him up in the cage room to dry

off. We have since discovered that the experts recommend short repeated baths, but luckily our chap seems no worse off after his lengthy scrub. It was very hard to remove the oil and he had to have a second bath to get the rest off. It was obvious that our poor old penguin had swallowed a fair bit of oil and was not feeling too perky about the fact, so we stomach tubed him and fed him a mixture of charcoal powder and water, to absorb the oil, and Ion-aid, which is a glucose solution to rehydrate him and give him a bit of energy. After about 4 days he started passing the charcoal out the other end so we stopped giving that as it had obviously completed its job. We continued tubing him and giving him 2 syringes of Ion-aid twice a day so he was getting adequate fluids, even though it appeared he was drinking the big tray of water we also had in his pen.

He was duly named Chandler, Chandler Ping that is. Fans of 'Friends' will appreciate this more than those of you who don't watch it. Before too long Chandler was joined by Joey who came in from Kingsford Valley after being rescued by Sheila McPhee. He was very underweight, only weighing 8kg whilst an adult King Penguin should weigh around 14kg, he was also very weak so he was kept in the warm cage room overnight as the slightest stress ( i.e. Maggie and I shoving squid down his throat) made him keel over. He was still alive next morning and we took him to meet Chandler and they quite happily settled down together in one of the quarantine kennel/runs. Being fed twice a day on about 1.5kg of squid or fish had the desired effect on the boys and they started putting on weight, Chandler weighed a measly 9kg when we got him, a couple of weeks later he was up to 11 kilos and looking pretty fit and healthy again. By this time Joey was also much stronger and waddling out after his younger mate at grub time. After dunking poor Chandler in an outside bath to check he was waterproof again, Cameron and I let him go on Saturday (22nd August) with the help of the couple from the Deanery who had actually found him all those 6 weeks ago, after a quick paddle he decided that the water was far too cold and headed back up the beach, so we left him to it. When I checked on Sunday he was still there but had clearly been in the water and he looked fat and clean and happy, so that was Chandler gone. I was quite sad to lose him, but at least his departure made way for Ross who we received on Friday 21st courtesy of FIGAS. Ross was one of the oiled Kings that had been found on Saunders, but unlike the others was not doing well at all so was boxed up and sent to hospital. I was pleasantly surprised when I got him because although he was horribly skinny and you could see his breast and back bone very clearly, he was actually quite strong and weighed 10 kilos. So he was turfed straight outside. He's now had his 3 days of charcoal treatment and is stronger and getting better at feeding. He'll now swallow squid put in his mouth, of his own accord rather than me having to stuff it down there and risk him taking my rubber glove with it!!

Thanks must be extended to Eurofish who have supplied us with constant blocks of squid and fish for the penguins and to the Fisheries department who have also donated squid to the worthy cause. Thanks also to all of those people who have had to don smelly waterproofs and wellies to help Maggie or I feed the birdies. Hopefully in 2 or 3 weeks Joey and Ross will be fat and healthy enough to be released and hopefully we won't get any Phoebes, Rachels or Monicas in the meantime!!

We have sent samples away for analysis and so far the results show that the oil is a type of old, weathered fuel oil - luckily not a major slick or spill.

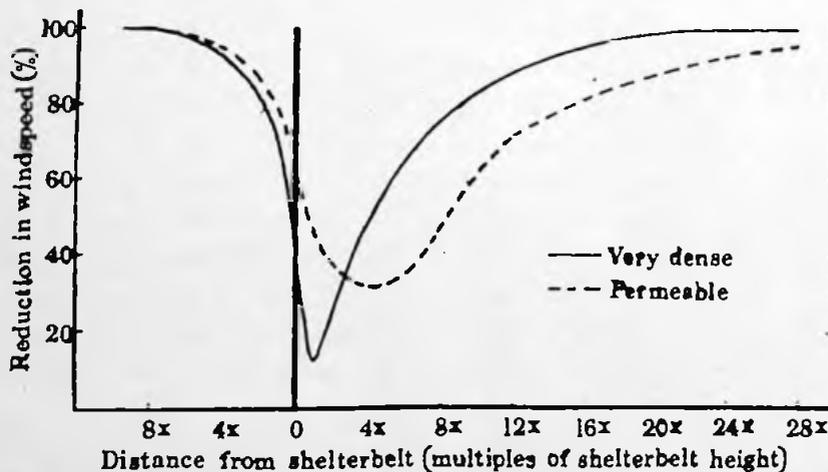
# THE SHELTER BENEFIT

By Grant Munro

In previous articles I have talked about raising trees from seed and how to plant them. I have not discussed the long-term benefits that can be expected from a well positioned shelterbelt of trees. Many of the quantitative benefits of shelter have not been studied here in the Falkland Islands and therefore much of what I have to say is taken from experience in other areas of the world (Europe, N.America and New Zealand). It remains to be seen if the benefits here will be comparable but given that strong winds are a feature of our climate (!) I would envisage that greater benefits will accrue here than in other less windy conditions. Dr. Jim McAdam has conducted trials linking grass growth to climate and shelter effects and these will be discussed later.

I will start by stating the obvious. Shelterbelts provide benefit by reducing wind speed in a protected zone, an area directly proportional to the height of the windbreak. Wind speed reductions occur on the leeward side of the windbreak to a distance of 30 times the height of the windbreak (30H) with the largest reductions occurring between 2H and 15H. Wind speed reductions also occur on the windward side for a distance of 2H to 5H.

The level of wind speed reduction in the sheltered zone is dependent on the shelterbelt structure. The key factor in structure is density or its reverse, porosity. The density of a shelterbelt is the amount of solid material present to stop the wind. If you could imagine taking a photograph of a windbreak with a strong light behind it to make a silhouette, the amount of dark silhouette would be the density and the amount of light shining through would be the porosity. In a simple case, paraweb netting or the traditional wooden batten fencing would have a density of 50%. Dense shelterbelts provide a greater reduction in wind speed but only over a very limited area as turbulence causes the wind to eddy down behind the windbreak. Semi-permeable shelterbelts cause a lesser reduction in wind speed but give a degree of protection over a far wider area. This is because a proportion of the wind passes through the shelterbelt cushioning the turbulence passing over the top and preventing it from swirling down behind the shelter. The differences between dense and semi-permeable windbreaks can be seen in Graph 1 below.

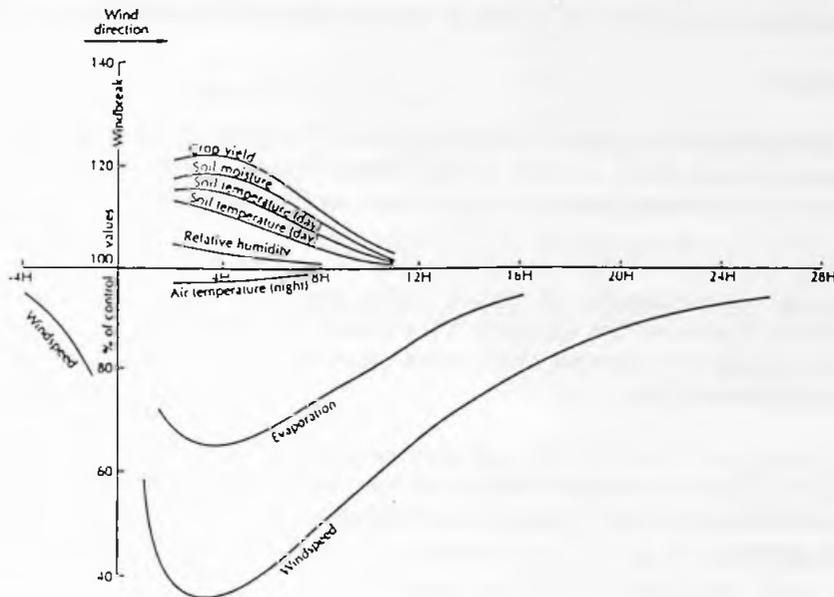


**Graph1:** Differences in pattern of windspeed reduction between a permeable and a very dense shelterbelt (After Caborn, 1965)

For settlements, sheds and livestock a moderately dense to dense windbreak (60 - 80% density) is usually best. This can be obtained by planting 4 or more rows of evergreen conifers, which will retain branches to ground level, oriented perpendicular to the dominant wind direction. For field windbreaks a density of 40 - 60% will give the greatest shelter over the largest area.

## Shelter effects on pasture

Because of the chilling and drying effect of wind and its inter-relationship with all facets of climate, a reduction in wind speed effects a change in the overall microclimate in the protected area. This improvement in microclimate leads to improvements in crop/pasture yields within the sheltered area which extends 10 - 15H downwind and 2 - 5H upwind (see Graph 2 overleaf).



**Graph 2:** Generalized changes in crop yield and environmental factors with distance from a windbreak of 40% - 50% density. The vertical axis, located at the windbreak (0m), gives values of the yield and environmental factors as percentages of the values in open fields with no windbreaks. The H units on the horizontal axis are multiples of the height of the windbreak. (After Brandle & Hintz, 1987)

The improvement in yield obviously varies and depends on many factors but for say a hay/legume mix a yield improvement of 20% could be expected. The land area lost to production through planting trees is more than compensated for by the resultant higher productivity within the sheltered area. Taken across all crops it is generally accepted that 4 - 10% of a field can be planted with trees and still show a positive economic return. Although sheltering of crops is not very relevant to most farmers here it does follow that pasture growth in the direct lee of shelterbelts, where animals are likely to congregate, will be improved. This improvement in grass growth due to microclimate will also be aided by the increased cycling of manure from sheltering animals which should in turn result in significant improvements in nutrient transfer, soil fertility and pasture growth. Studies in New Zealand into these combined influences ranged from no benefit in one study on North Island New Zealand to a 60% improvement in pasture production in studies around Canterbury on the South Island. In the South Island trials, which were located in a windier area, the sheltered zone was half as windy as the exposed zone and the soils were warmer in the spring and summer months.

## Shelter for livestock

Of course the benefits of shelter are not just improved grass growth. The physical sheltering of livestock leads to reductions in exposure levels and energy demands and hence improvements in growth (body mass and wool production) and survival. When subject to cold stress animals increase food intake and energy demands. In a Canadian study with cattle during winter, cattle with

*Seminars scheduled for the coming couple of months are as follows;*

<b>Speaker</b>	<b>Date</b>	<b>Topic</b>	<b>Chairperson</b>
Bob Reid	Friday 11th September 3pm	Plant collecting in Equador	To be announced
Cameron Bell	Friday 25th September 3 pm	Fat is Beautiful: Form, function and a few mysteries about Elephant Seals	To be announced
Owen Summers	Friday 9th October 3 pm	Slide show of trip to Tasmania	To be announced
Sean Miller	Friday 23rd October 3 pm	To be announced	To be announced

access to shelter had 14% lower energy demands compared to unsheltered cattle, due to a reduction in wind-chill. This translated into lower feed demands, less weight loss and improved survival. In the Falkland Islands the provision of shelter should have significant benefits, especially for lambing and clippys.

### **Shelter for housing**

Finally, on a slightly different note, windbreaks around housing can result in home energy savings. Studies in America have shown that farm houses protected by windbreaks can expect a 10 - 40% reduction in home energy expenses (there was a very wide range due to variations in draught-proofing of the home, insulation, local costs of heating fuel and individual living habits).

### **A Local Example**

Dr Jim McAdam undertook studies measuring grass growth at regular periods through the year and subsequently linked this to climate, shelter effects and the nutritional demand cycle of sheep. This research was undertaken from 1977 - 1985 and remains relevant.

He showed that there is a shortfall in early season grass growth at a time when sheep have high energy demands. In comparison to spring grass growth in other upland areas where sheep production occurs it is a serious shortfall. If a modest increase in spring grass growth could be obtained or the energy requirements of the stock could be reduced it was felt that improvements in production might be significant.

Work was carried out on both native and improved camp (it should be noted that the improved camp was not fenced or managed separately from the adjacent native camp) and although the nutritional value of the improved camp was higher the amount of spring grass growth was no more than on native camp.

It was felt that the poor spring pasture production was linked to weather conditions and climatic factors were therefore studied to link these to grass growth. As might be expected the low temperatures, low rainfall and high winds encountered during spring were all found to be detrimental to grass growth. In particular the frequency of strong gusting winds accounted for most variation in leaf die back rates. In parallel studies sheep live weight gain, wool production and lamb survival were all linked to sheep nutrition, grass growth, pasture availability and climate. If shelter can improve the local microclimate in its lee by reducing windspeed, improvements in all of the above (live weight gain, wool production and survival) could be possible.

To determine if shelter had a positive effect on grass growth plots were taken up and down wind of the *Macrocarpa* belt behind Government House on both improved and unimproved pasture. Overall yields were greater on the "improved" than the "unimproved" and on the "sheltered" than the "unsheltered" plots on all occasions. On the "improved" plots in spring, the yield was twice as great in the "sheltered" than the "exposed" plots (660 kg/ha as opposed to 310 kg/ha). The gains due to shelter or improved animal manuring could not be separated however since in a camp situation the two go hand in hand it is not important.

### **A final thought**

These results are very promising for the future of shelterbelt establishment. Because improved pasture responded better to shelter than native pasture it would seem appropriate that shelterbelt establishment be integrated into a farms pasture improvement scheme. The majority of improved pasture will probably be located on better land, often used for clippys and for ewes at critical times of pregnancy, and the addition of improved shelter will be a further advantage. Because the ground preparations of rotavation and burning are very similar for both a reseed and for tree planting the two could be integrated so that in suitable cases an extra 30m could be added for the planting of trees. This would result in savings of time, fencing and money.

# "HOME GROWN" POTTING MIXES

*By David Parsons*

If you would rather just buy some imported potting mix for your plants than that's okay, but if you are interested in making your own mix up, then read on. This article is not intended to tell you everything you wanted to know about making potting mixes, as whole books have been written on the subject, but it may help you get started.

## What Makes a Good Potting Mix?

A potting mix must:

- Drain well.
- Be easy to re-wet should the mix dry out.
- Contain adequate, balanced amounts of the nutrients potassium, calcium, magnesium, sulphur, nitrogen, phosphorus.
- Contain all trace elements that will be adequate for the plants.
- Have a suitable pH, usually in the range of 5.0 - 6.0 for peat based mixes.

These properties may vary for plants with specific needs e.g. Azaleas, Rhododendrons and Ericas prefer acid soil.

## Materials for Potting Mixes

### 1) Peat

We've got lots of peat here, so why buy Irish Moss Peat? Because it's a different sort of peat to what we have here? Well certainly not all peat is the same, and the hard black peat used for burning is not suitable for potting mixes, but we definitely do have peat that makes a decent potting mix. The first type is a "Sphagnum" type peat, found in marshy areas. When it is dug up, and left to drain, it is a pale brown colour, and the remains of the plants that it originally formed from can easily be distinguished. The second is "Bible" peat, so called because of the way it breaks apart in layers. The third type is a medium to dark brown crumbly peat that often forms under diddle-dee. All of these types of peat I have successfully used for potting mixes. If the peat is black, breaks apart like lumps of coal, or can be squeezed in your hand like wet clay, then it's not the right stuff.

### 2) Sand

Sand is useful to add to a potting mix for a number of reasons. Firstly, it adds weight to a pot that otherwise might easily be blown away. Secondly, it increases air porosity, and long term stability, as long as the sand isn't too fine. Thirdly, the addition of sand can help with re-wetting if the pot becomes dry. The sand needs to be coarse (0.5 - 2mm), and of freshwater origin. Beach sand is not appropriate, as it is usually too fine, and high in salt levels. Sharp sand is best, as rounded sand tends to separate out during mixing, and can make mixes fall apart when re-potting.

### 3) Lime

Because peat is so acidic, lime or dolomite needs to be added to raise the pH to a suitable level, "sweetening" the mix. Calcified Seaweed could also be added, if finely enough ground. The effectiveness of the lime depends on a number of factors, including the temperature, moisture level, particle fineness and quality of the lime.

### 4) Fertiliser

Unless you're willing to do a lot of reading into what amounts of different fertilisers are needed, it is probably best to use complete fertilisers, that supply all the major

nutrients, plus the trace elements. Remember that you "Don't feed steak to a baby", nor do you feed seedlings and cuttings at the same rate as older plants.

One of the important factors to take into account is the *solubility* of the fertiliser that you use. A soluble fertiliser is one like "Nitram" where essentially as soon as the fertiliser is washed into the soil, the nutrients are available to the plants. Soluble fertilisers provide immediate nutrition, however the plant is not able to use everything at once, and nutrients may be washed out the bottom of the pot. Slow release or coated fertilisers, such as "Osmocote" and "Nutricote" are extremely useful, as they slowly release the nutrients over a period of months.

### Mixing the Ingredients

First measure the required amount of peat, which has been loosened by hand or shredded by a garden shredder or rotavator. Put the peat into a cement mixer, or spread it out on a tarpaulin to mix with a shovel. Add the fertilisers gradually, and mix it in thoroughly. Last add the sand, and mix until it is evenly distributed.

Here are some other pointers:

- Don't make a mix over-wet, it is easier to mix dry, and water can be added later.
- Don't firm mixes into pots. Normal watering will give all the firming needed.
- Make sure the whole batch of mix is uniform, so mix thoroughly.
- Nutrients are continuously released from stored potting mixes. This can increase the salinity of the batch to a damaging level. Where possible use mixes containing coated fertilisers within a couple of days of mixing.
- If you do need to store the mix, leave it in a cool place (not too difficult to find).
- Coated fertilisers have to be kept a) free from moisture, so that the nutrients don't release, and b) relatively air-tight, so the granules don't split.

Below are three basic potting mixes that you could make.

**A** - For short term or fast growing plants. Suitable for potting-on seedlings and annuals.

**B** - For long term or slow growing plants. Suitable for potting on perennials.

**C** - Propagation mix. Suitable for seeds and cuttings.

For each litre of Potting Mix:

	<b>A</b>	<b>B</b>	<b>C</b>
Peat (L)	0.75	0.75	0.5
Coarse Sand (L)	0.25	0.25	0.5
Ground Dolomite or Limestone (g)	2	2	2
Slow Release Fertiliser (g)	2	4	1
Soluble Fertiliser (6:1:5) (g)	3	0	1.5

The amounts of soluble fertiliser are for a weak compost fertiliser, with levels of Nitrogen, Phosphorus and Potassium (N:P:K) of 6:1:5. It follows that less would be needed of a more concentrated fertiliser. The mixes above also assume that the slow release fertiliser includes all the necessary trace elements.

If you need any more help or information, contact myself or Bob at the Agricultural Department.

Good luck!

## RESULT TO RAINY DAYS

Clue 1 A member of staff was baling hay at 11 o'clock  
Clue 2 Sean could not be 10 o'clock. Mandy could not be 3 o'clock  
Clue 3 Charlene was in the rain on Tuesday, not photographing plants  
Clue 4 Grant was in the rain at 10 o'clock  
Clue 5 It rained at 12 o'clock on Wednesday  
Clue 6 Bob planted trees, he could not have got wet on Friday, he could not have gotten wet at 3 o'clock  
Clue 7 A member of staff was building fences on Thursday  
Since neither Bob nor Charlene could have gotten wet at 11 o'clock and as the Wednesday shower was at noon and the Thursday victim was building fences it must have been Monday that the 11 o'clock shower occurred when the staff member was baling hay.  
Charlene was not tree planting, the day rules out baling hay & building fences & clue 3 also rules out the photography therefore she must have been doing the presentation.  
As Bob's tree planting was not on Friday it must have been at noon on Wednesday and therefore Friday was for photography  
From clue 6- 3 o'clock must be Thursday (now four days are matched for staff or time) so therefore on Friday Grant must have gotten soaked at 10 o'clock.  
Therefore Charlene must have been presenting at 2 o'clock.  
From clue 2 Sean must have been building fences on Thursday at 3 o'clock & Mandy was baling the hay on Monday at 11 o'clock

NAME	ACTIVITY	DAY	TIME
SEAN MILLER	BUILDING FENCES	THURSDAY	3pm
MANDY McLEOD	BALING HAY	MONDAY	11am
GRANT MUNRO	PHOTOGRAPHING PLANTS	FRIDAY	10am
BOB REID	TREE PLANTING	WEDNESDAY	12pm
CHARLENE ROWLAND	OUTDOOR PRESENTATION	TUESDAY	2pm

## VETERINARY DEPARTMENT

The Department of Agriculture has a large quantity of surgical gloves (to give away). The gloves are ideal for the collection of dog or sheep faeces. If you should require any, please call the Veterinary Department and they will endeavour to supply your needs.

### JUST AN IDEA!

When a bolt head breaks it can be tricky removing the bolt with extractor tools. A useful tip is to weld a suitable sized washer to the bolt head making sure the hole in the washer is well fitted with weld. Then weld a nut onto the washer. The heat loosens the bolt and you have something to grip with your spanner.

## DEREK'S PROBLEM WITH LOGIC

*By Derek Clelland*

This hypothetical problem can only be solved through logical, methodical working. First read the statement carefully, then consider the clues. Next enter the information given in the chart provided on the next page, using a cross to show a definite 'no' and a tick to show a definite 'yes'. This narrows down the possibilities and might reveal some new information. Now re-read the clues and, using a process of elimination, you will find the rest of the puzzle can be solved. Remember that where you can put on a tick that this automatically discounts other possibilities and these should be crossed off.

### PARASITES GALORE

The sheep of five Falkland farmers were examined by our veterinary staff. samples were taken which were found to be infested with parasites (found by the wonderful laboratory staff of the Department of Agriculture). From the clues given below can you discover the number of samples taken from each flock, the date the samples were taken and the type of parasites discovered from each of the farmers flocks?

