

C.S.

INDUSTRIES (Pasture)
No. 92/26.

1926.

Mr. R. Blake.

SUBJECT.

1926.

PASTURE, IMPROVEMENT OF.

Experiments at Hill Cove.

Previous Paper.

MINUTES.

PA 5/5/25¹⁻⁵

Letter from Mr. R. Blake.

J.R. Submitted.

2. Does J.R. wish any action taken on this?

J.R.
31.11.26

P.S.

I have placed in this paper two letters from Mr. Blake dated the 6th & 10th 3/26. No action is necessary, but the letters are of considerable interest.

J.R.
3 May 1926.

PA

Subsequent Paper.

Hill Cove,
Jan 6th 1926.

My dear Sir John,

Knowing the keen interest you take in the work we have attempted, I think you will like to know the conclusion at which we have arrived on the cultivation of land.

I am disappointed that the land we took so much trouble to prepare and seed, does not show better results, it is possible if we had known at the beginning what we now know results might have been otherwise.

It seems to us clear that land can be seeded with English seeds without the expense of ploughing, and at little cost, moreover when land is ploughed, practically all native grasses are destroyed, whereas under what may be called the new system the "Blue" and "Fine Green" grasses appear in profusion, which is all to the good.

The enclosed is rather profuse but I wished to give the reasons for the apparent "change of front", and have set them down as clearly as I could. The idea is to place these paddocks well to windward, to let the grass seed year after year and for the wind to scatter the seed. Thousands of seeds are lost but many take root and flourish, even on land where our sheep feed.

Mr Miller has read the enclosed statement and he is in thorough agreement with the idea of "seeding paddocks", no one knows better than he does what ploughing and

5th May

preparing land has cost the Farm.

Should your Excellency be able to arrange it, I shall be very grateful if you will allow the "Afterglow" to take me to Shallow Bay so that I may see the land we have tined. The later the trip is made the better I shall be able to note the growth of grasses, if the "Afterglow" happens to come to the North at the end of February, or early in March, conclusions I can draw will be of more value than any I can make a month earlier.

We have had splendid rains on the North which were badly needed. One watch for rain and one rain rather points to the need of all stock for time, in one place lime was split, in another I had lime spread, horses would not leave these places till rain came and washed the fertilizer into the ground.

Believe me,

yours sincerely,
Robert Blake.

Hill Cove Grassing Experiments.

We have found ploughing and preparing land for grass seed an expensive process, the actual cost of ploughing being only a small part of the total outlay.

On our land we have to deal with large Fuchsia and Diddledee bushes, also Fern-bog and Large White Grass bog, it is not possible with any of the machines we have, to break down this rubbish and reduce it so that a seed bed can be prepared.

The rubbish must all be cleared off the ground either by burning or by carting, if the latter it is thrown in heaps trusting eventually it will rot. Fire is the least trouble and expense, the rubbish can be burnt on the spot and the ashes act as a fertiliser; the work of fire is, that it disturbs so much which should be retained to enrich the soil; when the top soil is removed about four inches of roots, grass &c. &c. are taken away, and the depth of the soil on the plot under cultivation is reduced in proportion.

The right treatment for the top spit appears to be to stack it and when sufficiently disintegrated either to return it to the land from which it came or to spread it elsewhere.

It is said much of the top spit, which often consists of a mat of fern roots will not rot, even if left in a heap for many years, this no doubt is correct but given time it must become disintegrated eventually, when this happens

it will be of more permanent benefit to the land than its ashes would have been.

Many acres of land have been ploughed, and seeded at Hill Cove with some twelve or fifteen varieties of grass, clover, and other forage plants, such as burnet, chicory, yarrow etc; the experiments have met with success up to a point, perhaps the chief success lies in ~~the~~ having learnt what not to do in the future.

It has not been possible to compare notes with those making similar experiments, if this had been possible many pitfalls might have been avoided at Hill Cove, it is because of the mistakes we think we made, and because of the unnecessary expense we think we have incurred, that a warning is given to those who propose trying to spread English grass through their Camps.

Mr. Munro in his Report evidently thinks much may be done to improve Falkland herbage, he suggests it may be improved by keeping stock off land and allowing the native grasses to seed, or it may be done by the introduction of English or New Zealand grasses.

Whether the improvement of pasture comes through our native or introduced seed, the treatment of land should be identical, viz the young grass plants should be allowed to grow strong and only cattle, and these lightly, should be allowed to graze on land where young plants are trying to get a foothold.

Should sheep or horses have the free run of such

camp, or paddock, the larger part of these seedlings will be rooted out before the plants become established.

At Hill leave, where we have not been able to manure the land, it is found that in about four years both the hay and the oat crops are failures, the land in fact becomes exhausted, whether lime will correct this we have had no time to judge.

Before the grass hay crops failed on the ploughed paddocks much grass seed, chiefly cocksfoot and Yorkshire fog, (two of the grasses Mr. Munro recommends for the Falklands) had been carried by the prevailing winds, and plants from these wind born seeds are firmly established two miles from the Settlement.

The cost of ploughing is so heavy that it appears hopeless to depend on this method for improvement in the pasture, but a second method tried here appears to be successful, and because of the small initial cost no one would be hard hit who tried the method and failed in obtaining good results.

We have an eight acre paddock which has not been ploughed, it has had the bushes etc cut away, some home saved seed has been scattered on it but much has blown from a neighbouring plot. This paddock had such a poor hay crop in 1924 it was not worth mowing; this paddock was let up for hay about September 1st 1925 and at the present time January 4th 1926 the whole paddock is a waving

mass of grass in seed, the grass standing from a foot to two feet high.

