

C.S.

Scientific
(Miscellaneous)
No. 190/29

1928.

PJ 60

SUBJECT.

1929

Arboriculture

26th aprie

Notes on.

Previous Paper.

MINUTES.

1-3

Minute from PJ 60. 26th aprie 1929.

1. Submitted to publish in Penguin?
2. The Printing Office has at present much to do clearing off accumulated work and I would suggest that this copy should be explostyled rather than included in the printed supplements.
3. I will thank D. Moir for his useful and interesting articles.

14th C.S.

1. yes. 2. yes. 3. yes, and say

we welcome them and hope for many more. Let edit of Penguin ring me up before no. 1. is published - I will add a few remarks. (1/27) J.H.

J.H. 1/27
fore. 1. V. 29.

Subsequent Paper.

Minute to Dr. James Moir, of 3rd May, 1929.

4

~~of. 20/5/29~~

Both articles published
in *Angon*.

C. O. V.
P. A.
20/5/29

Notes

on

Caragana, (Siberian Tea Tree)

History

Over 40 years ago *Caragana arborescens* was introduced to the cold wind swept prairie lands of northern Canada. There it has thriven, & proved a munificent benefactor to struggling settlers, sheltering them from the icy northern blasts.

Plant

There are over 50 varieties of *Caragana*, & of these three types grow well on the prairies.

Caragana pygmaea. This shrub grows from 3 to 6 ft. high, & displays short spines, & a solitary rich bronze flower.

Caragana frutes. This variety grows from 8 to 10 ft. high, & exhibits four leaflets, & a solitary bronze flower.

Caragana arborescens displays similar characters to *frutes*. It is the chief & most useful specimen of *Caragana*. It grows well in semi-arid regions, & is hardy in exposed situations. Its chief use is that it makes a wonderful hedge.

Caragana is a legume, & has nitrogen forming nodules on its roots, & it thrives best on lean, & sandy soils.

The seed of the plant ripens in August.

Propagation The seed may be sown in August, or it may be gathered, & stored for sowing in spring. The seed, if stored, will keep well for two years. If stored seed is to be sown it should be soaked for a period of one to two days in tepid water before sowing.

Later, when the plants have reached a reasonable size, they should be transplanted, & set 12 inches apart.

A single row makes the best hedge as the gaps are more easily filled later.

This variety does not strike well from cuttings, but if the soil is really good, a fair return may be expected. Cuttings should be made from wood of the second year's growth.

Caragana arborescens grows well, ~~at~~ about two to three feet per annum, & with periodical clipping makes a wondrous dense hedge.

Co-Operation in Plant Life

All forms of life are interdependent, one upon the other. In childhood's days we learnt of good fairies, & of bad fairies who guided the destiny of the hero of a tale; & in later life we learn of organisms that destroy us, & of those without whose aid we ~~cannot~~ ^{could} not live.

A most curious, & wonderful instance of the latter has, of recent years, ~~has~~ been brought, by research into plant life, to the notice of the world.

Plant life requires many chemical substances for its existence, & one of the most important is nitrogen. This substance is present in great plenty in peaty soil, but in such a form that plants cannot avail themselves of it, & yet beeches, pine trees, & heather thrive, & multiply in peat bogs. How is it that these plants pass the rigorous tests of nature, & thrive in such inimicable soils?

Close examination of the roots of these plants reveals a felt-like mass of closely interwoven hairs, & these are the hyphae of a fungus. The association of the fungus, & the root hairs proper which nourish the tree in good soils, is called mycorrhiza. Trees growing in good soil have poorly developed mycorrhiza, while in poor, or very acid soils, such as peat, the mycorrhiza are well developed.

Now what is the exact use of the fungus to the tree? The fungus is not essential to the tree for its occurrence may be casual, or it may be absent. It is absent, or poorly

developed in those soils where nitrogen is available in a form (nitrate) easily absorbed by the tree's own ~~own~~ root-hairs. Where the nitrogen is only present in complex forms, not readily absorbed by the tree, we find the fungus in abundant association with the root hairs, preparing, as it were, the daily bread of the tree. In return for the nitrogen made available for its use, the tree dispenses sugar, & stimulus for its growth & fruition to the fungus.

It is said that, in ~~certain~~ drained peaty soils, without the aid of the friendly fungus, members of the conifer family could not survive.

The bonds therefore, between tree & fungus vary in accordance with the necessity imposed upon the tree of having a partner to help gather the necessary nitrogen from an inhospitable soil, & in some cases the tree is wholly dependant upon the fungus for its survival in certain soils.

Whether, or not this is the key to success or failure of arboriculture in the Falkland Islands is a matter for some consideration. In the thinking mind at once arise the question, "Is the lion's provider present to provide provisions for the lion?"

No.

(It is requested that, in any reference to this minute the above Number and the date may be quoted).

MINUTE.

Apr 7
26th Feb. 1929

From *R.M.O.*



To

THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

These are the outcome of a discussion with Mr Parkinson, & at his suggestion I have written up the subjects discussed. I have no information of the facts set out in (one) have ever been brought up. The importance of the fact that bees have never grown here, & therefore the necessary fungus never did, is not present in a view that has not been presented to me by anyone interested in arboriculture in this colony.

James Moss.

No. 190/29.

(It is requested that, in any reference to this minute, the above Number and the date may be quoted).

MINUTE.

3rd May, 19 29.

From

THE COLONIAL SECRETARY,

Stanley, Falkland Islands.

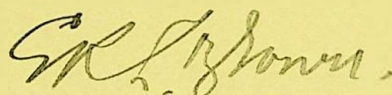
To Dr. J. Innes Moir, M.B., B.Ch.
D.P.H.,

Principal Medical Officer,

STANLEY.

I am directed by the Governor to thank you for your useful and interesting articles on plant life submitted under cover of your Memo. of the 26th of April, and to say that His Excellency welcomes such articles and hopes for many more.

2. I am to add that these articles will be published in the "Penguin".



for Colonial Secretary.