No two flocks had the same number or type of parasites taken on the same date.

#### CLUES

- 1) The Nematodirus infestation was discovered in greater than 2 more samples than the Monozia infestation.
- 2) Neither of the vets went to farmer C's farm on the 1st. The number of samples on the 1st was 4 fewer than the number of samples with Coccidia.
- 3) Andrew Coe took samples from the flock of farmer E on either the 5th or the 11th.
- 4) More samples were taken on the 7th than were taken on the 11th.
- 5) The Trichostrongyle infestation, that was discovered on the 15th, was from 2 fewer samples than Cameron Bell took from the sheep of farmer D, but 2 more than the Hydatid samples that had in turn more than farmer B.

	1 st	5 th	7 th	11 th	15 th	COCCIDIA	TRICHOSTRONGYLUS	MONEZIA	HYDATID	NEMATODIRUS	1 SAMPLE	2 SAMPLES	4 SAMPLES	6 SAMPLES	7 SAMPLES	
FARMER A																
FARMER B																
FARMER C																
FARMER D																
FARMER E																
1 SAMPLES																
2 SAMPLES																
4 SAMPLES																
6 SAMPLES																
7 SAMPLES																
COCCIDIA																
TRICHOSTRONGYLUS																
MONEZIA																
HYDATID																
NEMATODIRUS																

NAME	INFESTATION	AMOUNT OF SAMPLE	DATE

RESULTS WILL BE SHOWN IN NEXT MONTHS WOOLPRESS



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## IN THIS ISSUE:

**Farm Business Planning - How to Evaluate and Plan Sustainable Camp Development.**

*By Bob Reid*

**The Wether Trial is (almost) up and running.**

**&**

**Why bother growing Whitegrass?**

*By Sean Miller*

**Basic Parasitology**

**&**

**Basic Haematology**

*By Derek Clelland*

**Department of Agriculture "v" Goose Green Darts Match**

*By Lucy Ellis*

**The Trees at Keppel Island**

*By Grant Munro*

**UK Tree Advisory Group Meeting**

**&**

**More Positive Sheep Results from the Grazing Systems Trial!**

*By Aidan Kerr*

**Whole Farm Planning**

*By Robin Thompson*

**Possibilities for Developing the QFW Scheme**

*By Robert Hall*

**PLUS ALL THE REGULAR FEATURES AND MORE!**

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## EDITORIAL

Unbelievable weather, isn't it. No wind and very mild, most unusual for now, let's hope it stays the same until the lambing is over.

This month's Wool Press is packed with information: Bob's and Robin's articles on Whole Farm Planning makes good reading and good sense and there's the informative article from Robert Hall on the QFW scheme, plus loads of other goodies.

The Veterinary Department is still being inundated with oiled penguins, of which the majority are Kings, I'm surprised there seems to be so little concern about it (apart from F.I. Conservation, who've been scrubbing and feeding them) considering our relatively tiny King Penguin population, how close the tourist season is and how we pride ourselves on our wildlife status!

While we are on the Vet end, Andrew Coe's replacement, Steve Pointing, has arrived. Steve is married with 3 children and lives in Devon, and just to show how small this planet is, he lives about 20 miles away from the college Andrew Pollard attends!

As all, or most, of you know, the first Cattle Auction took place on Thursday 1st October, as this edition will be at the printers on the same day we won't get all the details, facts and figures for you will be in the next month's edition.

Keep your fingers crossed for continued good weather and good luck with the lambing.



**Anaconda Andy - Strikes again at the Port Howard 2-nighter!!**

*Photograph by Sarah Forster*

### **THIS MONTH'S CONTRIBUTORS**

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**Cattle Specialist**

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# FARM BUSINESS PLANNING - HOW TO EVALUATE AND PLAN SUSTAINABLE CAMP DEVELOPMENT

By Bob Reid

How profitable and sustainable is your present farming system? Are you interested in utilising the Incentive Scheme? Feeling a bit lost and not sure as to where you are going? Well join the club, as farmers all over the world, particularly those who produce wool, are in the same position as you. Unfortunately the market situation is unlikely to improve in the near future and whilst there is no doubt that wool (and other primary agriculture products) will return to a more profitable level the fluctuation in demand, and therefore prices, will continue well into the foreseeable future.

So where does that leave a Falkland Island wool producer?

Frankly in a somewhat difficult situation and to survive beyond the life of the present subsistence scheme, planning needs to be started **NOW**. At the outset it is clear that no-one has a miracle formula for success, and no cure for farming's principal ailment - No profitability - and the future is decidedly unpredictable. However some options stand out, namely :-

- Continue as before and hope to "weather the storm" **in which case do not read further.**
- Invest off - farm.
- Develop and even lower cost system.
- Run beef.
- Change breeds.
- Diversify into something else
- Take advantage of the Pasture Improvement Scheme.
- A Combination of any of the above.

In any planning exercise there has to be a recognition of those factors over which the individual has virtually no control. In the case of farmers, commodity cycles, overseas exchange and interest rates, drought and cold weather exert an enormous influence. However at the same time most of the "on farm" factors, such as grazing management, breeding policy, uptake of improved technology and financial planning, to name a few, are under the direct control of the farmer. These can be manipulated to ensure the success of the farm business.

Running a farm is a very challenging job, and farm development can be interesting and rewarding provided appropriate planning is put into the exercise before any money is invested. **It is important to start by defining the objectives.**

The choice of development, the development site and methods must relate to the individual's overall objectives, from which specific objectives for the development programme can be evolved. There is a need to identify the nature and extent of improvement required from the development, be it a profit gain or an improvement in the long-term sustainability of the property. That is, in plain language for example, "Do I sell hoggets to my neighbour for immediate cash?" or "Do I plant up a tussac ground for future beef fattening?". Is it simply carrying more sheep, or feeding the most responsive classes or stock at key times of the year? Does it involve improving the utilisation of the feed that is already grown, growing greater quantities, or improving feed quality?" "Do I know how to do it?" Do I need to talk to Robin Thompson and Sean Miller about using feed blocks to improve my grazing situation?" These are the types of questions that need to be answered before farmers can determine where to start, and what methods should be used.

Once the reasons for developing or changing the farm system have been determined, the next step is to analyse the present physical and financial position. I would recommend starting with a **SWOT** analysis. **SWOT** is simply a process of listing the strengths, weaknesses, opportunities and threats of the farm, farmers and farm business. Usually the more people involved in developing the **SWOT** analysis, the better. (example are provided in the accompanying paper).

The financial and production factors which may be included in the analysis need to be as objective as possible. The information required will vary for individual situations, but there are a number of key points to be investigated for most development programmes. These would include:-

- Present level of adjusted gross farm income, in total, per stock unit and per hectare.
- Interest.
- Farm working expenses as a percentage of adjusted gross farm income.
- Comparison of enterprises - sheep versus cattle.
- Wool income per head.
- Wool production per stock unit.
- Average net wool price per Kg sold.
- Average net price of surplus stock.
- Total improvement of decline in cash and capital over the period analysed.

These types of figures will indicate where the farmer is heading with the present system. How income and expenses compare with the average and the farm's ability to carry more debt and/or increased risk.

Some of these figures have fixed guidelines, others need to be considered in relation to the specific farm business. For example most accountants would suggest that interest and farm working expenses should not exceed 25 per cent and 55 per cent respectively of adjusted farm income. On the other hand, an acceptable level of profit from a farm business will depend on the farmer's family needs and aspirations.

Analysis of the physical factors often identifies major opportunities for improvement, and help to focus on where effort and resources should be placed. It is often relatively easy to grow more total feed and put on extra stock units. However with the high cost of inputs and the low return on wool, improving per head performance through better allocation of feed, and supplying high quality feed to young growing stock, tends to yield better returns. There are no "sure-fire" recipes, and the limitations and solutions will be specific to individual properties.

Once the needs are clearly defined, the best areas to target are likely to become more obvious. Some homework may need to be done into factors such as seeking areas with the best shelter, or determining soil fertility levels through soil testing. If in doubt seek advice from the Department. **We are hear to help.**

The expectations of the development must be objectively quantified, starting with the physical, then leaping onto the financial objectives. For example it will be necessary to have a reasonably accurate measure of the area involved, the amount of fertiliser and/or lime (calcified seaweed), estimated increase in stock numbers and/or per head performance, then find out the lag time between expenditure and return.

Analysis of physical factors, costs and returns can then be used to determine the expected financial outcome. The costs and prices used will of course range from present day to expected prices in future. The crystal ball grazing of product prices has traditionally been the major variable factor in determining success or failure of a development programme. As much historical and outlook information as possible should be used to help determine "best bet" product prices.

Then it becomes necessary to evaluate the risk. The economic evaluation of development should assess the likely variability of outcome and, where risks are being taken, plans should be made to address adverse outcomes should they arise.

Once all the above has taken place and the reason for development established, the development programme can be planned and costed. This is where the Department can assist, not only in relation to the technical requirements but also in relation to the financial implications. Careful planning now will result in less mistakes in the future and negate a last minute rush in four years time when the subsistence scheme is winding down.

**Remember "If you have no plan of where you want to be, you will get there everytime".**

## THE WETHER TRIAL IS (ALMOST) UP AND RUNNING

*By Sean Miller*

As the title says, over the last few weeks we've been getting the wether trial underway, and the answers to some interesting questions may be just around the corner.

Eight groups of sheep are together so far. A couple of more mobs of sheep are expected to join this month to give us a total of 10 or 11 groups of sheep. The table below shows where they're from, how much they weighed when they were put out in the paddock, and their condition at that time.

Farm	Weight (kg)	Condition score
Westers		
Beaver Island	52	2.5
Coast Ridge	37	2.1
Main Point	29	2.0
Port Stephens	38	2.1
Easters		
Goose Green		
from Ceritos camp	Sheep not weighed yet	
from Laguna Isla camp	37	2.1
Horseshoe Bay	33.7	2.3
Wreck Point	32.5	2.3

All of the wethers were born in 1995, and each flock has provided a group of 25. The sheep have been selected on the basis that they represent what is typical of the flock from which they came, with the exception that obvious faults such as wool blindness have not been included. These faults may bias the survival of some sheep, and although you could argue that those characteristics themselves are important production (or anti-production) traits, we have decided to exclude them for the purposes of this trial.

Since some sheep were treated differently before they came to Goose Green, we have attempted to even the score so to speak, and have given all of the sheep a cobalt and a selenium pellet, and drenched them all with an injectable drench (ivermectin).

The sheep are being run as one mob in with the main wether flock that Tony McMullen has in Ceritos camp, just south of Mount Usborne. Apart from measuring wool growth, liveweight, and condition score at shearing, these sheep will be treated exactly as the sheep in the main wether flock are.

So, what happens next? We'll see them just before shearing when we'll clip some wool from them to work out how much they've produced since they came to Goose Green, weigh and condition score them, and weigh and class their fleeces. And then we'll pass on these much sought after results.

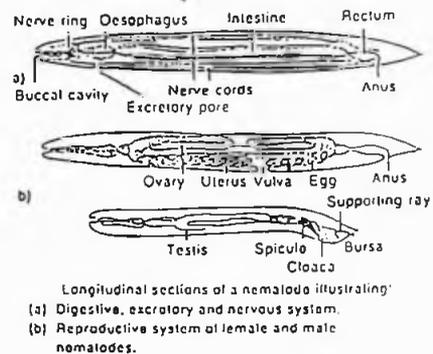
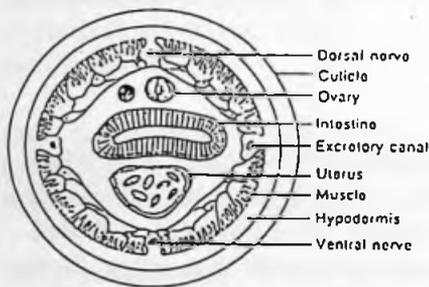
Watch the *Wool Press* for regular updates. We've asked the owners to tell us what 'breed' they class their sheep as, and we'll put those details in the next update.

# BASIC PARASITOLOGY

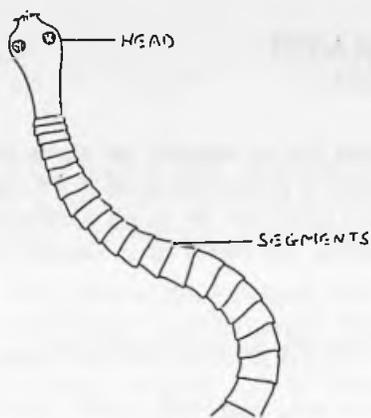
By Derek Clelland

Parasitology is the study of organisms that live on or in another living organism, at whose expense it obtains some advantage. In the Falklands the most important parasites are the gastro-intestinal parasites.

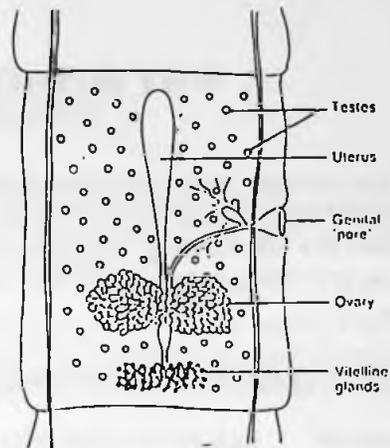
The main clinical signs of a Nematode (Roundworm) parasite infestation is profuse watery diarrhoea possibly green in colour, the diarrhoea can be intermittent with the animals being anorexic and very thirsty. The coats of the animals may be dull and the hind quarters heavily soiled with faeces. The Roundworms have a cylindrical form tapering at either end and the body covered with a colourless layer. Movement is made by the muscles contracting and relaxing in waves, these waves alternate between its dorsal and ventral muscles resulting in a forward motion. Digestion takes place almost the full length of the worm as do the reproductive organs. There are many different types of roundworm and they will affect the host animal in different ways, some will affect the lungs, others the windpipe but most will affect the gut. They cause damage either by eating tissue material or ingesting fluids. The extent of this damage can lead to the death of the host animal. These types of worm are identified in the laboratory mainly from the size and shape of egg that they lay. This type of worm may, when in large numbers, be seen with the naked eye in the faeces as a writhing mass.



Tapeworms tend to have a long, sectional body with no alimentary canal. The head attaches itself to the side of the gut with suckers and hooks. The sections of the body are continuously budded from the neck region and become sexually mature as they move down the body. Each section of the body is capable of reproduction it has both female and male organs and is capable of self or cross fertilisation. Due to the structure of the tapeworm the ends of the worm break off regularly but this is part of its life cycle as most of the segments by this time have eggs within them. It is possible to see the tapeworm with the naked eye in the faeces as a long strand. Tapeworms can have an intermediate host, that is, part of their life span has to be spent within one type of animal and the rest of their life is spent within another. An example of this is Hydatid, its intermediate host can be sheep with its final host being dogs. In the intermediate host the chemicals in the stomach and gut digest the outside of the egg and this activates the egg. The egg then tears through the gut wall to enter the blood stream and travels to a particular site of the body to develop into one of its larval stages. The final host either ingests the tapeworm via eating the intermediate host or eating it off of the pasture. The method of entry and the life cycle in the final host depends on the species of tapeworm.

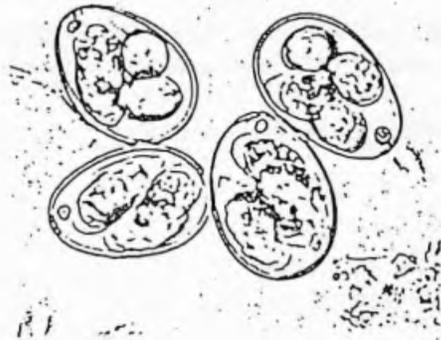


**Typical Tapeworm body**



**Typical Tapeworm segment**

Another important parasite is the protozoa, the most common of this type in the Falklands is Coccidia. This organism replicates in the cells lining the gut wall. It replicates by either asexual or sexual reproduction. Coccidia impair the absorption of nutrients through the gut wall due to using the cells of the gut wall for replication causing them to swell and block any absorption. They can cause enough damage to the gut wall to cause haemorrhages.



**Sporulated Coccidial oocysts**

### **Control of Parasites**

In the recent past parasites have been controlled by the use of drugs. However these drugs do not fit all the specifications needed to be an ideal drug for this use. To fit all specifications the drug would have to be:-

1. Efficient against all stages of a particular species of parasite
2. Non toxic to the host animal
3. Should be able to be broken up by the host and excreted
4. The drug should be easy to give to the animal
5. The cost should be reasonable

These drugs should be able to be used both to combat infestations and to prevent an infestation. When using the drug it should be apparent that it is doing some good i.e. signs of infestation should cease and recovery should take place. Unfortunately the drugs used to combat the parasites have been used improperly resulting in the parasites becoming resistant to them. This is becoming extremely apparent in Britain at this current time and the race is on to find new ways to fight the infestations.

In most cases it is better to seek veterinary advice before starting on a parasite control program as the program can be constructed to suit the species of parasite involved. Advice from the Veterinary Service at the Department of Agriculture is freely available to all farmers.

## WHY BOTHER GROWING WHITEGRASS?

*By Sean Miller*

We've just received some results back from Australia from some samples of whitegrass that we sampled last month near Goose Green. We asked Gordon in our lab to do an energy and protein test on the sample of green whitegrass so we could see how it fared as a feed for sheep. The results Gordon gave back to us looked too bad to be true! So, to see whether the test was wrong or if whitegrass was really that bad, we sent a second sample to the leading feed testing lab in Australia for conformation.

The results we got back from them said the same thing Gordon did! At least it showed that our lab is up to standard.

And the whitegrass ..... well, at 45% digestibility (for every 1 kg a sheep eats it shits out more than half!), and 9% protein, sheep are doing it tough if they rely on whitegrass. So then, are they relying on whitegrass?

I asked that question of a computer programme that was developed in Australia for predicting growth of sheep under both native grass (Falklands' style camps), and improved pasture conditions. The answer it gave was a definite no; sheep are eating much more than just whitegrass.

If ewe hoggets relied completely on a whitegrass diet, the programme predicts that under Falklands' conditions during November, they would eat 0.5 kg of dry matter a day and lose 1.2 kg of weight every 10 days.

But sheep aren't losing that much weight in November are they?

Thus, the next question is how much whitegrass are they eating then? Going back to the computer, the answer is probably less than 20% of what they eat is whitegrass, yet it is probably 90% of the grass grown in the Falklands.

What is the other 80% of a sheep's diet then? Undoubtedly, the fine, green grasses that grow on the greens and between the bogs.

Clearly then, the old adage of keeping whitegrass green is not sufficient alone to help sheep grow, especially when eating green whitegrass is little better than eating cardboard. The secondary effects of keeping whitegrass green are the important ones for sheep. That is, removing the dead material (by grazing, mowing or burning) to open up the pasture and let the light in, and allowing the fine grasses to grow.

But sheep do eat some whitegrass, and whilst they do, we can do some things to help them grow bigger, faster, and more wool. The pasture improvement scheme is the long term answer. The short term one may be the type of feed blocks we are developing at present.

Food for thought!

## DEPARTMENT OF AGRICULTURE "v" GOOSE GREEN DARTS MATCH

*By Lucy Ellis*

On Friday 11th September the staff of the Department of Agriculture were invited to Goose Green to try and claim the darts trophy back. A few hardy souls undertook the challenge and we all convened in the social club to do our best - a big thank you must go to those non-Department of Agriculture people who joined our team to swell the numbers. The opposition, as we knew from last year, was a force to be reckoned with and with some new talent our task looked grim! The battle raged back and forth (mainly forth I have to admit) but our side had a few outstanding triumphs which we celebrated loudly and longly. Eventually the last dart was thrown and we gathered for the result - Goose Green 23, Department of Agriculture 10 (correct me if I'm wrong, Bobby).

Bob Reid presented the trophy to James Butler for the Goose Green team and thanked everyone for a great evening. A big Thank You must go to all at Goose Green for a very entertaining night, especially those who laid on a splendid spread of food and not least to the organisers who did a superb job.

Just a word of warning, you might have beaten us twice so far but we could be lulling you into a false sense of security!

*We'll be back!!*

# THE TREES AT KEPPEL ISLAND

*By Grant Munro*

A visit was recently arranged to Keppel Island by the Historic Buildings Committee and I was able to accompany the group in order to measure the trees which Dr Jim McAdam and Sam and Hay Miller had planted in the late 80's with funding from the Falkland Island Trust.

The object of the Falkland Island Trust plantings, which were undertaken at Keppel Island, Fitzroy and Stanley, was to gauge the effect of tree species (Lodgepole Pine and Sitka Spruce), planting technique (slit planting and pit planting) and fertiliser applications (no fertiliser, phosphate fertiliser and kelp compost) on tree growth and survival.

The Keppel Island site was planted in 1989 and incorporated combinations of the above treatments. In total 300 Lodgepole pine and 300 Sitka Spruce were planted within the trial. An extra plot of predominantly Sitka Spruce and a mix of broadleaved trees in tree shelters was planted around the old vegetable gardens.

Unfortunately Keppel Island became uninhabited shortly after the trial was planted and access became difficult. As a result no maintenance was performed on the site and in recent years the cattle gained access. The object of my visit was to see how many of the trees had survived grass competition and browsing and to measure the height of those that had.

