

1887.
NEW ZEALAND.

INOCULATION OF RABBITS WITH DISEASE

(PAPERS RELATING TO THE).

Presented to both Houses of the General Assembly by Command of His Excellency.

No. 1.

The Hon. the COLONIAL SECRETARY to the AGENT-GENERAL.

SIR,—

Colonial Secretary's Office, Wellington, 3rd September, 1886.

On the 28th March, 1885, the Premier wrote to you enclosing the copy of a letter from a Mr. Stroeve, a settler in Otago, on the subject of the destruction of rabbits. You replied on the 1st July following that you proposed to take an early opportunity of communicating with M. Pasteur upon the subject. Since then nothing further has transpired.

As the question is one of such vital importance to the pastoral and agricultural interests of this colony, I am satisfied it has not escaped your attention, and been inadvertently overlooked in the press of other business, and I am therefore led to conjecture that M. Pasteur has probably felt disinclined to assist in the destruction of life, upon the ground that his mission is to save it by all possible means. However that may be, I presume we may give up the idea of receiving any help from M. Pasteur. The subject was much discussed during the last session of the Assembly, notably by the Joint Committee of both Houses appointed to consider the rabbit question; and it cropped up in both the House of Representatives and the Legislative Council in the course of debate. I enclose a copy of the report of the Committee and of the evidence taken.

Since the prorogation of Parliament the subject has engaged the attention of the Government, and a letter has been recently addressed to this department by Mr. Lance, the member for Cheviot, who was a member of the Joint Committee above referred to, and who takes a very lively interest in the subject. I enclose a copy of Mr. Lance's letter. I also enclose a copy of a memorandum by Dr. Hector, to whom the question, with Mr. Stroeve's letter, was referred for his consideration.

I should feel much obliged if you would confer with some of the Canadian officers now in London, as suggested by Dr. Hector, and also with any other scientific men whom you may think it advisable to consult, the object being to ascertain if there is any disease which can be introduced into this colony which will destroy rabbits without injury to other quadrupeds or to man, and generally to consider the question of rabbit-destruction by any available means. Should any proposal be brought before you which seems fairly to promise successfully to destroy rabbits without injury to other animal life, you are authorized to incur such expenditure as may appear to you to be necessary to attain the object in view.

The Agent-General for New Zealand, London.

I have, &c.,

P. A. BUCKLEY.

Enclosure 1 in No. 1.

Mr. LANCE, M.H.R., to the Hon. the COLONIAL SECRETARY.

SIR,—

Christchurch Club, 25th August, 1886.

I find that there are two very strong and very adverse opinions held in this neighbourhood with regard to the introduction of stoats and weasels for the destruction of rabbits: the sheep-owners generally are in favour of their introduction, and the agricultural farmers are strongly opposed to it.

I myself am of opinion that these animals might hereafter prove a curse to the colony; but the rabbit must be dealt with, and the safest and surest method is to invoke science to our assistance. Time is of great importance, and I wish to urge on the Government the necessity of instructing the Agent-General by cable to put himself into communication with M. Pasteur or any one else that is likely to find a solution of the question. As few people have suffered and are suffering more from rabbits than the Agent-General himself, we may rest assured that we shall have his hearty co-operation in the matter.

I have been asked to call a meeting of the Wool-growers' Association on Saturday next, and I am informed that the introduction of stoats and weasels will be strongly urged: if I were in a position to inform the meeting that steps such as I have indicated were about to be taken, or, better still, had actually been taken, it would strengthen my hands very much, and might put a stop, for the present, at all events, to the outcry for the introduction of these animals. I think

the Agent-General ought to be authorized, if he finds it necessary, to send out some person who might be willing to undertake the task of introducing disease amongst rabbits that would not affect sheep. I should be obliged if you would telegraph the opinion of the Government on the subject.

The Hon. the Colonial Secretary, Wellington.

I have, &c.,

J. D. LANCE.

Enclosure 2 in No. 1.

Dr. HECTOR to the Hon. the COLONIAL TREASURER.

Colonial Museum of New Zealand, Wellington,

1st September, 1886.

(Memorandum.)

THE suggestion of Mr. Stroeveer to introduce the disease called red-measle in the pig, with the view to its destroying rabbits, would, as he himself admits, require very careful investigation before its adoption. I think there must be some mistake as to the nature of the disease alluded to. The pig is affected with two kinds of measles, one of which is a hydatid fluke, which is the larvæ condition of the common tapeworm in man, and the other of the tapeworm of the dog. Both of these produce the measles in the pig, but I do not think they would be communicable to the rabbit.

Most probably by the red-measle is meant a very formidable disease known as the "swine-plague," which is due to the presence of a minute organism known as *bacilli suis*. This disease caused a loss in 1877 in the United States of two millions. A committee was appointed to investigate the disease, and from their report it appears that it can be communicated to several other animals, among which is the rabbit, and also the sheep. This was effected by artificial inoculation; but it does not appear that there is any evidence of its ever having spread naturally to either of these animals in the United States.