When this paddock was let up last September 25th of basic was given per acre, how much of the growth is due to this is hard to say, but those who saw the crop in 1924 report the grass as being a darker green in 1925 than was the case in the previous year.

The point to emphasize is, that the formation of this paddock from just ordinary Camp into a first class piece of ground, covered with both Native and English grasses, has cost little to make, and the ground is as well, if not better, covered with grass than land we ploughed and prepared for seed at least ten times the expense.

If suitable places are fenced, enclosing from five to ten acres, if these are cleared of fern bog and similar rubbish and well trodden by a mob of sheep, and seed is planted in early Spring we think, judging from what has happened here, that seeding paddocks may be cheaply formed, and that much of the seed distributed by the wind will germinate.

The seeds which have succeeded best with us are, Cockfoot, Yorkshire Fog, Tall Oat, White Dutch Clover, and Yarrow, we do not think it desirable to cut away the White Grass (*Cortaderia villosa*) these large tufts act as shelter to the seedlings and encourage their growth. In all probability a dressing of lime, about 5^{cu} to

The acre, given a year before the seeds are planted would materially help the growth of the seedlings, probably this will do more permanent good to the soil than basic, but judging from the test made by us with basic this certainly would stimulate the growth of the seedlings if applied about the time the seed is planted.

Mr. Miller and I have discussed as fully as we are able all questions and side issues connected with the foregoing, we may have made mistakes in our conclusions but the outstanding fact remains, viz, we have made not one but actually ^{two} really good paddocks out of land which has not been ploughed, and are so satisfied with the results achieved that we have just enclosed a block of fifty acres which will be an experimental plot on a large scale.

Robert Blake.

Recd.

29th January 1926

R.B.

Hill Cove,
Feb 10th 1926.

My dear Sir John,

I am much obliged for your letter of the 5th inst, and for its helpful suggestions.

I cabled the information you asked for on the 8th, with reference to the cost of the fertilisers landed here, these were

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|----|-------------|-------------------------------------|
| A. | £ 7. 11. 0. | (Basic Slag per ton) |
| B. | 25. 10. 0. | (^{ground} Quick Lime ...) |
| C. | 6. 12. 0. | (Ground Lime Stone per ton) |

From these figures it is evident the farming industry cannot afford to import lime stone on a large scale, the only solution is the one made by your Excellency, viz, for farmers to combine and charter a steamer which would discharge at the various ports.

Farmers seem sceptical as to any good results which they may obtain from the use of lime, and I am not hopeful of any united action in this matter until further experiments with lime have been tried, and definite proofs of its benefit have been obtained.

I hear lime stone from the Exploradora Co., or lime from Bahía Blanca will cost fully as much, probably more, than lime stone from home, the local freight is so excessively high, and importations from these places would be subject to local freight.

When taking samples of grasses on Jan 28th it seemed for the first time that lime was showing results, the grass on the limed plots appeared to be of a deeper green, I do not think

x The reason of the very high cost of quick lime is because it was packed in iron drums which were awfully too good for the purpose

this was mere fancy on my part.

The ground lime-stone you mention as coming from the Leicesters Lime Works in Norfolk, if it contains 95% of lime, appears cheaper than the lime-stone I bought in Derbyshire ~~last~~^{last} year, this was 35/- per ton as against the other at 25/- mine however was quoted F.O.B. Liverpool. If we import more ground lime it must be sent in double bags as basic slag is shipped. In bags it takes far less space than in drums, there are no expenses and the freight when it is shipped in bags is less, which is a great consideration.

It may be suggested a steamer carrying lime should arrive here when the wool clip is ready for shipment, that unquestionably would be the most economical way of importing it. For this combination among the farmers would be needed, I do not think this would be forthcoming, and it is very certain "the powers that be" would place every obstacle in the way of any such action.

You ask me to give any definite information on the use of our fertilisers! I think lime is only now beginning to show any action, it is $6\frac{1}{2}$ (one and a half) months since it was spread, but with basic it is different, this has been spread 5 (five) months.

There are two paddocks here which have not been worth cutting for hay for two, if not three, years, & on September 9th these were dressed with $2\frac{1}{2}$ ^{car} of slag per acre and the result is wonderful especially in No. 1, the clover encouraged by the grass is in many places some inches high, white Dutch clover is by far the most plentiful but there is also a good

show of Alike Clover. Thanks to the basic the hay crops in both paddocks are good, and according to what Mr. Munro said they should be better next year, my observations on experiments made in England agree with Mr. Munro's forecast.

It may interest you to hear that basic applied to purely native grasses such as the *Festuca arundo*, (blue grass) *Leprotis lanina* (fine green) *Poa Annona* (I do not know the English name for this) - *Coeladunia pilosa* (white grass) has a strong forcing effect, I expect to see the same results on the native grasses when time has had time to act on the soil.

You know how grateful I shall be if the S.S. "Afterglow" can take me to Shallow Bay, but in the event of this not being possible Mr. Dean has promised to send his launch, I should not like to be the cause of giving any inconvenience so if your Excellency finds the trip to the West does not fit in with other arrangements, and if you will kindly let me know, I shall still be able to get to Shallow Bay. Should the "Afterglow" come out we shall be much obliged if you will allow her to bring some fencing battens we have ordered from the Falkland Islands Co., we have been badly let down by Punta Arenas people.

The battens are needed for an experimental paddock for the ewes who will feed on the paddock we have lined. It is carrying out D. Orr's suggestion, he thinks if ewes in Lamb are allowed periodically to feed in a lined paddock the lambing may be improved in quantity and quality.

Yours sincerely,
Robert Blake.