In the first season the overall tree survival was 77% but within those groups of trees that had been pit planted with phosphate fertiliser, survival was 98% (Dr Jim McAdam). Subsequent to 1991 ongoing maintenance became difficult and weed control and upkeep of the fencing ceased. At present survival is only 31% within the 12 sample plots (188 of an initial 600 trees). Due to the losses it is now impossible to attribute the trees to their initial treatment and it cannot be said whether the majority of the losses have occurred within one treatment, i.e. slit planted trees. I shall be sending the data on survival and tree height to Jim McAdam and I am sure that through his previous knowledge of the site more information may become available.

I would guess that the majority of the tree losses were due to the lack of weeding. The majority of the site is very dry and lank grass was in all cases growing thickly around the base of the trees with some of the smaller trees being almost wholly swamped. This level of competition for the available water and nutrients would undoubtedly lead to heavy losses. The drop in survival after the first 2 years when the base of the trees would have been clear of weeds tends to substantiate this thought.

Damage caused by cattle breaking through the fences into the site was not as extensive as I had feared. On the larger trees of over a metre some branches had been broken and a limited number of leading shoots browsed. In one block which was in a more sheltered location and where cattle had sheltered, small trees which had been struggling in the long grass had been crushed. It would seem probable that more small trees had been crushed and browsed but these were no longer visible. It is essential that stock are excluded from any new plantings at least until the leading shoots are well clear of any potential browsing damage.

Another cause of loss and poor growth may be due to bark damage caused by, it is guessed, rats. This is evident by gnawing damage and small patches of bark missing from ground level up to just above grass level. Whilst no trees appeared to have been ring

barked and killed, repeated damage is cumulative and weakens the tree leading to a greater susceptibility to other stresses.

The growth of the surviving trees was very variable, ranging from none to over 2 metres. The Lodgepole pine was in better health than the Sitka Spruce with a more robust growth form, good foliage retention and of a greater average height. The Sitka Spruce, although not as badly effected

by the Spruce aphid as at other sites around the islands, was not as densely foliated as the pines and showed greater signs of wind scorching and foliage loss. The tallest tree recorded, a Lodgepole pine, was 2.17 metres high. If greater initial maintenance had been performed and more trees had reached this height the belt would now be producing realistic shelter at 10 years of age.

The tree shelters which had been used to protect the planting of willows and other broadleaved species had never been removed and were still in position. Two forms of shelter had been used. The flat-pack square form of tree shelter was now breaking down due to UV degradation and in some cases had degraded into strips and blown away. The more solid round section tubes still showed no signs of breaking down. In all instances grasses had benefited more from the growth tubes than had the trees and had fully choked the tubes killing the trees. Only 18 trees of several hundred were still alive. These surviving trees showed the second problem of leaving tree shelters on for too long. The spindly trees had grown rapidly to the top of the tubes but were too tender and could not grow out from the tubes. This had led to a top heavy plant. Wind pruning of the upper shoots as they emerged stimulated more lateral branching at the top of the tube giving a dense ball of foliage above a thin spindly stem. When the tubes had perished the whole top half of the plant had been killed by the weather and the plants were now regrowing from the base. If tree shelters are used they should only be used to improve survival in the first year and then be removed.

Of interest were 6 Lodgepole Pine which had been planted adjacent to the old vegetable patches. These pines were planted by Sam and Hay 15 years ago and are now 3.5 metres tall, very robust and densely foliated.

Whilst not of importance to tree growth at present the spread of gorse and calafate and of the grass grub was immediately obvious.

With the removal of grazing pressure gorse and calafate has spread out from existing bushes and the calafate in particular has extensively self seeded with small seedlings appearing widely across the tree site and in the pastures running up the hill behind the settlement.

The spread of the grass grub, a small white grub that lives just below the soil surface and moves out in a widening circle severing the grass roots at ground level and killing the pasture, also benefits from the removal of stock. This may be due to absence of disturbance or due to the longer rank grass and more dead decaying grass which leads to better, moister conditions for the grub. Infestations were present in all the settlement paddocks leaving large circular areas where the dead turf could be rolled up or pulled up in handfuls. In the worst infestations it almost appeared as if a light rotavation had been performed. Fenced shelterbelts where stock is excluded may be susceptible to grass grub damage and this is another argument for good weed control to promote rapid establishment. Bare ground around the trees may discourage the grub and through rapid establishment the trees should be out of the danger period before grub numbers have reached damaging levels. Only fine roots of recently planted trees should be susceptible to grub damage.

<b>FOR SALE FROM MAIN POINT FARM</b>			
Telephone: 41008. Fax: 41009 e-mail: shansen@horszon.co.fk			
<b>TYPE</b>	<b>AGE</b>	<b>PRICE PER HEAD</b>	<b>AVAILABLE</b>
Wether Hog	1yr	£6.00	Off shears in December
Wether Shlg	2yrs	£5.50	Off shears in December
Wethers	5yrs	£2.00	Early January 1999
Wethers	6yrs	£1.00	Early January 1999
Wethers	7yrs	£.50p	Early January 1999
Flock ewes	4yrs	£4.00	End of February 1999
Flock ewes	5yrs	£3.00	End of February 1999
Flock ewes	6yrs	£2.00	End of February 1999
Cull ewes	mixed	£1.00	End of February 1999
Cull Gimmers	2yrs	£4.00	Early January 1999
Rams	Mixed (£10-£25 depending on age & micron)		End of February 1999
Rams can be viewed before shearing if required, micron tests available for all.			

## UK TREE ADVISORY GROUP MEETING

by Aidan Kerr

In August, during my leave in Northern Ireland, I met with this group. It consists of Jim McAdam (Agronomist to the U.K.F.I.Trust.), Malcolm Beatty (Chief Forest Officer, DANI) and Alan Low (DoA's Forestry Consultant). The purpose was to review our progress on the Shelterbelt trials and discuss plans for the future. Here is a summary of the main points discussed.

1. The possible susceptibility of the Southern Beeches (ex Punta Arenas) to late winter frosts, following a mild weather.
2. The use of sheltered sites, individual shelters and paraweb should quicken tree growth by 2-3 years and should be used where possible.
3. It will be 2-4 years before a confident set of recommendations, arising from the trials, can be produced for shelterbelt establishment in the islands.
4. The shelterbelts that are already established, at Estancia, Saladero, Shallow Harbour and Fitzroy, and those soon to be planted at Bold Cove and Port Howard, will probably be the last large tree trials. After 1999 the main focus of the work will be monitoring tree growth. Smaller trials may be conducted to address specific issues as they arise.
5. The high rainfall during the early summer may have benefited tree survival. As planting has taken place over several seasons a wide experience of climatic conditions will be experienced.
6. Dead trees in the trials will be replaced, initially, by trees of the same species. Thereafter Alaskan Lodgepole Pine will be used.
7. A 60 cm deep ripper tine with a 'sock' leading the shank with a titanium edge will be ordered to break any 'iron pan' and improve sub-soil moisture movement.
8. Tatter flags will be used to measure exposure at all sites.
9. Lining out techniques must be improved to avoid 'hockey stick' shaped stems on imported tree seedlings. Where possible the use of root trainers or styro blocks will be encouraged.
10. Chemical analyses of tree needles from the UKFIT trials at Fitzroy and Stanley showed low, and sometimes deficient, levels of Phosphorous and Potassium. Fertilisers will be applied to improve the nutrient status. (Nitrogen results will be available soon).
11. A revised plan and policy was discussed for the UKFIT Dulverton tree plot at Port Howard.
12. Jim and Alan are soon to begin writing a 'Tree Planting Guide' suitable for anyone wishing to establish shelterbelts in the Falkland Islands.
13. The group congratulated the DoA staff, particularly Grant Munro, on the progress made to date.

If anyone has any queries about the meeting or the Shelterbelt programme then please contact me or Grant Munro.



# BASIC HAEMATOLOGY

*By Derek Clelland*

Haematology is the study of blood cells, to determine the nature of the disease, the degree of injury and the patients defensive response. Haematology results should be interpreted in relation to the patients history and clinical examination. The microscope is used to determine cell numbers, size, shape and colour. Also looked for are abnormal contents such as blood parasites.

The blood cells can be divided up into 3 categories:-

1. Platelets
2. Red blood cells
3. White blood cells

Platelets help the blood to clot. They are made in the bone marrow. They help to form the 'plug' that forms in clotting by bonding together with other blood constituents to form a temporary latticework that will keep the blood in and dirt out until such time as a proper repair can be made. Any defect in the amount of platelets present could indicate a coagulation defect. The patients history should be investigated in this case for confirmation.

The Red blood cells carry the oxygen from the lungs to the tissues. They are also made in the bone marrow. Anaemia's, insufficient red blood cells or insufficient haemoglobin in the red blood cells, can be discovered by haematological examination and can be divided into two categories:-

1. Those showing evidence of bone marrow response i.e. regenerative
2. Those showing no evidence of response by the bone marrow  
i.e. non-regenerative

In regenerative anaemia, there should be indications of immature red blood cells, showing that the body is trying to regain normal levels. However in non-regenerative anaemia there will be no response by the bone marrow to make more red blood cells.

The white bloods cells help to combat disease, a count of these cells should be correlated with the distribution of cell types and their proportions. Morphology of white cells is also important as an indicator of disease response.

A decrease in the total number of circulating white blood cells may be due to:-

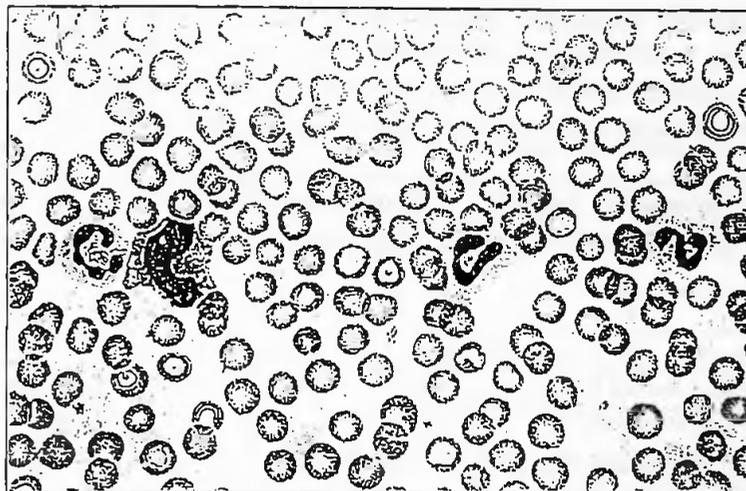
1. Viral infection
2. Bacterial infection
3. Protozoal infection
4. Shock
5. Bone marrow abnormalities
6. Chemical agents

For example in the early stages of a localised severe bacterial infection there is a depletion in the peripheral blood of its white blood cells with concentration in the area of infection. An increase above the accepted normal range of total White blood cells can occur, though as a rule only one cell type is responsible for the elevation but there may be a simultaneous increase in several cell types. Examples of these increases occur in:-

1. Lymphoid Leukaemia
2. Pregnancy
3. Fear, excitement, violent activity
4. Excessive production of glucocorticoid-leading to diabetes
5. Bone marrow abnormalities

White cells can be divided into 2 fundamental categories, each type is responsible for a different response to an invasive particle:

- |                           |                                                         |
|---------------------------|---------------------------------------------------------|
| Granulocytes (Myelocytes) | - Neutrophils -swallows foreign bodies and digests them |
|                           | - Eosinophils -acts as an anti-histamine                |
|                           | - Basophils -rare, found when eosinophils are present   |
| Agranulocytes             | - Lymphocytes-produces anti-bodies                      |
|                           | - Monocytes -swallow foreign bodies and digests them    |



**Example of white cells in the blood**

The granulocytes and monocytes develop almost exclusively in the bone marrow while lymphocytes develop mainly in the lymph nodes and spleen.

The increases and decreases in overall white cells must be followed by examination of the different types of cells as certain conditions can raise the amount of one type of cell in the blood and decrease the appearance of another e.g. stress and Cushing's disease both raise the amount of Lymphocytes in the blood but lower the amount of Eosinophils.

Haematology is an important diagnostic tool used by the Veterinary Service in both primary diagnosis of disease and as an indicator of an animals health. It is considered in relation to other relevant data, such as the history, physical findings and other laboratory results to give an overall picture of animal health.

## MORE POSITIVE SHEEP RESULTS FROM THE GRAZING SYSTEMS TRIAL!

*by Aidan Kerr*

For the third winter in a row the grazing systems trial near MPA has shown positive trends in sheep performance.

Since 1995 the trial has compared the performance of sheep (2-5 year old wethers from Fitzroy) between two set-stocked grazing systems (i.e. sheep are kept in the same 'camp' all year) and two 'rotation' systems (where the sheep are moved once in April from a smaller camp to a larger one for the rest of the year). Each entire system is about 130 hectares (321 acres) and holds about the same number of sheep per hectare per year. Sheep numbers have been increased annually by about 10% in all systems.

Preliminary results of our September assessments are shown in table below. Sheep in the 'rotation' systems were almost 5 kilos heavier than the set-stocked sheep and had gained over 3 kilos since early April. In contrast, the set-stocked sheep had lost over 3 kg since April. The 'rotation' sheep were in slightly better condition.

<i>Grazing system</i>	<i>Average live weights (kg), September '98</i>	<i>Average weight gain (kg) since April '98</i>	<i>Average condition score</i>
<i>Set-stocked 1</i>	50.6	- 2.6	2.7
<i>Set-stocked 2</i>	49.6	- 4.1	2.6
<i>Rotation 1</i>	53.5	+ 4.3	3.1
<i>Rotation 2</i>	55.9	+ 2.8	2.9

Since April, the only difference between the systems was that the 'rotation' flocks had been stocked in 'camps' which had been 'spelled' from sheep since December. This rest from grazing probably had allowed more feed reserves to build up for winter. Preliminary pasture results show that in April, when 'rotation' sheep were moved into their Winter 'camps', the Whitegrass leaves there were about 5 cm (21 %) longer than those in the set-stocked pastures. Similarly, grasses on greens in the 'rotation' camps were about 2 cm (120%) longer.

These encouraging results are consistent with those found after the previous two winters. Overall they indicate the likely benefits of stocking sheep over winter on 'camps' which have been spelled in late summer. As in previous years I expect that the superior performance will be reflected in better wool production at shearing.

### CLOVER'S LUCKIER THAN EVER

*Source: Woman's Own*

There's an interesting new product from Australia for those who are looking for a natural oestrogen to use instead of HRT. When sheep farmers realised their castrated male sheep were becoming increasingly feminised, they examined what they were eating and discovered they were munching a plant known as red clover. When scientists examined it they discovered it contained high levels of the hormone isoflavone. Already a big seller in Australia. This 'natural HRT' went on sale in Britain this summer, marketed under the name Promsensil. It costs £10 for a month's supply and so far researchers haven't discovered any side-effects.

*I would like to thank Shirley Goss of North Arm for this article.*

# WHOLE FARM PLANNING

*By Robin Thompson*

Initiation of the incentive scheme and pasture development programme offer a great opportunity for Falkland Island farmers to develop their farming businesses in a manner that should ensure their long term financial independence and security. To achieve this farming methods and ideologies must change but in a planned and well thought out manner. The first step in this change process should be formulation of a whole farm plan.

## ***What is whole farm planning***

A whole farm plan is a document detailing where a farming business will be in say ten years time along with the resources that are necessary to achieve that end. A farm plan should be dynamic and responsive to changes in external conditions rather than being a stone tablet never to be looked at or reviewed after it's initial completion. A whole farm plan should take into account the physical, financial and personal resources of the business. Farmers in particular often feel guilty about time spent in the office so tend to neglect formal planning but this should not be so. I prefer to think of this time as 'working on the business' rather than 'working in the business' which is vital for the development of any pursuit.

## ***Personal***

Goals of the owners and operators of a business are an important consideration governing the success of any business. Making money is not the only force that drives decisions made in business. Others may include family education, holidays, purchasing a home in town, and retirement from farming. All these need to be taken into account when preparing your long term plan.

## ***Financial***

Financial viability is usually the unwritten goal of most businesses. The financial impact on a business of making personal and physical changes should be regularly assessed. Before undertaking a change or in fact not changing, the financial consequences must be assessed. It is a good idea to try and assess the degree of risk a particular decision represents to the business. This can sometimes be done by examining the consequences of varying income and expenditure associated with a particular decision. This is called financial sensitivity analysis.

## ***Physical***

The physical resources including animals, land, buildings, fences, machinery and pastures are the things which usually occupy the greatest amount of a farmers time. Given the availability of pasture improvement and incentive scheme funds it is now a good time to examine the state of these resources and how they might be better used to achieve the business goals. Don't limit your thinking to the traditional in this regard but be prepared to think laterally and perhaps start by listing the physical resources and how they are currently limiting achievement of the business goals. Once this is done try to develop strategies to help overcome these limitations. When doing this it is important to remember that the resultant system must be sustainable both from ecological and environmental perspectives and that changing one facet of the business may impact on the other business elements. A farm map is a great aid to planning and can be used in conjunction with transparent overlays to show the current and proposed location of resources such as fences, watering points and animal handling facilities.

## ***You are not alone***

Department of Agriculture staff do not pretend to have all the answers but we are willing to share our experiences and thoughts with you so as you can more clearly see where you want to go with your farming business and how it might be possible to get there. At the end of the day the farm plan must be that of the owners or operators rather than something that satisfies some bureaucracy because unless it is, failure is probably imminent. I encourage everyone to develop a formal plan for their farming business because it is a tangible map detailing the way forward.

# POSSIBILITIES FOR DEVELOPING THE QFW SCHEME

By Robert Hall, Falkland Wool Growers Ltd.

Preparations for the 1998/99 shearing season (*only a month away*), should be started in earnest. The **Quality of wool** exported from the Falkland Islands remains the priority issue. Quality Standards undoubtedly improved last season and helped Falkland Wool Growers Ltd achieve relatively good wool contracts on a falling market. Such Quality standards must be maintained this season and even improved; not least because given the current low level of demand for all commodities, buyers will be especially prepared to reject sub-standard wool deliveries in 1999.

Enclosed are some proposals for revisions to the original QFW guidelines. It has been endeavoured to alter rather than rewrite the original text, to encourage further debate amongst the farming community, with the following practical objectives in mind:

- To place greater emphasis on measures to eliminate urine and faeces stain, with both additions to the text and by putting some text into **bold**.
- To increase the weighting of the scheme towards the harvesting operation. (Few changes have been made to the Pre-shearing audit).
- With the harvesting operation in mind, it is suggested that personnel training is included in the scheme in conjunction with the Department of Agriculture (DoA). New comers and school leavers in particular are in need of a day's tuition BEFORE being expected to cope in a shearing shed working at full speed. Such training courses should ensure that candidates reach a reasonable level of competence in understanding the QFW scheme, crutching on the board, throwing fleeces and high quality skirting.
- To recognise the global importance attached to crutching. It is proposed to develop a two tier scheme: thus recognising the limitations of a scheme without crutching yet also allowing development of the scheme to include crutching in the future. By colour coding the two tiers (QFW-3 = Red, for sheep crutched within three months of shearing; QFW = Black, for uncrutched sheep) it is ensured and the investment in stencils is protected.
- Under a heading of "Shed Limits", the committee may like to debate the wool table: shearer ratios and shearer: rousie ratios. Perhaps such ratios should recognise the speed of today's professional shearer and have fleeces shorn per day: table and rousie. It is however difficult to include the varying skills of table hands by such means.
- Having witnessed the tremendous improvements in wool handling at Goose Green (DH) when it changed from "across the board" to a "raised board", it may be worth promoting further shed conversions by utilising FIG grant aid. This suggestion may precipitate some debate, however raised board designs allow more efficient flows of sheep and wool, and they allow easy skirting on the board, as exemplified by those sheds which have changed. (NB Rousies are not responsible for switching on/off shearing motors). The development of Skirting on the Board has been a welcome improvement in recent years and it should be made as easy as possible.
- Finally the amendments recognise that Australia is phasing out HDPE packs by July 2000 in favour of "non contaminating nylon packs".

It is hoped that the following draft is of help to the QFW committee, the Department of Agriculture, the farming community and the wool industry.

## DRAFT REVISION;

## QUALITY ASSURANCE SCHEME FOR FALKLAND WOOL: "QFW"

### Background

Processing mills around the world expect to process wools with complete confidence and assurance, with wools meeting dark coloured fibre (BCF) guarantees, specifications and free from contamination.

In 1995/96 dark coloured fibre readings of 60 BFC/100 grams of Top exceeded the BFC guarantees 5-25 BCF/100 grams of Top, precipitating complaints; yet in 1998 two lots of wool achieved a truly excellent 2 BCF/400 grams of Top.

The aim of a Quality Assurance Scheme is to set *attainable and maintainable* standards that when fully complied with will result in the highest level of preparation. The QFW's objective is to introduce and

maintain BCF RISK REDUCTION measures in order to bring Falklands BCF readings to below 5 BCF/100 grams of Top, throughout the Islands and across the clip.

Leading wool producing countries have found that woolgrowers who are members of a recognised Quality Assurance Scheme, in moderate to good years may receive a premium for their wool; in difficult years quality marked wool is likely to be sold first and the make can make the difference between selling and not selling.

### **Method**

To employ practices throughout the wool operation to:

- reduce the risk of BCF entering the shearing shed by CRUTCHING (QFW - 3 scheme).
- reduce the risk of BCF being thrown on the wool table by SKIRTING ON THE BOARD.
- ensure BCF are removed from all fleeces on the wool table by QUALITY SKIRTING.
- ensure all other aspects of the wool harvesting operation support the export of a wool clip of the highest assured quality.

### **The Basic QFW Scheme**

The standards required in a Quality Scheme naturally concern the handling and preparation of the wool itself, but also involve the "work place". Before applying for accreditation there is a list of points to check and have correct concerning the yards, the pens, the presentation of the sheep, the shearing shed and the wool handling area.

Please refer to the booklet - "The Guide to Clip Preparation" compiled by the Department of Agriculture and published in 1992, for the required standards to be met for shearing, wool handling and classing. If you require a copy of this booklet please contact the Department of Agriculture.

There are two 'Checklists' enclosed; Checklist 1 is for pre-shearing, and Checklist 2 is just prior to and during shearing. There is also an information paper on 'Lighting in Shearing Sheds' enclosed.

### **The Advanced QFW - 3 Scheme**

Crutching is a vital component of all competing Assurance Schemes. Farms wishing to achieve the highest levels of Quality Assurance in the Falklands must crutch all sheep within the three months prior to shearing in addition to following the basic standards. These farms will be entitled to use red QFW stencils, whereas farms with the basic accreditation may only use black QFW stencils.

### **The Scheme**

The scheme is VOLUNTARY. The booklet and papers are a guide to be used to check work practices and procedures. If you feel you comply with the standards and are correctly set up, you can apply for an inspection. This will mean a Wool Adviser from the Department of Agriculture making a visit to your farm and being shown around the yards, pens and shearing shed, to enable a pre-shearing audit.

Greatest importance is attached to the operation of the wool harvest. It is the responsibility of the farmer/farm manager to put in place all the correct practices during shearing, which will be randomly checked by officers of the Department of Agriculture on an annual basis. Wool not prepared by the recognised standards will be prohibited from carrying the "Quality Falkland Wool" brand.

Ultimately it is hoped that ALL farms will join the scheme as soon as possible.

### **Further Information**

The people working on this project are a sub-committee of The Farmers Association. The scheme is VOLUNTARY and open to members and non-members, though there will be an enrolment fee for non-members.

Members of the sub-committee are:

Chairperson: Lyn Blake, Little Chartres  
Ron Binnie, Fitzroy Farm  
Doug Cartridge, Department of Agriculture  
Nigel Knight, Coast Ridge Farm  
Anne Robertson, Port Stephens

Secretary: Judy Summers

Please feel free to ring the committee members with any questions or points for clarification and they will be happy to help you. *Thank you.*

### **CHECKLIST 1: PRE SHEARING**

#### **A) PRESENTATION OF THE SHEEP**

**Farms with QFW-3 accreditation must crutch within the three months prior to shearing.**

**Urine and faeces stain are the main source of dark fibre contamination. The aim is to have sheep sufficiently free of urine/faeces stained wool at the commencement of shearing, that contamination of the wool is minimised during shearing and subsequent wool handling.**

**All QFW-3 and QFW farms must dag sheep with excessive faeces/urine contamination, before such sheep enter the shed.**

#### **B) PREPARATION OF YARDS AND SHEARING SHED**

Sheep Yards and sheep holding areas must be:

- Totally free from baling twine, string, old packs, bags and all rubbish.
- In sound condition and clean.

##### **Woolshed Checklist:**

- Adequate sheep shearing and wool handling spaces are provided.
- Gates, pens and gratings are in good order.
- All woolshed equipment is clean and in safe working order.
- **An adequate number of slatted wool tables (of at least 3.5 sq metres area) are provided as required (a minimum ratio of 1 table: 4 shearers).**
- Approved lighting is installed in all wool handling and shearing areas (see appendix 1).
- Polypropylene, sisal and hemp in the form of rope, string, twine, bags or fabric for any purpose must not be present in the woolshed or yards.
- Ropes used for shearing machine pull cords, presses, gates etc must be in good condition, not frayed and made of an approved material (ie not polypropylene, sisal or hemp).
- Sufficient wool bins are provided and clearly labelled (solid partition between fleece and oddments).
- An adequate number of appropriate fadges are supplied for oddments and are clearly labelled.
- Bench or rack provided for stencilling equipment and lipped shelves for shearers stands.
- 5 gallon drum bins (or larger) for rubbish, stain and skin pieces are supplied, at least beside each wool table and beside the press. These must be regularly emptied.
- Adequate hooks are fitted for clothes and towels, away from the wool handling area.
- All loose wool is packed away prior to shearing.
- No hay, straw or grain is to be stored in the wool handling area or catching pens during the shearing season.
- Where possible, birds should be kept out of the wool handling area.
- All articles or products that are not essential for shearing and wool preparation must be removed.
- The area where bales are to be stored must be clean and dry.
- Shearing board and wool handling floor are clean.
- GEU Shearing Agreement, the Guide to Clip Preparation and Quality Falkland Wool checklists must be displayed during shearing.
- Wool Scrapers only, may be used during shearing (ie no brushes or brooms).
- Where smoking is permitted, clearly marked fixed ashtrays must be provided and used. Smoking is prohibited in the wool handling area.
- No black sheep are to be run with the main flock.
- Due to loose material inside packs causing contamination; all packs must be opened up and shaken outside the wool room prior to use.
- Chains are fixed for tying up dogs outside the wool handling area.

## (C) PERSONNEL

**Everyone working in a wool shed must understand the QFW objectives and procedures. All table hands must understand the requirements of high quality wool handling and preparation (with particular emphasis on the importance of Stain removal) and be able to implement best practices throughout a working day.**

Certification of Wool Handlers: School Leavers and those new to the work must have received adequate training either on the farm by the person ultimately responsible for the clip or on a DoA course.

The person classing and ultimately responsible for the clip and must have had adequate formal training eg on a DoA Wool Handling and Classing Course etc.

### **CHECKLIST 2: PRIOR TO AND DURING SHEARING**

- Shearing and wool handling requirements should be established with the contractor.
- Shearing contractor, classer and wool handlers must understand "The Falkland Islands; Guide to Clip Preparation".
- Previous test results ought to be made available to the classer or certified wool handler.
- **A ratio of at least one wool handler per shearer must be maintained, with wool handling procedures being followed as per the FI Guide to Clip Preparation.**
- Sheep should be drafted and presented for shearing in a logical sequence. Black or coloured sheep should not be shorn until after main shearing is completed.
- **Sheep must be dry and well emptied out before shedding. The aim should be to present all sheep free from dag and urine stain.**
- Catching pens must pass an inspection for cleanliness prior to the commencement of each spell.
- Clean footwear is to be worn in the wool handling area at all times.
- No dogs or cats are to be allowed in the wool handling area.

### **WOOL HARVESTING**

- **There must be adequate shed hands with the skill to contain what stain there is on the shearing board at all times.**
- **The crutch of all fleeces under the QFW scheme must be skirled on the shearing board.**
- **Skilled rousies and table hands must be in sufficient numbers to ensure highest quality skirting is fully undertaken and that fleeces generally are thrown on a wool table immediately after being shorn without accumulating around the wool shed.**
- **All fleeces must be fully skirled on a wool table prior to classing. Skirting must place greatest priority upon the removal of all urine and all faeces contamination from every fleece.**
- When a black spot is found it must be removed on the board. If the fleece contains a large number of black fibres, stain and dag must be removed and the fleece rolled on the board (not on the table) before storing away from all white fleeces and oddments.
- **Socks must NOT be removed at main shearing.**
- Appropriate packs are to be used (Currently best advice is for HDPE (Polyethylene) or Nylon approved packs to be used).
- When the preferred capless packs are used, the under flaps must be secured with a minimum of 3 clips and the outer flaps secured with a minimum of 4 clips.
- Bales should be clearly labelled, branded and correctly pressed as per FI Guide to Clip Preparation. Only stencils and approved branding fluid and pens are to be used. The QFW brand may only be used on stain and kemp free, regular grown, fleece wools. No woven fabric should be used to cover Quick-links.
- **QFW bales specifications MUST be signed (signature and printed name), QFW stamped and dated by the person ultimately responsible for the quality of the wool in the bales being exported, to declare that all QFW standards have been met for the duration of shearing.**

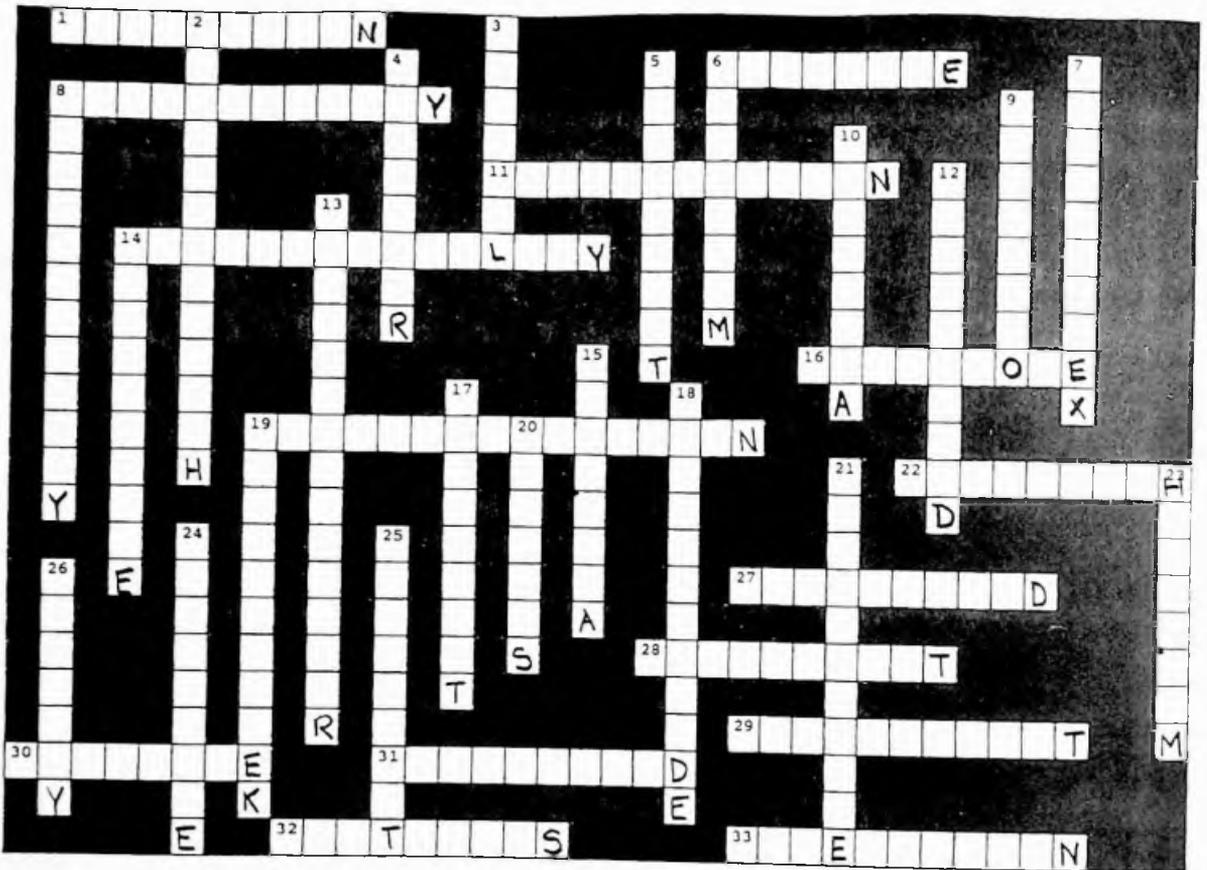
*References: Original QFW scheme  
Letter to QFW Committee 19.6.98*

## MARIE'S MIS-MOTHERED MUDDLE.

All of the East Falkland sheep farms have been hidden below the crossword grid. Try to find each farm name and place them on the crossword grid. To help you the last letter of each word has already been filled in. Once you have found all of the farms you will notice that there are nine letters left over from the jumble. You have to rearrange these letters to spell out one farm which is missing from the crossword grid.

Left over letters: .....

Missing Farm: .....



KINGSFORD VALLEY BLUE BEACH BOMBILLA EVELYN STATION JOHNS  
 ON SHARBOUR KINGS RIDGE HORSESHOE BAY V MOUNT KENT NORTH  
 ARMINE W HOUSE PORT HARRIET V RIVERSIDE SALADEROM MURRELL WAL  
 KER CREEKESALVADOR HOPE COTTAGE E PORTSUSSEX TEALINLETRW  
 RECK POINT ISMYLIESR MOSS SIDE W PORT LOUIS RACE POINT RIN CONG  
 RANDEE ELEPHANT BEACH WINE GLASS STATION ESTANCIA HEAD OF TH  
 EBAY BROOKFIELD CAPEDOLPHIN BLUFF COVE FITZROY GOOSE GREEN  
 GREENFIELD HOME FARM LONG ISLAND



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**PLUS ALL THE REGULAR FEATURES AND MORE!**

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## EDITORIAL

By now most farms should have received the 1998 payment of subsistence which has been paid into bank accounts. Hopefully that will start to take the pressure of some bills etc.,

This months articles are of a various nature. The KEMH have written an article and it is hoped that they will be contributing a page a month. We also have an interesting article on Ozone Depletion, this article was written by Jim McAdam and David Broughton at Queens University of Belfast. I'm sure if you have any queries regarding this article they would only be too happy to answer you.

6 hole droppers have started to arrive at Falkland Farmers, the first consignment was very small, hopefully the remainder will arrive on the next boat and be distributed. I hear that a lot of you have started to put your fences up, please let me know when they are finished so I can inspect and organise the next years lot.

Glynis King is our new Office Manager, she will be starting in early November. Glynis has transferred from the Fisheries Department. Bob and Mandy should be back to work around the 20th of November.

I must apologise for the delay in the Falkland Islands Farming Statistics, we have finally got them to the printers and will issue them as soon as they arrive back.

*Happy shearing!!*



### This months Contributor's

<b>Bob Reid</b>	Director of Agriculture	<b>Andrew Coe</b>	Snr. Veterinary Officer
<b>Steve Pointing</b>	Snr. Veterinary Officer	<b>Nigel Knight</b>	Coast Ridge Farm
<b>Derek Muhl</b>	General Manager KEMH	<b>Cameron Bell</b>	Veterinary Officer
<b>D. Broughton/ J. McAdam</b>	Queens University, Belfast.	<b>Diana Berntsen</b>	Hydatid Officer
<b>Robin Tompson</b>	Beef Specialist	<b>Julie Fisher-Smith</b>	Office Administration
		<b>Colin Horton</b>	Managing Director FLH

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## **FROM THE KING EDWARD MEMORIAL HOSPITAL**

### **HEALTH SERVICES TO CAMP RESIDENTS**

*by Derek Muhl, General Manager-Healthcare*

We are about to begin a review of our services to camp residents. our Annual Programme 1998/99 states that "the development of health services must remain sensitive to the particular needs of camp residents". It also sets five specific objectives:

1. ***To keep under review the delivery of health care to camp residents in order to maintain the highest standards;***
2. ***To institute arrangements to review and update the contents of camp medicine chests;***
3. ***To be able to offer appropriate first aid training to all camp residents;***
4. ***To review the workings of district nursing services in order to establish the feasibility of the provision of district nursing services to camp residents;***
5. ***To introduce an operational policy for the treatment of patients at the new dental surgery at Fox Bay.***

Please let us have your views and opinions on these or any other aspect of health services. We would like to hear from you.

**Contact either Roger Diggle or Derek Muhl.**

## **WEST FALKLAND RAM & FLEECE SHOW**

*By Nigel Knight, Coast Ridge Farm*

The twelfth West Falkland Ram and Fleece show will be held this year on Tuesday 29th December 1998 in Fox Bay Village.

This is to remind farms before the start of shearing to save rams and fleeces for the following classes.

- |                |                                                |
|----------------|------------------------------------------------|
| <b>Class 1</b> | <b>Full wooled ram hogget;</b>                 |
| <b>Class 2</b> | <b>Full wooled shearling ram;</b>              |
| <b>Class 3</b> | <b>Full wooled mature ram;</b>                 |
| <b>Class 4</b> | <b>Hogget fleece;</b>                          |
| <b>Class 5</b> | <b>Any fine wool fleece other than hogget;</b> |
| <b>Class 6</b> | <b>Any 'B' wether type fleece.</b>             |

Most of the West flocked to Fox Bay last year, but there were still a few who were a bit sheepish! We will keep you all up to date on details of prizes and sponsors as the event approaches nearer. *This is all for now, good luck with the start of shearing.*

## **SYNOPSIS OF AGRICULTURAL MANAGEMENT MEETING OF 25TH SEPTEMBER 1998**

### **Present:**

Cllr L. Clifton, R. Reid, O. Summers, H. Normand, I. Hansen, R. Binnie, N. Watson, R. Lee, Cllr W. Luxton, R. Wagner, P. Robertson..

### **By Invitation:**

A. Gurr, D. Lang and A. Coe.

Minuted of the ordinary meetings of 31 July and special meeting of 25 August were approved.

### **Agenda items:**

1. Animal Health Legislation: 3 papers were presented for discussion and approved to go forward to Legislative Council, they were:-  
Rabies (importation of animals) order 1998, the Waste Food (imported waste) order 1998 and Designated Abattoirs (adaption of legislation) order 1998.
2. A paper by A. Coe entitled "Falklands Agriculture - A Personal View" was tabled and lengthy discussion took place.
3. Animal Ethics Committee: Legislation pertaining to animal experimentation using clinical procedures was required and the Attorney General will draft accordingly.
4. The National Stud Flock Committee to incorporate the National Beef Herd and both activities to report to Agricultural Management Committee. Needs Exco approval.
5. Presentation/Meeting Attendance - concern was expressed that the deliberations of A.M.C. were not reaching all farmers. Representative bodies will be asked to review membership.
6. Income Tax: The Economic Advisor stated that interest deductibility was only available on the principal residence.

### **Any other business:**

- a. Incentive monies not to be used for roof renewal.
- b. All farms will be treated on an individual basis, and
- c. Principal farm activity will be assessed on gross income.

Next meeting: 6 November 1998.

### **WANTED TO BUY**

**DOES ANYONE HAVE A SET OF CHAIN HARROWS THEY DON'T NEED ANYMORE. IF SO CONTACT SUSIE AND IAN HANSEN, MAIN POINT FARM.**

# FARM BUSINESS PLANNING: STRATEGY FORMULATION.

By Bob Reid

Any change in direction of the farming enterprise whether it be a major development project to produce more of the same, or the possibility of taking up a new business, will sensibly require some analysis. Time spent at this initial stage could not only save you a lot of money but also a considerable amount of future heartache. Filtering the information to identify the most significant strengths, weaknesses, opportunities and threats (S.W.O.T. analysis) is the process that leads to the selection of your business's Sustainable Competitive Advantage (SCA) and major objectives.

## S.W.O.T. Analysis

Changes in Government policy (incentive scheme), changes in society's values (clean food), improvement in technology (calcified seaweed), increased competition (cheap Australian wool), customer's needs (chemical free wool), competitors activities (wool stockpile), trade practices (wool taxes) etc, etc., - these and many more influences can have a positive and negative impact on a business.

The S.W.O.T. analysis is a means of looking at these influences and considering whether:-

- They create an opportunity?
- They threaten your success?
- You have strength in this area?
- You have weaknesses in this area?

What I have attempted here is to conduct an analysis of a number of theoretical businesses that might or might not have a place in the Falklands. The examples chosen are not definitive but serve only to illustrate the process involved.

## Opportunities and threats

Opportunities and threats are factors or trends external to your organisation, but relevant to your industry, your business and your target market.

Typical opportunities may be:-

- The market for clean, chemical free food is growing.
- Consumers are expecting greater evidence of environmental sensitivity in products.
- A major supplier has lost a significant overseas customer and is eager to negotiate with a new entrant.
- New technology in fertiliser application means new productive plants can be grown.

Typical treats may be:-

- International competitors can respond to market demand faster than you.
- Farm subsidies in Europe may price you out of the market.
- High value of currency prices you out of the market.
- World market already over supplied.

## Strengths and weaknesses

Strengths and weaknesses can be seen from the viewpoint of how well or how poorly you could satisfy the needs of your target customer compared with your competitors.

Put yourself in the customer's shoes when you consider the way your business will be set up, even when thinking about parts of the business the customer never sees.

### Typical strengths

- My product can be produced for less cost than my competitors.
- I am very close to the market and supply within 23 hours.
- I have a reputation for reliability and giving value for money.
- I have completed a Department of Agriculture course on "how to get the best out of my soil".
- I can get a 20% return on investment which is 10% higher than the industry average.

### Typical weaknesses

- My competitors can supply the market on a more regular basis than I.
- I am only one of many small players (less than 1% market share).
- I lack technical expertise in this enterprise - fertiliser, what kind?
- There is no marketing or promotional plan by either Government or Industry to help sell my product overseas.
- The market is not identified.

Below are four examples of a quick S.W.O.T. analysis. If any of them offer potential then the next step would be to attempt to place monetary figures into the equation.

#### 1. Apricot growing in the Falklands.

<b><u>Opportunities</u></b> No competition in the Islands. High price paid for fruit	<b><u>Treats</u></b> Abundant cheap supplies in nearby countries. Large plantations closer to the market. Competitors paid subsidies.
<b><u>Strengths</u></b> Cheap land. No planning permission. Disease free environment.	<b><u>Weaknesses</u></b> Not suited to the climate. Department of Agriculture has not technical expertise to assist. limited labour for harvest. No export market. Small volume required.

#### 2. Fibre from Guanacos.

<b><u>Opportunities</u></b> High market demand. Limited international competition. Can be vied to Value-added wool High price (up to \$350/kg).	<b><u>Threats</u></b> Competition from Chile/Argentina. Disease introduction.
<b><u>Strengths</u></b> Adapted to climate . No quarantine requirements. Grazing animals (Fits local culture) International co-operation.	<b><u>Weaknesses</u></b> Wild animals (Genetics unknown). Husbandry requires market. Little Department of Agriculture experience. High cost of development.

### 3. Mohair from Angora Goats.

<p><b><u>Opportunities</u></b> Organically grown product. demand from U. K. Manufacturer (?)</p>	<p><b><u>Threats</u></b> Competitive International market. Oversupply from Turkey. Disease introduction.</p>
<p><b><u>Strengths</u></b> Clean pastures. Clean fibres (?) Novel product. Fits grazing culture. Minimum husbandry change.</p>	<p><b><u>Weaknesses</u></b> Fluctuating prices. Need shelter. No market established. High cost of initial importation.</p>

### 4. Potato Growing.

<p><b><u>Opportunities</u></b> Import substitution.</p>	<p><b><u>Threats</u></b> Cheap imports. Disease introduction.</p>
<p><b><u>Strengths</u></b> Adapted to climate. Strong local market. Department of Agriculture and farmer expertise High price.</p>	<p><b><u>Weaknesses</u></b> Seasonal supply. Rapid market saturation. High "Real" costs of production. Nematodes.</p>

## FINDING YOUR COMPETITIVE ADVANTAGE

There is a story that goes as follows:

Two men were fishing in the tropics of Queensland when an enormous crocodile surfaced under their dinghy throwing them into the water. The first man struck out vigorously for the shore. The second trod water, taking off his shoes and putting on a pair of flippers. The first man shouted back to him, "Don't hang around putting on flippers, you won't be able to swim faster than the croc!"

The second man shouted back, "I know, but with flippers on I'll be able to swim faster than you".

This story sums up what is meant by competitive advantage. To survive in the business jungle, and remember farming is a business, you don't have to be the best but you do have to be better at what is important than your direct competitors.

Whatever the size of business you plan to operate you need a Key Competitive Advantage. That is the central reason why customers will choose to deal with you - backed up by a bundle of benefits.

There are three generally accepted competitive advantages.

- Selling at the lowest price (s).
- Being different from competitors in away is:
  - Valued by a customer group.
  - Significant enough to be distinctive and communicable.

Focusing on a specific “Niche” market and becoming a Specialist in servicing specific needs (which could be for a low cost product service that is tailored to the specific needs of the group).

I have attempted to illustrate some of these features in table 1.

**Table 1: Features of Sustainable Competitive Advantage (SCA) options.**

<u>1. Overall cost leadership</u>	<u>Common required skills &amp; resources.</u>	<u>Common organisation requirement.</u>
No-frills product.	Sustained capital investment.	Tight cost control.
Product design.	Process skills.	Frequent progress reviews.
Raw material control.	Product designed for ease of manufacture.	Incentives and targets.
Labour cost.	Low cost distribution.	
Government subsidy.		
Location advantage.		
Product innovation.		
Reducing overheads.		
Experience.		
<u>2. Differentiation</u>		
Product quality.	Strong marketing.	Strong co-ordination among functions in R & D.
Product reliability.	Abilities.	
Patent protection.	Creative flair.	Development and marketing.
Product innovation.	Strong capability.	Amenities to attract highly skilled labour, scientists or creative people.
Service.	In basic research.	
Name.	Reputation for quality.	
Distribution channels.	tradition in industry or unique combination of skills.	
<u>3. Focus</u>		
Narrow product line.	Combination of the above directed at the particular strategic target.	Combination of the above directed at the particular strategic target.
Target segment-niche.		
Geographic area.		
Focused R & D.		

Confused, well don't be. Just think about wool as a product and fit it into of the above features. It won't take you long to work out why it, wool that is, has been a fairly obvious choice of product for the Falklands as it has such a strong SCA.

Why bother with one competitive advantage? A famous American entrepreneur once said “I can't give you a formula for success, but I can give you a sure fine formula for failure - just try to please everybody”.

His comments are the reasoning behind to need for a competitive advantage - you need to be better at something, be it price or features or whatever, and not try to be “all things to all people”. The other reason for a competitive advantage is that it gives you a way of standing out from the crowd of “me-too” businesses, each very much like the other.

How do you choose a competitive advantage?

Read through the **Opportunities** and **threats** you have identified. Then consider the **strengths** and **weaknesses** you feel you have.

Now ask yourself "Is there a gap for my kind of business?" "Am I better situated to compete on price?" "Do customers need a low priced option or are they mainly looking for regular supply and quality?"

Ask yourself "Do I have or could I create a significant point of superiority in an area that customers highly value?" or "Is there a gap for a business to identify itself with special needs of a niche segment of the market?"

Choose **your** competitive advantage and write it up in a sentence (or 2) such as:

"We will succeed by being the most reliable producer of carrots, beetroot and parsnips in the Falkland Islands in terms of having the best physical site, lowest cost of production, disease free status, on-time delivery and regularity of supply".

Still Lost?? The give me a call, drop me a line or better still call in when next time in town. Remember we might not have all the answers but we do know where to go to get them - well most of the time!! *Good Luck*

## **BAD NEWS FOR FAT CATS OR FOOD FOR THOUGHT**

*by Cameron Bell*

A recent paper in the Journal of the American Veterinary Medical Association detailed a study investigating the associations between fatness and disease in cats.

An investigation of the records of 1500 cats revealed that compared to slim cats, obese/overweight cats were:

- times more likely to develop diabetes;
- times more likely to suffer from lameness not related to fractures or bites;
- more likely to have non-allergic skin conditions (probably related to difficulty with grooming).

The study also showed that if heavy cats lost weight, about one fifth of cases of diabetes and lameness could be avoided among cats.

So, next time you feed the cat that piece of cake think again!!

A healthy diet for a cat should be varied in texture, as too much soft food i.e. mince and tinned catfood can cause dental problems. A good diet should consist of a variety containing both raw and cooked meat and fish, rice, cat biscuits and complete diet tinned food.

**IF ANYONE IS INTERESTED IN A 'FARMBITS' CATALOGUE PLEASE CONTACT: SUSIE AND IAN HANSEN AT MAIN POINT FARM.**

## **BRADFORD WOOL VISIT - SOME POINTS OF INTEREST**

*By Colin T. Horton*

In July/August this year I made a visit to look at Falklands Landholdings wool cartage, warehousing and selling systems in the U.K. At the same time both Peter Marriot and Robert Hall took me to see various processors/buyers/testers of our wool. At the outset I must say that both gentlemen provided an excellent itinerary and I would recommend that all Falkland farmers whilst in the U.K. make the effort and go and look at how their wool is handled and processed. I am sure you will get a better understanding of how things operate.

One aspect that had puzzled me as Managing Director was how we receive test results that show minimal coloured fibre contamination yet we all too often hear that the processors claiming a problem with coloured fibres. Visits to the Warehouse facility run by Bower Green soon identified the problem. When the wool arrives (hopefully from a Quality Falkland Wool - QFW approved shed ex Islands) it is wool cored and this sample sent away for testing. The cuts that the core makes in the bales and the resultant pulling out of the grab sample often leave the wool hanging out of the packs. These bales are then moved, often dragged along the floor to an area to be stacked in relevant lots as designated by the storeman. However it would appear that no one has informed these capable folks that our QFW should not be stored next to opened coloured fibres of various origins. I saw our Fitzroy QFW stored next door to coloured carpet fibres, black wool, coloured synthetics and the like. The potential for cross contamination was enormous and the result being the too often cry from processors about coloured fibre contamination. Another warehouse facility that I was shown was prepared to keep Falklands wool separate. However as times are difficult in the warehousing business at the moment there still would be "other" fibres stored in the same facility.

You no doubt have heard from other sources about someone who was looking at other facilities and the "justification" arguments in the press for retention of Bower Green. I am not saying Falkland Landholdings should move its warehousing, however I have indicated to them that as we in the Islands are pursuing a QFW programme we at least expect them to not contaminate our wool in their facility. They have given me assurances that they will endeavour to improve the system - let's hope they do!

On a more marketing note it was conveyed to me very openly that the problem with wool sales is not limited only to wool. Wool makes up only 3 % of the textile fibre sales and all textile fibres were in a period of depressed demand and returns. In a New Zealand paper recently a farmer with 300 sheep only broke even with his wool receipts after paying for shearing and crutching. It does beg the question in the Islands here about our sustainability. Our shearing costs are very high by comparison to New Zealand, and to the cost plus mentality of increasing costs in a decreasing wool market needs some critical evaluation.

**Photographs courtesy of Colin Horton,  
Managing Director of Falkland Landholdings Ltd.**



1. Falkland Landholdings bales stacked to the right in the photograph.



2. Falkland Landholdings Ltd. Quality Falkland Wool bales next to bales of black fibres.

# THE NEW SENIOR VETERINARY OFFICER

*By Stephen Pointing*

## **A little about myself and my family**

I'm a Devonian but haven't spent any of my working life in that county - although I still regard it very much as home and my parents still live in the Exe Valley midway between Exeter and Tiverton - it's a mixed farming area mainly made up of small family farms - predominantly dairying in the valleys and sheep and beef on the hillier ground.

I qualified from Bristol University in 1979 and spent my first 2 years in a mixed practice in West Sussex before returning to University in Edinburgh to study for an M.Sc. in Tropical Animal Health and Production with a view to pursuing at least some of my career overseas. At the end of my year in Edinburgh there weren't any immediate overseas posts available so I filled in the time doing a couple of 6 months locums in the SE of England. It was during one of these in early 1982 that I met my future wife Liz (she's from Rochester in Kent) although we didn't tie the knot until the following year.

Both of us were keen to work in a developing country and I was eventually offered a post in North Yemen (as it then was) setting up a vet clinic from scratch in the far north of the country close to the Saudi Arabian border. It was the most lawless part of the country and all the tribesmen went round armed to the teeth - but fortunately they were extremely hospitable and (usually) only shot at each other !! Liz came out independently and worked as a pharmacist in a Dutch-run mission hospital (not an easy posting in a 99.9% Muslim country). After 6 months of carrying on a "chaperoned" relationship (we had to comply with the strict Muslim ideas of what was considered to be appropriate) we decided it would be easier to "tie the knot" and we got married at the British Embassy in Sana'a in July 1983. Both our mothers came to the wedding ceremony and they then accompanied us for the next 10 days on our honeymoon!!

We spent 2½ years in the Yemen followed by another 18 months in mixed practice in East Sussex and a 2 year stint with MAFF in Gloucestershire. We were both keen, however, to have another spell of working overseas and an opportunity arose in 1990 to take up a posting as Senior Veterinary Officer in Vanuatu (formally the New Hebrides) in the S.W. Pacific. We spent 4½ very happy years there - the first 2½ years on the largest island of the archipelago - Espiritu Santo, and the last 2 years in the Capital, Port Vila. It was a wonderful experience, with a great variety of work, both clinical and regulatory in a very mixed cultural setting. I can quite easily see why people become captivated by the charms of the S. Pacific.

By the time my contract finished there at the end of 1994, we were not sure that we really wanted to head back to the hustle and bustle of life in the UK and I took up a post with MAF in New Zealand in Palmerston North. It was our intention to settle there permanently (by this time we had 3 children) but for a variety of reasons it just didn't work out and we returned to the UK in late 1995 where I worked initially in a mixed practice in Gloucestershire for 1 year before returning to my old job with MAFF also based in Gloucester. We currently have a home halfway between Gloucester and Chepstow on the edge of the Forest of Dean.

As already mentioned my wife's name is Liz and she is a pharmacist. We have three children - Ben (13), Mathew (11) and Hannah (6). They are due to join me before Christmas and I'm sure I'll feel more settled when they are here.

I look forward to meeting you all over the coming months and am eager to see whether the West really is more beautiful than the East (as all those from the West keep telling me that it is).

## HYDATID ERADICATION/CONTROL

*By Diana Berntsen*

It has just about been one year since I took up the post of Hydatid Inspector and I have visited nearly all farms apart from 3 farms which I have spoken to. This has been done with a lot of co-operation from all farmers and FIGAS.

### DOG DOSING

As you know by now, I am trying to supervise dog dosing on every farm, and starting from January 1999 I hope to do this at least twice a year on every farm. This is purely to see how people are dosing their dogs and how many tablets they are giving each dog. Obviously some of the supervised dosings will be between the recommended dates, this is because I cannot attend on every farm on the exact date. The extra dosings will not harm the dogs and you should always continue to dose your dogs on the recommended dog dosing dates even if I have been and supervised a dosing the previous week.

### OFFAL INSPECTING

The other key role to my job is to inspect at least 100 red offals on every farm. I have already carried this out on 13 farms and have inspected smaller amounts on 19 but there is still a lot of farms I have not inspected any offal from. Even if you only have a few when I come to supervise dog dosing this is fine. If you do happen to cull small or large amounts **please contact me so I can attend.** (my telephone numbers are 32244 fax/phone during the day and 32296 evenings).

It is a lot easier if you are carrying out a mass cull as we get the recommended amount of offal in one go and we do not have to repeat the exercise again. It does not hold anything up, you just kill them and I will do the rest.

I have inspected 2491 red offals so far. In addition there has been 2248 inspected at the butchery and we have either found ourselves or farmers have sent in 7 positive Hydatid cysts. So please send in anything suspicious as hydatids is obviously still around.

### OFFAL DISPOSAL

The recommended way of offal disposal is to either burn, bury in a pit to which access by dogs is denied or store for 28 days in drums. Offal should always be disposed of in this way, please do not just chuck it on a beach or let the birds consume it. There are currently 27 farms disposing of offal in a sealed drum, 22 storing it for 28 days, 15 burning, 6 burying it and 5 using pits.

## YOUTH TRAINING SCHEME

**Would you like to have a school leaver to help and train in the Agricultural sector.**

**The Department of Agriculture have at present a school leaver who would like to come and join. If you think you could help in a Youth Training Scheme or if you would like more information, please contact me (Charlene) as soon as possible.**

## IMPORTS AND THEIR CONTROL - *WHY BOTHER?*

*By Andrew Coe*

One of the greatest cause of friction between the Veterinary Services and the public is import controls, so I thought I would try and explain a little of the reasoning behind them and the role of the Veterinary Services in supervising imports.

As we all know, the Falkland Islands are remarkably clean in terms of the major infectious diseases that can affect domestic animals. Some of that is due to good luck, e.g. being an Island with very few trade links and historically we have never imported diseases such as Foot and Mouth disease; and some of it is due to the hard work involved in eradication campaigns e.g. dipping for external parasites; blood testing rams for *Br. ovis*; and hydatid control measures.

Most people can see the sense in trying to maintain a disease free status and in order to do that we have to understand the ways in which disease might possibly enter the country. The main ones are:

1. **Import of live animals and birds (both legal and illegal). Also wild animals, particularly birds.**
2. **Import of animal products e.g. semen, hatching eggs, meat, skins and hides etc. (both legal and illegal).**
3. **Import of animal feeds and utensils e.g. sheep nuts, horse gear, brushes, shearing equipment etc. (both legal and illegal).**
4. **Import of waste foods e.g. from cruise and fishing vessels and airlines.**

There are other risks such as people and their clothing but these are of more minor concern.

One way to deal with the risks posed by 1 to 4 above is to ban all imports of this nature. This however is neither desirable (we need meat, semen, live animals etc. for our own consumption and agricultural development), nor legally permissible, (we have to provide waste disposal facilities for ships' waste). Also, illegal imports would still occur and would in all likelihood increase.

The sensible way to proceed is to weigh up the likely risks of importing certain commodities by carrying out a RISK ANALYSIS, and come up with ways and means of reducing the risks to an acceptable level using pre and post import testing and quarantining. This usually involves agreeing a health certificate with the exporting country whereby a veterinary official in that country signs a certificate guaranteeing that to the best of their knowledge the said animals or animal products meet the required health status.

The means of carrying out a risk analysis is a speciality in its own right and very time consuming since it may well involve making contacts with experts in a number of different disciplines. For that reason, to short cut this process we usually make use of other countries' health requirements (usually the UK, New Zealand and Australia) to give us a guideline as to what we should require for import into the Falklands and then modify them to suit our own needs.

The risk analysis should not just take into account the risk of introducing a certain disease, it should also take account of the consequences of introducing a disease on the socio-economic well being of the islands e.g. introducing a specific pig disease like African swine fever would not

greatly effect the Falklands agricultural economy whereas introducing it to Denmark would be catastrophic. Introducing Foot and Mouth disease to the Falklands would be disastrous. In other words, we could feasibly take less precautions against the introduction of African swine fever (in practice we don't) than we take against Foot and Mouth Disease.

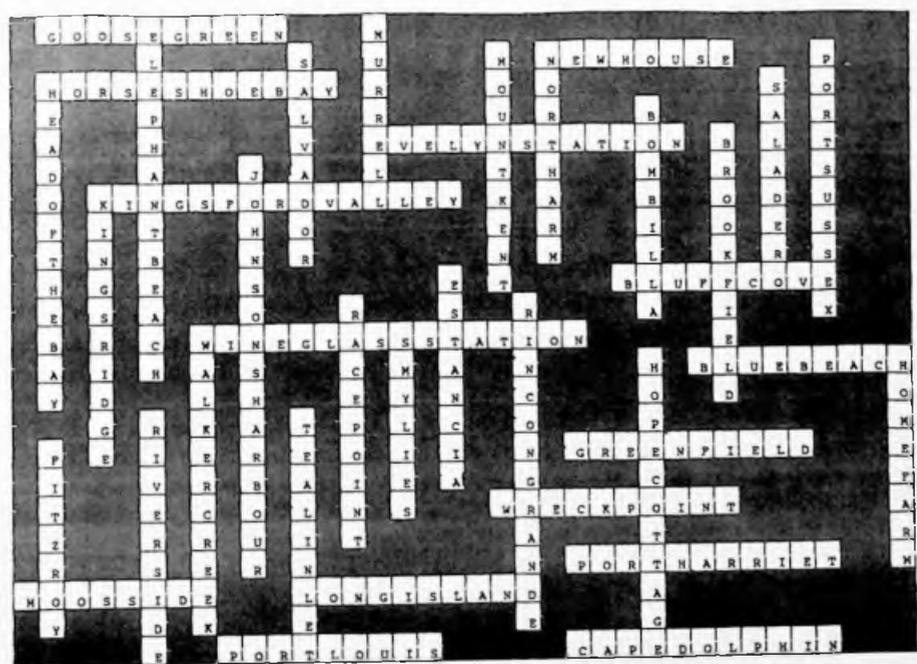
To clarify the role of the Veterinary Service, I should like to stress that it does not make import policy. It gives what I hope is best advice on the possible risks of certain imports and it is then left to Councillors to decide what is or is not to be permitted within a legislative framework. To illustrate this point, it was not the Veterinary Service that banned the importation of sheep from the UK and other countries where Scrapie exists. What it did was to advise Executive Council of the perceived risks of sheep imports from various countries and recommend that imports from only Australia/New Zealand should be sanctioned if a 100% guarantee against the future import of scrapie was required.

So, in practice then, how do we respond when an initial request is made to import an animal or an animal product. In the case of common imports such as dogs and cats, horses, hatching eggs etc. we have agreed health certificates with the countries from which they are permitted (these are updated from time to time as the perceived risks change), and everything usually proceeds in a fairly straight forward manner.

However, in the last three years we have received numerous more unusual queries from potential importers. These include the requirements to import red deer from the UK and Chile; Salmon eggs from the UK and Chile; Pacific Oysters from the UK; day old chicks from Chile; Angora goats from the UK and New Zealand; Cattle and Alpacas from Chile; to name just some of them. When such requests are made, we in the first instance make preliminary enquiries from other countries regarding their requirements. We do not prepare detailed health certificates at this stage because many of the initial requests fade away to nothing and we do not have the resources to spend a considerable period of time working on health protocols that may never be used.

If after all our deliberations we decide that sufficient guarantees to protect our own disease status cannot be reasonably met then we will not issue an import licence to the importer. If the importer is unhappy with that decision or if we ourselves believe that we need clear guidelines on policy, then we prepare a paper setting out the facts and giving our recommendations to Executive Council. This has happened in the last few years in relation to sheep, exotic pets, cattle and meat from South America. We then of course implement Exco's decision at the earliest opportunity.

OCTOBER'S  
ANSWERS TO  
MARIE'S  
MIS - MOTHERED  
MUDDLE  
CROSSWORD



## CATTLE AUCTION

*By Robin Thompson*

The inaugural Falkland Islands cattle auction was held on Thursday October first. The auction was held under the Helmsmans system whereby all lots were for sale simultaneously and thus could be bid upon at any time. The auction was concluded when no further bids were received within any one three minute period. The nine farmer bidders quickly grasped the system and purchased 42 of the 79 lots. Bidders were most keen to purchase breeding female cattle and young steer calves for growing out to finished beef.

The heifers sold had an average liveweight of 302 kg and achieved an average price of £166.60 per head equating to £0.58 per kilogram liveweight. The steer calves had an average liveweight of 192 kg and sold for an average price of £81.78 per head or £0.44 per kilogram liveweight. Unfortunately, bulls and mature steers attracted very little bidder interest but these animals are still available for sale by contacting their owners.

I believe the auction has been successful in establishing benchmark prices for the classes of animals sold. Competition is the basis of a free market economy so forums such as auctions where the forces of competition can freely act ensure that prices paid are a true reflection of the market conditions at the time. Hopefully another such auction can be held next year or sooner if there is sufficient interest so potential buyers and sellers keep in touch.

### Analysis of hay samples

Analysis of the hay samples submitted some months ago have finally been received and are detailed below.

Sample ID	Protein %	Energy MJ/kg DM	Digestibility %	Sheep		Cattle	
				Intake	Growth	Intake	Growth
1	8.3	9.3	66.5	1.11	-83	6	-640
2	13.1	8.4	60.9	1.1	-42	6	-460
3	4.0	7.8	57.9	0.7	-204	5	-1400
4	7.8	7.9	58.2	1.0	-126	5	-880
5	6.9	8.0	59.0	1.0	-144	5	-980
6	12.1	8.0	58.7	1.0	-67	5	-610
7	7.1	7.2	54.0	0.8	-159	5	-1060
8	7.3	6.5	49.9	0.8	-175	4	-1150
9	7.6	7.5	55.6	0.8	-143	5	-980
<b>Green Grass</b>	<b>15.0</b>	<b>17.5</b>	<b>75</b>	<b>1.32</b>	<b>72</b>	<b>6.24</b>	<b>220</b>

**Note:** Intake is kilograms of hay able to be eaten by the animals per day and growth is the liveweight response in grams per day derived from eating that quantity of hay. The sheep are four month pregnant 50 kg Corriedale ewes and the cattle six months pregnant 400 kg Shorthorn type cows.

### *Green grass better than hay*

All of the above samples are poor quality feeds relative to green grass as demonstrated by their energy and protein contents. Sample two has a relatively high protein level because it contained a

large quantity of suckling clover. In fact this hay was the feed left in a paddock that had already been cut for hay. Sample eight was the hay cut from this paddock so if the sward had been cut lower so as to include most of the clover in the hay it's quality would have been improved significantly.

### ***Factors affecting hay quality***

Hay quality can be less than desirable for a number of reasons. Plant maturity is probably the greatest determinant because as plants mature they produce lots of stem and seed heads relative to green leaf. Stems and seed heads are more structural components of the plant so they are tough but also much less able to be digested by animals. Hay therefore should not be cut by the calendar but rather the maturity of the plants. The more mature the plants are at cutting the greater the quantity of hay that will be harvested but quality will be poorer. Species composition of the sward also influences hay quality as demonstrated by the influence of legumes in the above example. Some hay crops were exposed to lots of rain before being baled. This can reduce quality by encouraging fungal growth as well as by leaching out some of the more soluble nutrients.

### ***Feed quality determines animal intake and performance***

The above examples show that despite the animals being offered as much hay as they can eat (fed ad-lib) it is impossible for them to gain or even maintain liveweight. The relatively low quality of these feeds prevents them from eating sufficient quantity (intake) because it takes much longer for low quality feed than high quality feed to pass through the gut of animals. It is often tempting to feed animals hay despite adequate green pasture being available. Under these conditions the animals often substitute hay for the pasture so their diet is of a lesser quality than it could have been had the hay not been offered.

### ***Manage for quality***

Hay does not have to be a poor quality supplement. As the intensity of grazing here increases along with improved pastures, hay making will probably become more widespread because it can allow larger numbers of animals to be supported through times of low pasture growth or adverse weather conditions. If this is to happen managers must learn how to develop and manage pastures so as good quality standing feed and fodder is produced. It must be remembered that poor quality hay costs as much to make as does good quality hay.

## **RECIPE**

*From Julie Fisher-Smith*

### **WELSH CAKES**

8 oz flour; 4 oz butter; 3 oz castor sugar; 2 oz currants; 1 teaspoon baking powder; 1/4 teaspoon mixed spice; 2 tablespoons milk; pinch of salt and 1 egg

Sift the flour, baking powder, spice and salt together. Rub in the butter until the mixture looks like breadcrumbs. Add the sugar and fruit. Beat the egg. Add with enough milk to make a firm paste. Roll out on a floured board to a thickness of 1/4 inch and cut into 2 inch rounds. Grease a griddle or electric hot plate or thick frying pan. Cook the cakes on the griddle over a gentle heat for three minutes on each side or until golden brown. Cool and sprinkle with castor sugar. Serve alone or with butter.

# OZONE DEPLETION, DWARF SHRUB HEATHS, AND AGRICULTURE IN THE FALKLAND ISLANDS

By David Broughton and Jim M Adam

## Introduction

Depletion of the ozone layer has resulted in increased ultraviolet-B (UV-B, 280-320 nm) radiation reaching the surface of the Earth. Enhanced UV-B radiation can effect plants in many ways. Responses can be biochemical, physiological, morphological or anatomical and the direction of the response can vary between different species and also depend on the growth conditions for the plants investigated. Over the past few years the Falkland Islands have been covered by the ozone depletion zone in late winter and early spring, and hence ozone depletion has started to regularly occur at a time concurrent with the onset of plant growth.

## Effects on dwarf shrubs

In dwarf shrub heathland shrub seedlings are found very infrequently and they usually occur only on disturbed ground. Any major effect of enhanced UV-B should therefore be on growth patterns and changes in morphology, rather than on sexual reproduction.

One of the main responses is a reduction in stem elongation i.e. stunting of plants. The reduction in growth may be of great importance in a natural plant community if individual plant species show different sensitivity. Plants which are reduced in growth relative to their competitors will be at a competitive disadvantage when it comes to intercepting light for photosynthesis. Thus in the long term there could be a great ecological impact if increased UV-B leads to a change in composition of species in a community. Grazers and decomposers that feed on plant species that are reduced in abundance might be affected as well. In a European study *Empetrum hermaphroditum* (closely related to the Falklands Diddle-Dee) showed an 11% reduction in relative growth in its first year of exposure to enhanced UV-B and a 33% reduction in its second year.

The dwarf shrub heath of the Falkland Islands is composed of evergreen species. This is significant in predicting the effects of increased UV-B as leaves of evergreen species are exposed to UV-B over a longer period each season than leaves of deciduous species. Thus if UV-B responses are cumulative it can take years until the first responses to UV-B radiation become visible. The old leaves in evergreens contribute to photosynthesis and growth early in the season. If these leaves have accumulated damage from previous years they might not be as effective as those leaves grown under normal ambient UV-B. Thus, the result may be that plants which have experienced enhanced UV-B radiation in previous years have slower initial spring growth.

Another way in which plants respond to enhanced UV-B radiation is by a change in leaf thickness. Usually they tend to increase leaf thickness. This increases the protection of internal, sensitive parts of the leaves such as those influencing the photosynthetic machinery. UV-B exposure can also lead to an increase in tannin production in the leaves. Both of these effects will have an impact on grazing animals by decreasing forage quality.

## Effects on mosses

These small plants are important components in the heathland of the Falkland Islands. They can dominate the understorey of the heath and thus create a specific temperature and humidity microclimate for higher plants and the soil. Additionally the Falkland Islands are important for their moss biodiversity which includes many endemics (species and varieties found nowhere else).

Bryophytes are expected to be extraordinarily susceptible to UV-B radiation because (a) they have thin leaves without the protection of a cuticle, and (b) they show a rather uniform leaf anatomy which does not allow them protection from stresses such as UV-B. As many mosses are not able to control their water content, if the periods of highest UV-B radiation overlap or even coincide with drought, cell damage can be

more severe. Spring is typically the driest period in the Falkland Islands and it is also the period when plants are exposed to ozone depletion.

#### **Effects on litter decomposition processes**

One limiting factor for plant growth, particularly in high latitude ecosystems, is the availability of nutrients in the soil. Nutrient availability depends on the rate of litter turnover which is water and temperature dependent. In arctic and subarctic ecosystems the low nutrient availability, together with low temperature, limit plant productivity compared to lower latitudes. UV-B may further slow down litter turnover, both by damaging UV-B intercepting microbes active in decomposition and by changing the chemistry of the leaves so that they become less attractive to microorganisms involved in decomposition. For example, generally fungi were less abundant on leaves incubated under UV-B.

Direct effects of UV-B presume that the litter layer is exposed to solar radiation. Thus it is most likely that UV effects on litter turnover will be mainly indirect, meaning that enhanced UV-B will slow down litter turnover and nutrient cycling.

#### **Summary**

The effects of UV-B vary from year to year. This suggests that the effects of UV-B can be masked by other environmental factors, such as water, temperature, and nutrients. Global warming in particular, through its effect on these factors, might be of higher significance than an increased amount of UV-B. Therefore, the biological importance of increased UV-B radiation is hard to assess at the ecosystem level. However, the following broad conclusions for the Falkland Islands can be drawn.

- The effects of increased UV-B radiation (through ozone depletion) will impact on all components of the vegetation and therefore community structure. Responses may be species and habitat specific.
- There may be significant changes in moss communities. Moss leaves lack a cuticle and this makes them particularly vulnerable to damage resulting from enhanced UV-B, this is compounded by exposure at the driest time of year.
- There is likely to be a reduction in the growth of dwarf shrubs and consequently a change in their morphology.
- Due to the high number of evergreen shrubs in the Falkland Islands heaths, the effects of UV-B (which are cumulative) on shrubs and hence the community may take years to become apparent. As UV-B damage is cumulative in evergreens the community may be more severely affected than in communities dominated by deciduous plants.
- The grazing quality of the heathlands (which is already low) may decline, due to the adaption of plants to higher UV-B levels e.g. thicker leaves in evergreens, and increased tannin content.
- If increased UV-B leads to an increase in nutrient availability (through enhanced degradation), then the productivity of the Falkland Islands heaths may increase (especially if climate warming also occurs) with benefits for agriculture.
- If increased UV-B leads to a decrease in nutrient availability (through a negative impact on decomposition processes), then there could be significant implications for plant nutrition and consequently agriculture.

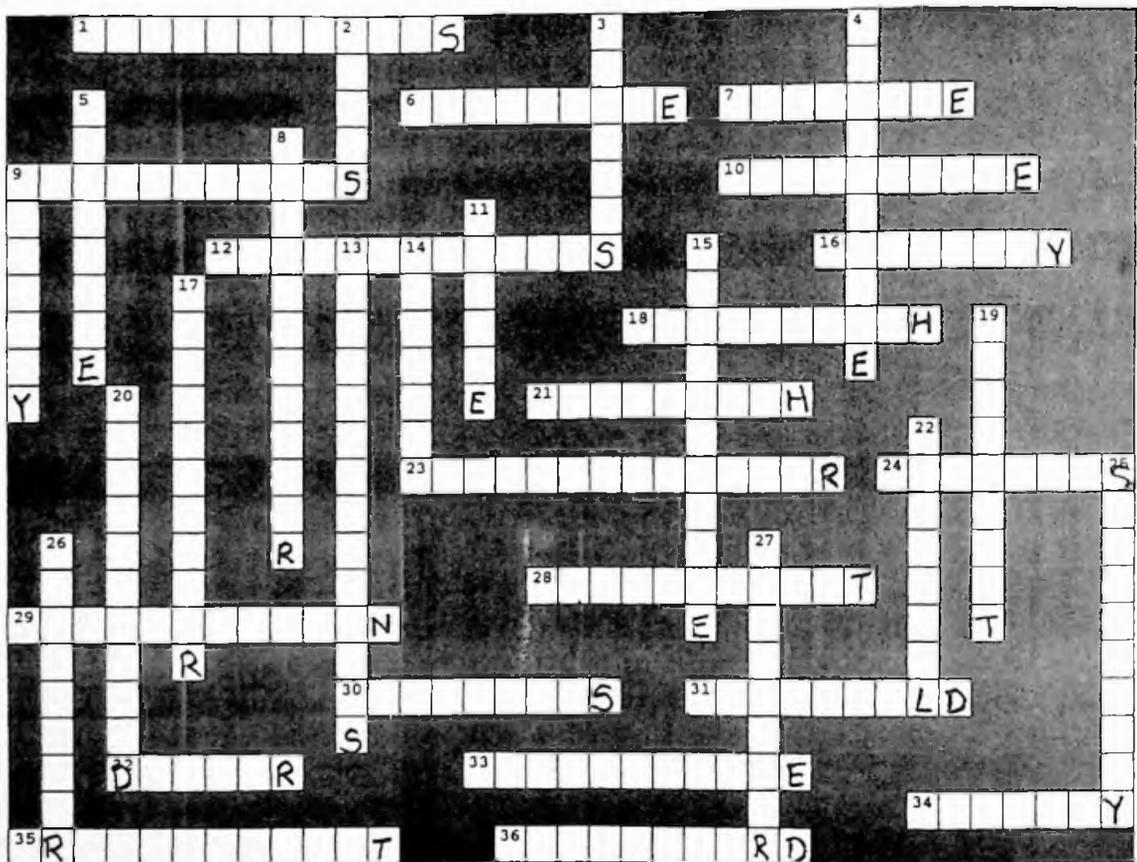
#### **Acknowledgements**

This paper is an extract from a study into the dwarf shrub heath of the Falkland Islands funded by the Falkland Islands Government through the Department of Agriculture.

## MARIE'S MIS-MOTHERED MUDDLE TAKE 2

All of the West Falkland farms are hidden in the jumble below the crossword grid. You have to try to find each one and find a place for it on the crossword grid. To help you the last letter of each farm name has already been filled in. This time there is no missing farms but just to confuse you, and to try and make this puzzle a little more difficult, I have added some extra letters in with the jumbled farm names.

Good luck and happy hunting.



PORTSTEPHENS DUNBAR PHILOMEL DUNNOSEHEAD ALBEMARLE PICKTHORN E MSHAL  
 LOW HARBOUR SOUTH HARBOURN PORTEDGAR INARROWSLITTLECHARTRESSHEFFIE  
 LDETEAL RIVERCHARTRESS MOSSVALES WESTLEYRINCON RIDGEEASTBAYILAKESULL  
 IVANLAKELAND SECROOKEDINLET THEPEAKS STONEYRIDGEDLEICESTERFALLSPOR  
 THOWARD BOUNDARY COAST RIDGE HOPE HARBOUR SPRINGPOINT SHBOLD COVEMAI  
 NPOINT MANY BRANCH WESTLAGOONSSADDLESHALLOWBAYSADDLE.



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## EDITORIAL

Christmas is nearly here, I need not remind you of that, I'm sure. Bob and Cameron have arrived back after their holidays. Mandy is also back after her training (see her article on Computers in Rural Development and Interactive Learning). Andrew Coe the Senior Veterinary Officer has completed his contract and is taking a well earned holiday travelling through Chile with his family. The staff at the Department wish Andrew, Sarah and children all the very best for the future.

The Farming Statistics have all been sent out. If you do not agree with any of your figures please let me know so that I can rectify them!

This months Wool Press sees another article from Queen's University of Belfast called "Is the Falklands Climate Really Changing?" This article was written by Gerry Hoppe who is a part-time post graduate student and was Senior Scientist in this department from 1989-93. This article is the first comprehensive study of climate change undertaken for the Islands. It was financially supported by the Falkland Island Government through this Departments link with Queen's University. Gerry's study was supervised by Dr. Jim McAdam, who together with Aidan Kerr edited Gerry's original draft.

# MERRY CHRISTMAS

TO ALL FARMERS IN THE FALKLANDS  
AND READERS OF THE "WOOL PRESS"



*FROM THE STAFF  
OF THE*



DEPARTMENT OF AGRICULTURE

### THIS MONTH'S CONTRIBUTORS

<b>Sean Miller</b>	Sheep Husbandry Officer.	<b>Aidan Kerr/</b>	Senior Scientist/Agronomist & part time
<b>Jim McAdam</b>	Queens University .	<b>Gerry Hoppe</b>	Post Graduate of Queen's University
<b>Nigel Knight</b>	Farmer, Coast Ridge.	<b>Ian Pattison</b>	Man. Director, Bower Green
<b>Robin Thompson</b>	Beef Specialist.	<b>Mandy McLeod</b>	Farm Manag. & Training Officer
<b>David Parsons</b>	Legume Agronomist	<b>Bob Reid</b>	Director of Agriculture

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THE ARTICLES PRINTED IN THE WOOL PRESS DO NOT NECESSARILY REPRESENT THE VIEWS OF THE DEPARTMENT OF AGRICULTURE.

## LETTER FROM BOWER GREEN

As the Managing Director of Bower Green Limited I feel that I should write in response to the article, Re Visit to Bradford Warehouse, published in the Wool Press by Mr Colin T. Horton.

Unfortunately when Mr Horton visited Bradford, in July/August, I was on holiday and unable to talk with him at the time but I am assured by my warehouse foreman that it was explained that due to the Halifax/Huddersfield holidays several of our customers could not deliver direct into their warehouse/mills as they were closed for the two week period thereby requiring short term storage and resulting in normally segregated types of wool being stored, albeit for a very short period of time, together.

With hindsight my warehouse foreman should have known better than to locate these and white store wool together and as such has been seriously chastised. The inference made by Mr Horton that this is the reason for black fibres in Falkland wools, is to say the least strongly disputed.

As for myself I can only apologise to the Falkland Farmers for this incident but can honestly say this has not happened in the past and will not happen in the future.

With regard to Mr Horton's comment about the cutting of bales prior to Core Testing, this has always been the recommended methods by SGS, however after a visit from Mr Doug Cartridge in September it was suggested that a hot knife may be the answer to making smaller holes in the bales and therefore for the forthcoming season this method will be tried.

Incidentally I am sure Mr Cartridge would also confirm the cleanliness of the warehouse and that all the Falkland Wools were only located in the new warehouse where white wools only are stored.

Both Mr Peter Marriot of FIWM and Mr Robert Hall of FWG can also confirm the text of this letter as they are in and out of the warehouse on a regular basis inspecting and sampling the wool, however should any of the farmers wish to have an independent party visit the warehouse to authenticate this statement they are more than welcome to do so.

Once again I apologise for this isolated incident and more especially to the manager of Fitzroy whose bales were the subject of Mr Hortons letter.

Yours very sincerely.

**I Pattison, Managing Director.**

### FOR SALE

From Nick Pitaluga, Salvador Farm  
Telephone/Fax: 31193 evenings for details

Available: 1 set of press pins for use with capless packs in a wooldraulic press. (Already baled 67) will throw in woodwork if required. (Pins will fit other makes of presses).

### WANTED

Capstan winch (preferably complete with drive) for series II.  
Grey car door linings (even scruffy bits).  
Michelin 900 x 16 tyre casings, worn or slightly split, anything considered.  
Set of old, big spanners - operated M.A.P. L/R freewheel hubs. (Must be some around).

## WHAT'S HAPPENING WITH LEGUMES?

*By David Parsons*

The first year of legume trials went well, and we're still finding out valuable information about how these plants grow in the Falkland Islands. Many of them are perennial plants that need a year (or longer) to establish fully, and so we are yet to see them at their most productive. The weather and the soil conditions have "weeded out" many of the plants, leaving the more promising ones.

The main area of work is still Fitzroy, where a large number of legumes are being assessed, both in rows, and now also in small plots. Similar work is taking place at Bertha's Beach, providing valuable information on what legumes will grow the most successfully on coastal greens.

A trial has been started to determine what legumes will be suited to what areas. This is really an attempt at cutting a few corners, by taking an "educated guess" at which legumes look promising. Twelve types of legume were chosen, and planted at five sites:

- Fitzroy (old re-seed)
- Mt. Kent (old re-seed)
- Hope Cottage (new re-seed on whitegrass)
- Shallow Harbour (rotavated diddle-dee)
- Crooked Inlet (recent re-seed).

To add another factor to the trial, there are high and low rates of fertilisation. This trial should help us to understand what legumes are best suited to what type of site, and if they respond well to additional fertiliser.

Although these are the main trials, there are numerous other smaller projects on the go, at places such as Mt. Kent, Bertha's Beach, Cape Pembroke, Crooked Inlet, Shallow Harbour, and here at the Department in Stanley. To give a couple of examples; at Mt. Kent, we have just sown a small area of two types of *Lotus* on a really wet patch of re-seed. In addition, we are sowing an area of re-seed at Brenton Loch with a grass and clover mix. There are a couple of reasons why it is useful to do such projects. Firstly, it is useful to see how plants grow at different sites, and under different situations. Secondly, it helps us to foresee, and find a solution to some of the problems that we might encounter in the future, when sowing of legumes is undertaken on a large scale.

In the new year, we hope to hold field days, both on the East and on the West, to give you the opportunity to see what we are involved in, and see some of the legumes that we are interested in developing for the Falkland Islands.

If you would like any further information on what we are doing, then don't hesitate to contact me.

## WHAT IS WRONG WITH WOOL?

*By Bob Reid*

Like everyone else involved and interested in wool production, I'm often at a loss to fully understand why such a fine product is in decline. We have all heard that our woes are caused by such things as the Asian Economic crisis, competition from other textile fibres, the "terrible Australian Stockpile" and without doubt the fickle world of fashion.

During my recent vacation in Australia I made a point of not only talking to wool producers about the current wool crisis, but I also held discussions with the Woolmark Company (formerly the International Wool Secretariat), the Tasmanian Farmers and Graziers Association, Tasmanian Merino Wool Mill, the Co-operative Research Centre for Premium Quality Wool (CRC) and the Australian Trade Bureau. The following is a resume of what they had to say in relation to the Australian Wool Industry but without doubt most of the commentary has relevance to ourselves.

All are agreed that there is an overwhelming imperative for wool to become more competitive as a textile fibre; both in terms of its relative price and its value as a textile raw material. Not an easy task as this will involve overcoming the present deficiencies in wool's competitiveness as well as combating the inevitable gains made by wool's competitors in the future. Dr. Lionel Ward, the CRC Director said "one of the major problems for the wool industry is that it is very fragmented. The raw wool production, distribution and processing sectors should have a considerable commitment to securing the long-term commercial viability of the Australian wool industry. Their own survival depends on it, and yet genuine integration remains elusive".

In contrast, the wool industry's customers are not dependent on wool. The worsted and woollen spinning sectors have an interest in continuing supplies of wool, but they are able to adjust progressively to alternative fibre supplies. Dr. Ward also said, "The further downstream that analysis is conducted, the less the commitment to the use of wool. Fragmentation in the wool industry has two dimension - many small firms within each sector and lack of vertical integration between sectors.

When you realise that within sectors, in Australia, there are 10,000 relatively large wool growers, about 30,000 or more minor growers, more than 40 wool-selling brokers, 30 private treaty operators, more than 50 exporters and 23 early stage processors, one can easily see the fragmentation between sectors, there is little vertical integration from production through to processing, although some individual companies operate across more than one sector. (Tasmanian Merino being a prime example).

There is no doubt that this fragmentation is a major source of inefficiency in the industry, but it is also an important reason for the lack of co-operation in undertaking industry initiatives. All parties seemingly agree that the Australian Wool Industry has entered a period of irreversible change.

A principal factor in the wool saga has been the change in consumer demand for woollen clothes during the last 20 years. Initially, poor retail sales in the major consuming countries were attributable to a global recession in the early 1990's. However it soon became apparent that as economic growth recovered, demand for apparel in many countries remained depressed. Apparel's share of consumer expenditure is clearly being eroded as consumers choose to direct more of their income to travel, home electronics and other recreational activities.

In Germany, for example the proportion of household expenditure spent on clothing and footwear by higher-income earners has declined from 10% to 6% in the last 10 years. This decline is apparent throughout the developed countries and seemingly the only hope of reversing this trend is greater product innovation within the apparel sector which may generate more consumer interest. All the experts seem to agree that there needs to be a shift from wool's tradition of formal wear, to smart, casual and colourful leisure wear.

Surveys by the Woolmark Company have shown that consumers in wool's target market still wish to look good and feel confident in their business clothes, but they wish to exercise greater freedom of choice than is offered by coats, suits and skirts. Also the following product features being sought by consumers which will impinge on wool's long term suitability as a textile fibre include:

- **Softness** - handling ability and next-to-skin comfort.
- **Light weight** - average weights of both worsted and woollen fabrics have declined by up to 15% during the past ten years, and
- **Easy care** - has assumed greater priority to create more time for leisure.

One of wool's most significant assets has been its image as a warm, natural fibre with a traditional place in apparel. This is now fading as:

- Fewer consumers have knowledge of wool's natural attributes. They have always known, and taken for granted, the availability of a full range of synthetic fibres;
- Some of wool's negative perceptions (such as the prickle factor) have gained prominence, and
- Although wool's image as a natural fibre is still positive, its value could be perceived by adverse publicity relating to chemical residues and animal welfare.

Then there is that most important consideration - **price**. Apparel prices are falling in most developed countries, in Japan and Australia by 15% in the last 5 years and similarly in Europe by 10%. Consumers increasingly wait for sales in order to purchase - in 1996 more than 60% of apparel purchases in the U.S. were from sales, and in Germany they represented 50%. This trend has had a major impact on retailers who in turn have imposed strict price limits on manufacturers, and thus little forward orders.

Wool consumption is increasing in the developing countries, by about one third in the past 10 years and now represents about 40% of wool's global market. However this increase has only replaced the dramatic slump in wool consumption in Eastern Europe and the former Soviet Union. The potentially large markets of China and India are still untapped and pose the greatest challenge for wool's future.

Finally there is the problem of wool production itself, and in Australia wool growing as a business has the dubious reputation as having the **Lowest Annual Productivity** growth of all broadacre enterprises. In Australia between 1977 and 1996 wool production had a productivity growth of 1%, compared to 1.6% for beef cattle production, 4.6% for cereal cropping and 10% for cotton production (the latter probably our biggest competitor).

A recent report commissioned by the Tasmanian Farmers and Graziers Association on woolgrowers' attitudes to adopting new practices, and hence the rate of productivity change in the industry, had revealed a deep-seated malaise in what should be Australia's leading agriculture sector. In many areas both stocking rates and wool cut per hectare has dropped significantly - 12 DSE to 10.9DSE and 45 kg to 42kg - in the last 25 years.

What do these productivity findings say about the millions of dollars invested in agricultural education, research and extension for wool growing over that period? What does it say about genetic improvement either through performance recording or the traditional stud system?

On the face of it, the wool industry could have stopped research and extension in 1970 and be using rams bred in the 1960's for the past 25 years and still achieved higher productivity than today. If the tools are in place to achieve higher productivity then the question must be asked "Why haven't wool growers availed themselves of them?" The report concludes that the fault actually lies with the growers themselves, stating that about 50% of them are so traditional in outlook, they have no interest in change and do not seek information about change. They believe economic viability will return as a result of market forces over which they have no control. Such an attitude leads the report to question the suitability of continuing to allocate funding to research and extension programmes aimed at woolgrowers in general. Maybe funding should be targeted for research which progressive woolgrowers will tap into.

Further the report suggests there is not just a technology transfer problem in the wool industry but the lack of adoption of new technology signifies a bigger problem - that a large number of woolgrowers fail to understand the system they are managing, or what their profit is sensitive to.

None of us have the power to gaze into the crystal ball and predict the future and it would be a brave person who tries. But there is no doubt that significant changes are occurring in the wool industry and to survive many growers will have to look at greater innovation and attempt to lower the overall costs of production. Ask yourself "Do I have faith in, and support the wool industry" - then look at yourself and determine how much wool are you wearing today!! If you're not, then you can't expect your customer to be doing so.

## ALIEN INSECTS

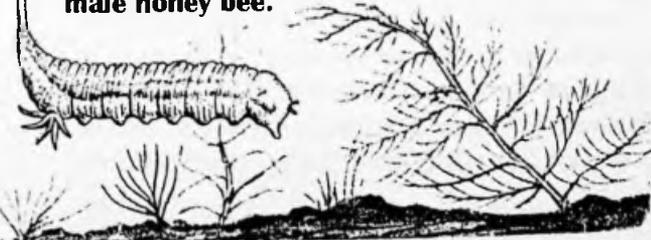
*By Aidan Kerr*

**As some of you may know part of my job is to administrate the importation of plants in the Islands. This usually involves signing plant import permits and inspecting fruit and vegetable consignments which arrive by ship. One of the more interesting aspects of the job is the identification of insects - usually those handed in to the Department by the public.**

**Recent specimens have included; an unidentified aphid (green fly) which has infested garlic. Another type of aphid called Woolly aphid, was seen as a white 'dusting' on 18 year old Lodgepole Pines in Stanley. It had adversely affected their growth. The mild winter may well have encouraged this aphid to multiply and grow.**

**Finally, some specimens of the 'rat-tailed maggot' - the larva of the Drone-fly were handed in. The larva live in stagnant water, including blocked gutters and any water containers lying unemptied for a long time. Its long 'tail' is pushed to the water surface for breathing. The adult looks like a male honey bee.**

**If you find any unusual specimens please send them in. I will be happy to try and identify them for you.**



# IS THE FALKLANDS CLIMATE REALLY CHANGING?

by *Gerry Hoppé, Jim McAdam & Aidan Kerr.*

Concern about 'global warming' and 'global climate change' is increasing and has been very much in the news recently with a major conference in Argentina on climate change. The problem with measuring climate change is that the climate is very variable anyway and it goes through natural cyclical change. Also there are many, often conflicting and complex predictive models for estimating if the climate is actually changing in the long-term.

In this study we have tried to accumulate all the known data about the climate and weather of the Islands, apply some of the more accepted climatic change models and conclude if the Falkland Island climate is really changing or not. I have also studied the main driving forces behind the Falkland Island climate (surprisingly these are more based on the Antarctic Peninsula than that of Patagonia) and considered the likely implications of climatic change for agriculture and land use generally. More of these aspects in another article.

## **Climate recording**

Documenting climatic change is much easier if there are long recording periods from well maintained and calibrated weather stations and if there is a good countrywide network of stations. The problem in the Falklands is, of course, that these do not exist. The weather station at Stanley has moved several times before closure in 1982 and since 1986, comprehensive records have only been kept at MPA. This raises an immediate problem in interpreting from one station to another - how similar is the weather at MPA to Stanley? In addition the network of camp stations recording weather has been poor.

## **Climate change**

Given the data we have what has been happening to the climate?

### **1. Sunshine (1951 - 1996)**

Total hours of sunshine each year appears to be increasing (Fig 1). The data are much more interesting when they are split up by season and a computer-generated trend line drawn (Fig 2). This shows that sunshine hours in Summer (December to February) have been noticeably increasing in contrast to sunshine in the other seasons.

### **2. Temperature (1923 - 1996)**

One way of assessing if temperature has changed is to look at how much each year's average deviates from the long term average. For temperature (Figure 3) we can see that there has been a noticeable cyclical pattern - temperatures were lower than average between the 1950's and the 1970's and that currently the islands are in a 'warmer' phase. Will the cycle repeat itself and temperatures go down again, or has the shift of recording to MPA clouded (not literally!) the picture? The trend line in Figure 4 shows a steady increase of about 0.01°C per year since 1923. Not a lot you may say, but when you consider that the average world temperature is only 4°C higher now than it was in the last ice age, over 9,000 years ago, it could be quite a significant change.

### **3. Rainfall (1923 - 1996)**

It is probably more difficult to assess change in rainfall than anything else because it varies so much locally, yet it could be the most significant for agriculture. Figure 5 shows that although there is much variation in total annual rainfall, overall there has been a visible downward trend since the 1930's. The deviation of each year's rainfall from the long term average (Figure 6) shows the downward trend more clearly. Rainfall change can also be calculated on the basis of a 10 year moving average - i.e. each point in the graph represents the average of the 5 years on each side of it and changes as it moves forward a year at a time. Separating the rainfall into its seasonal components and plotting the 10 year moving average (Figure 7) the picture becomes

very interesting - summer and autumn rainfall has been steadily declining since the early 1970's (i.e. for both Stanley & MPA).

The amount of rainfall which falls in each day and in consecutive days is important. A huge downpour in one day can produce the same volume of rain as a steady drizzle over ten days, yet the two patterns will have very different effects. I found that rainfall is now much more fragmented than previously. Longer spells without rain are more likely to occur than they did 25 years ago.

There is some concern that the change of location for weather recording from Stanley to MPA may affected rainfall more than it did data of the other weather variables. Rainfall can vary considerably locally and its patterns show a continued decline since the station moved to MPA. Trying to relate the two stations to achieve some consistency in the long term pattern has been a major problem. There are two possible approaches which give some clues. Firstly, if we compare the average annual totals from all stations since the 1860's with the average annual total for 1923 - 1996 (600 mm approx.) (Figure 8) the MPA data do not stand out as being exceptionally different. Secondly in the mid 1980's the ARC (now DoA) set up a series of automatic weather stations at Stanley, Fitzroy and Fox Bay East but due to technical problems these did not run for consistently long periods. In addition the data were stored on their computers in a form in which it is very difficult to read 10 years on! To date we have managed to extract data from the station at Stanley for a 77 day period in 1989. When we compare the total rainfall over the same period at MPA the rainfall at Stanley was 30% less than at MPA. However we are treating this value with caution - there is lots of room for discrepancies but even if it were only partly correct it demonstrates that the *rainfall is clearly declining in the Falklands.*

#### Conclusions

- All of the climatic variables measured for the Falklands have large variability between years.
- The climate has gone through distinct cycles over the past 75 years, so in that respect climatic change is occurring.
- There is currently a trend of increasing sunshine in late spring/early summer.
- Temperature has increased by an average of about one tenth of a degree every ten years but that rate may be greater in recent years.
- Rainfall is cyclic but the total amount is *most probably decreasing*, particularly recently. *The frequency of when it rains is decreasing and we are definitely experiencing longer periods when it does not rain.*
- There has been recent concern over the depletion of the ozone layer over the Falklands - particularly in Spring (see recent article in Wool Press by David Broughton and Jim McAdam) - could this explain the subsequent increased summer sunshine and decreased spring rainfall?

This study may confirm many of the changes that people have noticed already. If they continue they will have significant impact for the future development of the Islands in many ways. Agriculture, stocking densities and patterns, the natural environment and its wildlife will be affected as will the general living conditions of all who live in the islands.

***If anyone requires further information on Gerry's study, please either contact him directly at Queen's University, Belfast; tel: +44 1232 255274, fax: + 44 1232 668372, e-mail: gerard.hoppe@dani.gov.uk or contact Aidan Kerr at DoA, Stanley.***



Figure 1. Total annual sunshine (hours) 1951-1996. The gap (1982-1986) follows the closure of the Stanley station.

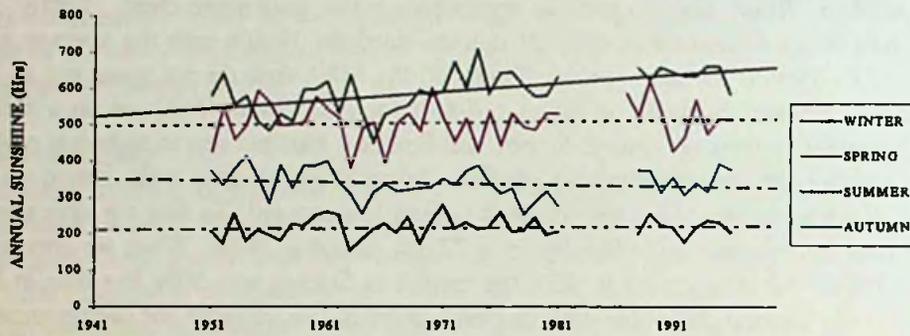


Figure 2. Seasonal trends in the annual sunshine (hours)

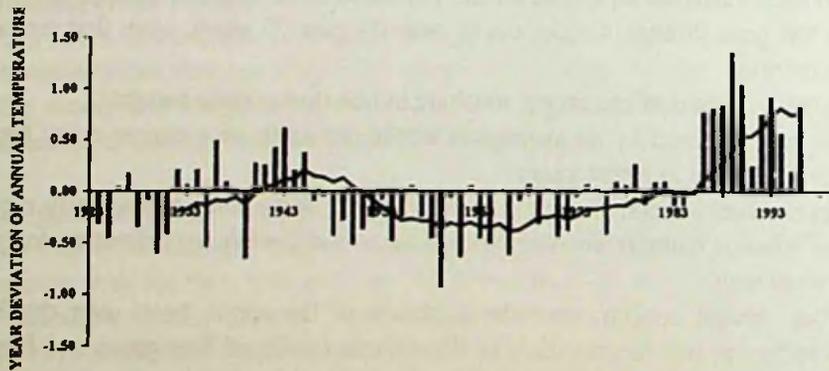


Figure 3. Deviations of mean annual temperature (°C) from the long term (1923-96) mean.

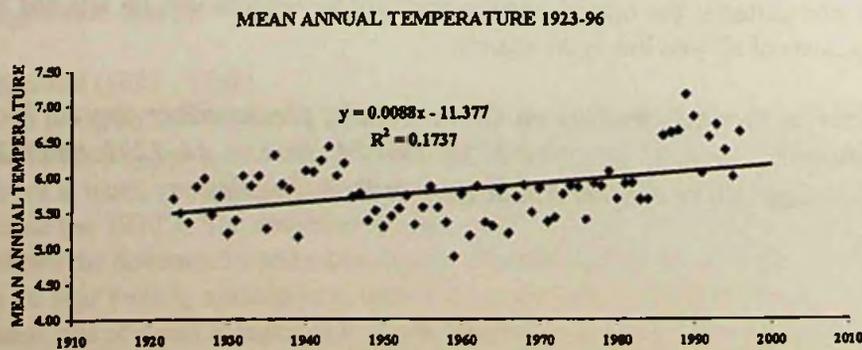


Figure 4. Variation in mean annual temperature (°C) between 1923-1996. The solid line is a computer generated trendline.

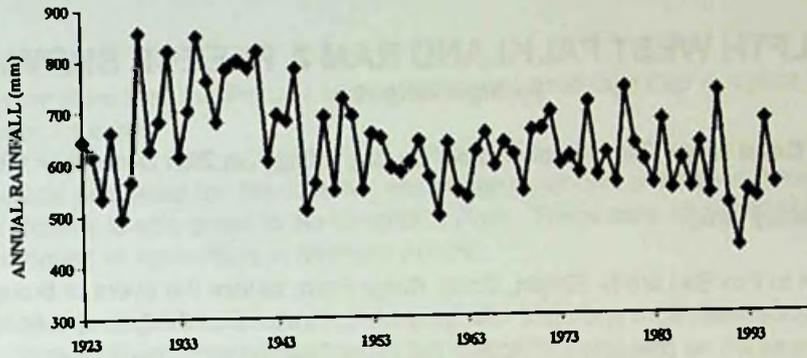


Figure 5. Total annual rainfall for 1923-1996.

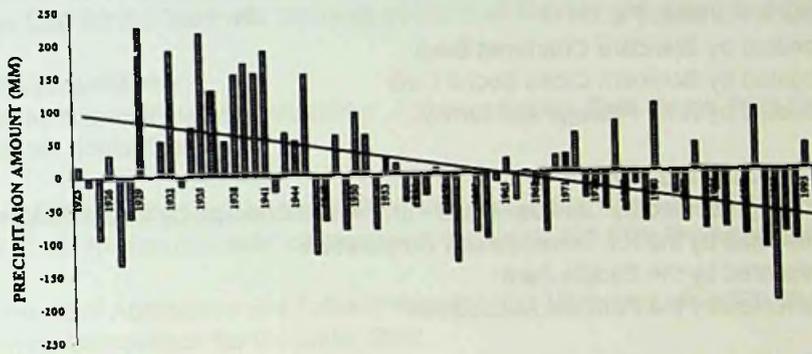


Figure 6. Deviations in annual rainfall (mm) from the long term mean (1923-96). The solid line is a computer-generated trendline showing decreasing rainfall during this period.

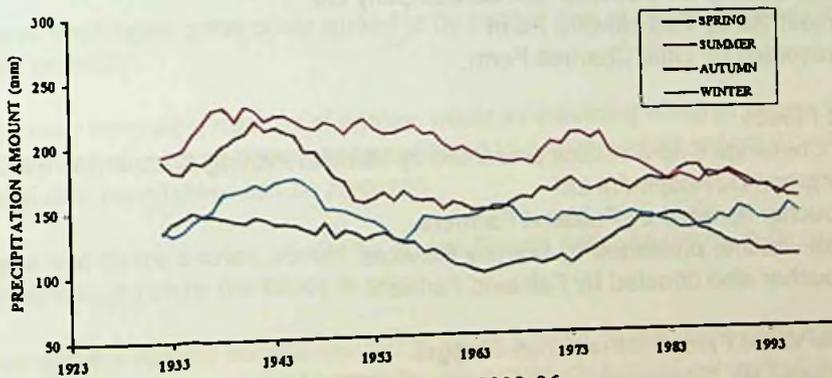


Figure 7. Seasonal trend in rainfall based on data from 1923-96.

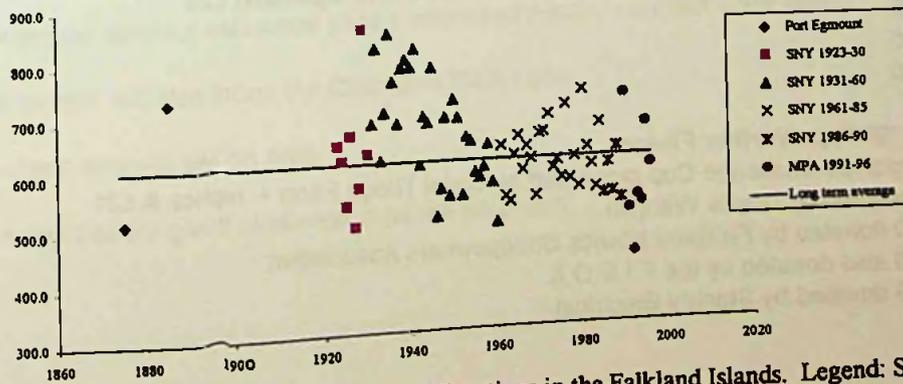


Figure 8. Known annual rainfall totals from all stations in the Falkland Islands. Legend: SNY-Stanley, MPA - Mount Pleasant Airport, long term average is for Stanley data 1923-90.

# THE TWELFTH WEST FALKLAND RAM & FLEECE SHOW 1998

*By Nigel knight*

This will be held in Coast Ridge Farm Woolshed at Fox Bay Village on 29th December 1998.

(All times are in Stanley time)

Entries may be sent to Fox Bay c/o N. Knight, Coast Ridge Farm before the event or brought to the woolshed on the day between 9am and 1pm. Judging will commence at 2.30pm and 4pm will be by public ballot. Prizes will be presented at 6pm in the Wool Shed by H.E. the Governor.

## **Prize list:**

### **Class 1 - Full Wool Ram Hoggett**

- 1st prize: Engraved Challenge Shield presented by Mr & Mrs Austin Davies + £100 donated by Cable & Wireless Plc.
- 2nd prize: £75 donated by Standard Chartered Bank
- 3rd prize: £50 donated by Southern Cross Social Club
- 4th prize: £25 donated by R.M. Pitaluga and family

### **Class 2 - Full Wool Shearling Ram**

- 1st prize: Silver Cup presented by Dunnose Head Farm + £50 donated by Cable & Wireless Plc
- 2nd prize: £75 presented by the F.I. Development Corporation
- 3rd prize: £50 presented by the Saddle Farm
- 4th prize: £25 presented by the Farmers Association

### **Class 3 - Full Wool Mature Ram**

- 1st prize: Falkland Islands Wool Marketing Challenge Cup. A replica + £40 presented by Falkland Landholdings Ltd.
- 2nd prize: Prize donated by the Falkland Islands Company Ltd
- 3rd prize: £50 presented by Port Howard Farm
- 4th prize: £30 presented by Little Chartres Farm

### **Class 4 - Hogget Fleece**

- 1st prize: Silver Challenge Cup & replica presented by Meridith Fishing Company & Falkland Hydrocarbon Development Ltd
- 2nd prize: £70 voucher donated by Falkland Farmers
- 3rd prize: £50 fuel voucher presented by Stanley Services
- 4th prize: £30 voucher also donated by Falkland Farmers

### **Class 5 - Any Fine Wool Fleece Other Than Hogget**

- 1st prize: Governors Cup, Challenge Cup presented by H.E. the Governor + replica donated by "Newton Investment Management Ltd" (FIG's Investment managers)

#### **All prizes in this class donated by Newton Investment Management Ltd**

- 2nd prize: £75
- 3rd prize: £50
- 4th prize: £25

### **Class 6 - Any 'B' Type Wether Fleece**

- 1st prize: Engraved Challenge Cup presented by Coast Ridge Farm + replica & £25 presented by Ursula Wanglin
- 2nd prize: £60 donated by Falkland Islands Sheepowners Association
- 3rd prize: £40 also donated by the F.I.S.O.A.
- 4th prize: £25 donated by Stanley Electrical

**Additional Prizes**

The Champion Ram wins the Patricia Luxton 'Perpetual Challenge Cup' + replica from the Luxton family, Chartres.

Rosettes will be presented for 1st, 2nd, 3rd and 4th prize winners in all six classes. A supreme Champion Rosette is also given to the Champion Ram. These were all provided by Jim McAdam, of the Department of Agriculture in Northern Ireland.

A Silver Challenge Cup and £75 for the fleece with the highest commercial value will be presented by the Falkland Islands Development Corporation.

For 1st, 2nd and 3rd prize winners in class 3 trophies are donated by Peter Short of Falkand Supplies.

A Challenge Cup for the farm with the most points in all classes is donated by Mr Owen Summers.

**Additional Competitions:**

The 'Guess the Sheep Weight Competition', £25 prize for the 'Best Guess' from the Southern Cross Social Club.

The winner of the 'Fleece Weight' competition will receive £25 from Lake Sullivan Farm. Whilst the winner of the 'micron estimate' competition will receive £25 from the Argos Fishing Company.

The Department of Agriculture and Falkand Islands Wool Marketing will again be sponsoring a Sheep Judging Competition for the under '21's'.

The Falkland Mill and Mrs Griz Cockwell have kindly knitted sweaters, these items will be auctioned for the show funds after the prize giving.

FIGAS have once again generously agreed to fly fleeces free of charge, please label fleeces clearly and correctly.

Due to the ever increasing number of entries, would all intending entrants please indicate the probable number of rams or fleeces to be exhibited to the organisers before 25th December 1998 so that sufficient pens/tables can be prepared.

Please note that fleece entries, should be skirted fleeces only. All necks, belly and stained wool should be removed before the fleece is rolled.

The fleece with the highest commercial value will be judged on the day by two experienced "wool people". It will be selected from all fleeces exhibited at the show using the following criteria.

Actual greasy weight x estimated yield x estimated micron x current clean price.

These 'people' will also judge the Champion Ram class.

The judges' decision will be final.

Where replicas are given challenge cups are perpetual.

## FENCING WITH EAR TAGS

*by Sean Miller*

An article found recently describing future developments in stock control makes interesting reading. How does a farm without fences, and one with animals grazing where you want them and when sound? Fantasy?

According to Robert Rouda of Western Australia's Department of Agriculture, the US Forestry Service has recently developed technology that can be used to keep grazing animals away from sensitive areas. The device uses a combination of remotely activated audio and electrical signals that 'tell' the animal where it should and shouldn't be.

Radio transmitters set-up as 'fence lines' send signals to a receiver that is placed in an ear tag. Animals with these ear tags are pre-taught what the signals mean under controlled conditions before being released into the 'paddock'. When the animals approach a 'fence line', the ear tag receives a signal and the stimulus is provided by the ear tag to the animal to turn away.

Field trials by the US Forestry Service in Texas and Nevada have proved successful, with 80% to 93% of cattle responding to the ear tag's signals, and deterring them from crossing 'fence lines'.

Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) believes that it is technically possible to develop durable ear tags the size of a 20p coin capable of receiving signals from a solar powered transmitter from at least 5 km away.

The benefits of so called 'electronic fencing' are claimed to be substantial. Reduced fencing costs, flexibility in being able to place and relocate 'fences' would provide more controlled grazing, and by progressively shifting an electronic fence closer to yards, gathering time could be greatly reduced.

Research is currently underway in Australia to try and make this dream a practical reality.

Does this technology have a future in the Falklands?

### DOG DOSING

**Last dosing date for 1998: Monday 21st December 1998**

**Please note: December's date has been brought forward to prevent it clashing with the Christmas holiday/sports.**

### DOSING DATED FOR 1999

**1ST FEBRUARY**

**15TH MARCH**

**26TH APRIL**

**7TH JUNE**

**19TH JULY**

**30TH AUGUST**

**11TH OCTOBER**

**22ND NOVEMBER**

**FOR SALE**

**From G & S Shearing Supplies**

of Goose Green

**Heiniger Combs, Pro Legend, Quaser and Charger.  
Handpiece and Cutters.**

**Grinding Papers.**

**Most spares for Heiniger handpieces**

**Quantity of accessories from Warrie Shearing Products expected soon.**

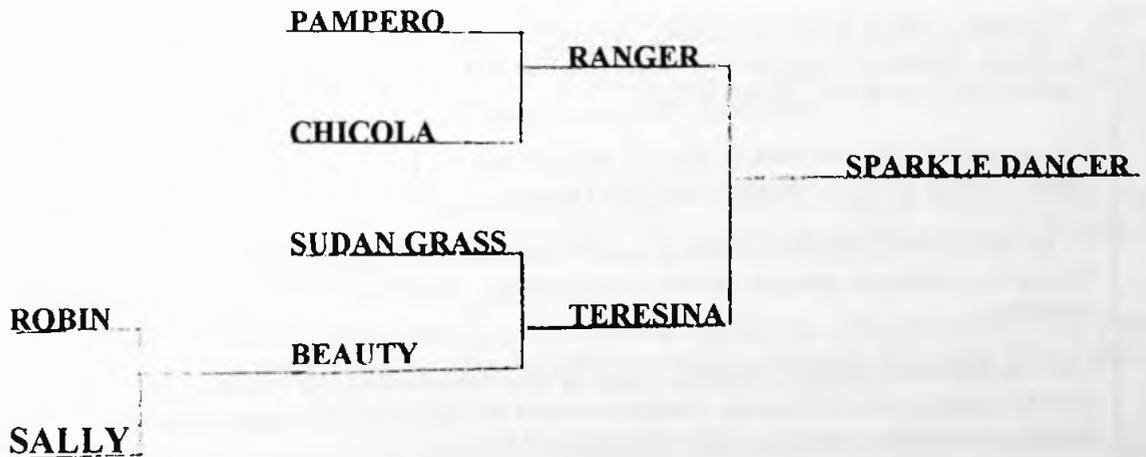
**Tele/fax: Sue Smith 32235**

**SPARKLE DANCER**

*From Maggie Goss of Horseshoe Bay Farm*

Would anyone be interested in putting a mare/mares to my quarter horse/thoroughbred stallion called Sparkle Dancer. We think he must be the only quarter horse stallion left in the Islands.

**HISTORY**



Pampero, Chicola and Sudan Grass were all imported from Argentina. Chicola and Sudan Grass are thoroughbreds and Pampero is a quarter horse.

Robin was an imported Welsh Cob from England.

If you would like anymore information, please contact Maggie Goss on telephone or fax : 31103 preferably in the evening

## LITTLE-KNOWN FACTS ABOUT LUPINS

Reference - *Lupinus as Crop Plants*, Editors: Gladstones, J.S., Atkins, C. & Hamblin, J.

By David Parsons

Here are some interesting but lesser-known facts about the history of lupin cultivation. The Department of Agriculture takes no responsibility for injury or illness sustained from experimenting with the practices below.

- The Greek word *thermos*, meaning hot, is supposedly derived from lupins, referring to the bitterness of the seed. The Greeks cultivated lupins for the edible grain.
- The famous physician Hippocrates (400-356 BC) mentioned nutritional, medicinal and cosmetic uses for lupin seeds.
- The Latin *Lupinus* corresponds to "wolf bean", a reference perhaps to the plant's ability to grow in rough and wild places, where soils were poor and its bitterness was protection enough against insects and animals.
- Romans used lupin seeds for both animal and human consumption. The seeds, then as now around the Mediterranean, were boiled and then leached for long periods to remove most of the bitter alkaloids. One method was to hang the boiled seeds in bags for a few days in the ocean or running streams.
- Still with the Romans, many farms had a special basin in the farmyard for leaching lupins, called a *labrum lupinarium*. The water in which the lupins had been boiled or leached was emptied around fruit trees. The cooked, salted or seasoned seeds were commonly sold in the streets and markets, as a snack food.
- The pharmacological text *De Materia Medica* of Dioscorides (1st century AD) mentioned numerous medical uses, such as lupin meal mixed with honey or vinegar as a cure for worms, and infusions of lupin for various skin complaints or boils. Lupin meal cooked in rainwater to a slimy texture was widely used as a skin lotion.
- Triumphant Roman Generals or citizens who aspired to public office would distribute lupins among the Roman population - hence the cry: "Lupins for the people!". This should not be confused with "Hand over all you lupins!" (Monty Python).
- Seeds of albus lupin were used in games to represent money. The term *Nummus lupinus*, or "lupin money" came to describe fictitious or worthless currency.
- The natives of the Andean highlands of South America also grew lupins. Bitterness was either removed by washing in mountain streams, or in containers. The water was then used as an insecticide.
- The Andeans were reputed to consume lupins for their fertility-enhancing properties, and also used them in religious rites and festivals. Medicinal roles of the lupin included treatment of cardiac diseases, rheumatism, malaria, and internal parasitic infections.
- Roasted narrow-leaved lupin seeds were used in wartime Germany for making coffee, and the plant was referred to as "wild coffee". However, as one author commented, "On the qualities of the resulting beverage the literature remains silent."
- According to one source (Bob Reid), the water from soaked albus lupin seeds is an effective way of removing fleas from a dog!

# SELLING AND BUYING ANIMALS

*by Robin Thompson*

The primary reason for keeping meat animals is for the production of muscle and other saleable products. Consequently the production and marketing systems should be geared to maximise these components and reward producers accordingly.

I believe producers should be rewarded for effort hence they should be paid according to the quantity and quality of animal product they have for sale. At the same time processors will not stay in business if they are purchasing products for which they have no markets or which have no value. The most amicable solution is to sell and purchase livestock based on their yield of saleable products. This is why we based the recent cattle auction on liveweight. A number of factors including those discussed below influence the amount of saleable meat yielded by a carcass.

## **Liveweight**

The liveweight of an animal includes skin, bone, muscle, internal organs and gut fill. Gut fill is the component that will have the largest influence on liveweight variation and can account for ten to fifteen percent. Gut fill depends upon the time animals were off feed prior to weighing and the type of feed they were eating. Animals grazing low digestible natural Falklands pastures will take longer to reduce gut fill because of the extra time taken for this low quality material to move through the animal. Most Australian livestock markets insist on a three to four hour curfew prior to weighing for sale. If one is fasting animals to reduce gut fill it is important to allow them access to water so as not to dehydrate their muscles.

## **Breed**

Breed to a large extent determines muscle conformation and shape. Beef breed animals tend to be more heavily muscled than dairy types. Breeds such as Angus reach maturity at a younger age and often lower liveweight than breeds such as Charolais and South Devons. This means that if they are kept beyond their point of maturity they will not accumulate extra muscle but rather use the available nutrition to accumulate extra fat. Fat is an expensive tissue to accumulate as each kilogram requires at least twice as much feed to produce as does a similar amount of muscle. Consumers of course do not want to purchase large amounts of fat so over fat animals should attract a lower price. Some fat (about 6 to 10 mm on the rump) is required to protect the carcass from cold damage in the chiller as well as to give flavour and texture to the muscle cuts.

The proportion of bone present in an animal varies according to the quantity of fat and muscle also present. Good conformation beef breed carcasses with acceptable fat level would be expected to contain about 12 percent bone whilst dairy type carcasses are likely to contain 15 to 18 percent bone. Again bone is waste product so it's proportion of a carcass should be minimised through good breeding and management.

## **Age**

The greatest influence of age is on meat eating quality and appearance. Usually the older the animal the darker the muscle and the tougher it is to eat. To a degree tenderness can be increased by ageing (hanging on the plinkey) or by electrical stimulation at time of slaughter.

Females of most species attain physiological maturity at a younger age than do their male counterparts. This means that heifers or ewes should be killed at a younger age than steers or wethers if carcasses of the same level of fatness are required.

Given the above discussion it seems sensible that animals destined for further finishing (stores) or slaughter (trade) should be traded using a system based on quantity of animal present. Liveweight, breed and age parameters are sufficient for describing store animals. Trade animals should be sold on a carcass weight and fatness basis. Carcass weight is much fairer than liveweight because it is an actual measure of saleable product. Dressing percentage (carcass weight/liveweight \* 100%) can be used to convert liveweight to carcass weight but of course until the animal is dead this number must be guessed. There are a few standard dressing percentages such as 52 % for a trade steer but these can vary enormously depending upon gut fill and really should not be used for calculating price or yield of saleable products. Most abattoirs offer prices based on a carcass weight fatness grid. Using such a system the highest price is paid for carcasses within the ideal or most valuable weight and fat range with price decreasing as weight and fatness increases or decreases outside this optimum range. Such a price grid can operate for pigs, sheep and cattle.

In order for such a system to operate well producers must gain animal assessment skills. Liveweight should never be guessed so a set of scales such as those used under wool presses are mandatory. Fatness can be assessed visually and by feel but ultrasonic methods are available. Given practice and experience manual assessment can be very accurate.

It took the Australian industry a couple of centuries to adopt a quantitative, objective animal marketing system so perhaps one of the millennium challenges for the Falklands is to jump a couple of centuries in animal assessment and marketing.

## **WOOL WASTE WORKS WONDERS**

*Source: Farming Ahead No. 83*

I have come across an article which I thought would be of interest. The article did have a picture but as it is very dark I would imagine it not printing out very well.

A revolutionary new process developed by CSIRO Wool Technology is converting waste from wool scouring plants into a potential soil conditioner.

Wool straight from a sheep's back contains about 65 per cent wool and a 35% mixture of dirt, water, wool wax and sweat salts. The wool scouring process results in these residues being produced as a waste product. Traditionally these wastes were disposed of down the drain at a high cost to the scouring plant and the environment.

Wool scouring plants around the world are coming under increasing pressure to contain such effluent. Some countries have even given up scouring due to the high cost of effluent disposal.

CSIRO's development of the Sirolan CF process means these waste products are recycled and can be returned to the soil, reducing the pollution load of the remaining effluent by 75%.

The process converts waste effluent from the scouring process into a biodegradable end product which can be composted with green waste and has the potential to be used as a broadacre soil conditioner. It is also possible to use the mixture to produce a high grade potting mix.

The process is the result of a five year project funded by Australian wool growers through the Woolmark Company, EcoRecycle and the Australian Government through CSIRO. Further work is continuing to develop a system of extracting sweat salts from the effluent to produce a liquid organic fertiliser.

## **BEEF UP YOUR COWS!**

**Malcolm Ashworth of Stanley Dairy Ltd has for sale the following calf:**

**1 Aryshire x South Devon Bull - born 17.11.98**

**If you think you would like to have this calf, please contact Malcolm for more details.**

**Telephone/Fax: 31011**

# COMPUTERS IN RURAL DEVELOPMENT AND INTERACTIVE LEARNING

*by Mandy McLeod*

I have recently returned from a short training and study trip to the UK and from what I can gather I think I missed summer while I was away!!

I spent eight weeks in the heart of the Kent countryside in a little village called Wye. The population there is around 2,000 so it isn't much different to being in Stanley in that respect. Wye is a very multi-cultural college which specialises in agricultural related topics for students from overseas. I shared a flat with post-graduate students from Kenya, Sri Lanka, South Africa, New Zealand, Germany, Spain, Finland, Zambia, Greece and Portugal.

I went to Wye to study the role of 'computers in rural development' which gave me a chance to update and extend my skills and catch up with technology. A major part was creating and managing databases which I hope I will be able to implement within the department in the not too distant future (time permitting). I was really fortunate in having one to one tuition most of the time so the course really became tailor made to my needs and speed. During the last three weeks at Wye I had the opportunity to go to lectures with Masters students and attend some very interesting seminars given by visiting speakers.

While all of the above was mainly for my own development and transfer of things learned to the Department of Agriculture, I also had a very interesting three days in Northern Ireland where the use of the internet for distance learning was the main purpose for my visit. Jim McAdam had brought to my attention earlier in the year that Greenmount Agricultural College (not far from Belfast International Airport) had set up interactive web sites, not for just their students, but for farmers as well. Initially I went there with the intention of finding out if we (Falkland Island farmers) could use their sites for distance learning and what we would need to do to facilitate it. However, it became obvious from the start that the courses and interactive pages were very 'Northern Ireland farming specific' and would be of little benefit to our farmers to log onto.

At first I felt deflated and very disappointed. From believing that distance learning would be ideal for progressive farmers in the Falklands, I hit a low spot..... but then I took my thoughts a bit further. What is to stop us from creating our own interactive web site and distance learning between Camp and Stanley? I met the two main people at Greenmount who had sat at their computers and designed the pages and the distance learning programme. Through our chat I found out that one of them knew nothing about computers before he got involved in the distance learning thing. He had effectively taught himself how to use a programme that was specifically for making web/interactive pages. He saw no reason why we couldn't create our own 'Falklands farming' pages that would allow **you** to pick particular relevant topics and learn about them through interacting with the computer.

It cost Greenmount College a fair bit of money to do this as they had much of it done on CD-ROMs which wasn't cheap. With the development now of CD writers (machines with the ability to record onto CDs) being available and affordable for home use, much of this cost can be reduced. The major remaining cost being that of the physical time needed to set it up. If anyone is interested in knowing a bit more about the kind of things that can be done, feel free to give me a ring.

**COULD THE PERSON WHO CONTACTED MANDY McLEOD  
WHO WANTED SHEARING SHED DESIGNS -  
PLEASE GET IN TOUCH.**

## DEREK'S CHRISTMAS PROBLEM WITH LOGIC

This hypothetical problem can only be solved through logical, methodical working. First read the statement carefully, then consider the clues. Next enter the information given in the chart provided on the next page, using a cross to show a definite 'no' and a tick to show a definite 'yes'. This narrows down the possibilities and might reveal some new information. Now re-read the clues and, using a process of elimination, you will find the rest of the puzzle can be solved. Remember that where you can put on a tick that this automatically discounts other possibilities and these should be crossed off.

### BOB SAVES CHRISTMAS

Last Christmas Santa had a slight problem when he tried to deliver the presents to Department of Agriculture staff, he not only delivered presents to the wrong people, but, by the time he got to Bob Reid's house he discovered that he still had parts of these presents in his sack. It is not true that this was caused by the elves playing with the presents before hand, nor is it true that Louise Amos was one of those elves, as the latest rumours have been suggesting. As a result of this dilemma he asked Bob to remedy these problems for him, he is very busy at Christmas time after all. From the clues below can you work out the details of which member of staff got what present, what was missing and who it was really for? As always neither present, person or missing piece is duplicated.

#### CLUES

- 1) Aidan found a video player, that he wasn't supposed to get, under his tree on Christmas morning, but Gordon didn't get the computer that was supposed to be for Owen.
- 2) The present Andy received accidentally wasn't missing a fuse, nor was the fuse missing from the radio alarm clock.
- 3) Cameron wasn't the person who's waylaid present was missing a power lead or a fuse. He wasn't the one supposed to receive the radio alarm clock.
- 4) Robin received Lilian's present but the present received wasn't the radio alarm clock or the desk top calculator.
- 5) The present missing a plug was the Nintendo 64. Doug's waylaid present was missing batteries.
- 6) The present received originally by Sean was missing it's protective cover.

	LILIAN WALLACE	MANDY McLEOD	CAMERON BELL	OWEN SUMMERS	DOUG CARTRIDGE	CALCULATOR	COMPUTER	VIDEO	ALARM	NINTENDO	BATTERIES	PLUG	COVER	FUSE	POWERLEAD
AIDAN KERR															
SEAN MILLER															
ROBIN THOMPSON															
ANDREW COE															
GORDON LENNIE															
BATTERIES															
PLUG															
COVER															
FUSE															
POWER LEAD															
CALCULATOR															
COMPUTER															
VIDEO															
ALARM															
NINTENDO															

NAME	NAME	PRESENT	MISSING PIECE

RESULTS WILL BE SHOWN IN NEXT MONTHS WOOLPRESS