I think it would be well to ask the Agent-General to confer with some of the officers of the Canadian Government now in London, with the view of ascertaining what is known as to the nature of a disease that periodically destroys the rabbits in the Canadian backwoods. In 1857-58 the Saskatchewan swarmed with rabbits, and the Indians depended there on rabbits largely for their food in the winter time; but during the winter of 1858-59 the rabbits almost entirely disappeared, and I found the Thickwood Indians starving to death in consequence. I was nearly starved myself, with my party, travelling on the snow between Jasper House and Fort Edmonton, a distance of 230 miles. We had relied on finding rabbits plentiful for the whole distance, but only got one, and were several days without food. I was told by the hunters and officers of the Hudson Bay Company that about every seven to ten years the rabbits were attacked by a murrain that destroyed them. There was nothing unusual in the severity of the season to account for their destruction. My impression at the time was that the disease was a fluke or hydatid that attacked the liver, but soon spread to the muscles and other tissues of the rabbit. I have seen several instances of such a disease among rabbits in the Wairarapa District; but it does not seem to spread, most probably owing to the absence of proper carnivorous animals in which the hydatid exists in the tapeworm stage. The animals that prey upon the rabbits in the country I refer to are the lynx, the case-wolf, the kit-fox, and the common fox; so that if it is due to a fluke it is probable that it is from one of these animals that the disease is derived.

The Hon. Sir J. Vogel, K.C.M.G.

JAMES HECTOR.

No. 2.

The AGENT-GENERAL to the Hon. the COLONIAL SECRETARY.

SIR,—

20th October, 1886.

I have to acknowledge the receipt of your letter of the 3rd September, No. 2996, reminding me of the Premier's letter of the 28th March last year on the subject of the destruction of rabbits, and covering a letter from Mr. Lance and a minute by Dr. Hector, dated 1st September.

At the time I wrote to the Premier, in July last year, I intended going over to Paris to see M. Pasteur, because I was quite sure he would require, before expressing any opinion, explanations as to the rabbit-pest which could only be given *viva voce*. I was not, however, able to get over to Paris last year, and when the work of the Exhibition once began I could not leave it; but I made inquiries here, with the result of always coming back to the same point—namely, that to introduce so formidable a disease as red-measles was a very dangerous thing to do, and might end in immense losses not only among the pigs but among the sheep of the colony.

I now find this to be confirmed by what Dr. Hector says, and I am very glad you have laid down that the introduction of any disease to destroy rabbits must only be attempted if it can be done without injury to other animal life. As soon as the High Commissioner returns from Canada I will see him and obtain all the information I can, as directed by you; and will also consult with scientific men, and endeavour to get the best advice for the Government on the subject.

I have, &c.,

The Hon. the Colonial Secretary, Wellington.

F. D. BELL.

No. 3.

The Hon. the COLONIAL SECRETARY to the AGENT-GENERAL.

SIR,—

Colonial Secretary's Office, Wellington, 31st December, 1886.

I have the honour to acknowledge with thanks the receipt of your memorandum of the 20th October ultimo (No. 1304) containing information in regard to the introduction of a disease to destroy rabbits in New Zealand, and hope soon to hear further upon the subject.

I have, &c.,

The Agent-General for New Zealand, London.

P. A. BUCKLEY.

No. 4.

The AGENT-GENERAL to the Hon. the COLONIAL SECRETARY.

SIR,—

3rd December, 1886.

In continuation of my letter of the 20th October, No. 1304, on the subject of introducing disease among the rabbits, I transmit to you herewith copy of a correspondence I have had with Professor G. T. Brown, one of the scientific officers of the Agricultural Department of the Privy Council. You will see that he has a strong conviction of the inexpediency of any attempt to introduce a fatal contagious disease among them, and, unless you wish me to apply to other sources, I should rest satisfied with his advice.

I made inquiry at the Canada Office on the subject mentioned by Dr. Hector in his memorandum of the 1st September last, and the High Commissioner has been good enough to ask the Dominion Government to send over any information in their possession thereon.

I enclose a copy of Professor Brown's paper on swine-fever, which perhaps Dr. Hector would like to see.

The Hon. the Colonial Secretary, Wellington.

I have, &c.,

F. D. BELL.

Enclosure 1 in No. 4.

The AGENT-GENERAL to Professor BROWN.

SIR,—

7, Westminster Chambers, 26th November, 1886.

I beg permission, on the part of the Government of New Zealand, to bring the following matter under your consideration, in the hope that the scientific officers of the Agricultural Department may be able to give me their valuable advice upon a subject of great importance to all the Colonies of Australasia.

You are doubtless aware that for many years past the ravages committed in the pastoral territories of those colonies by the vast increase in the number of wild rabbits have rapidly extended to one district after another, until the rabbit-pest has become a formidable danger to the pastoral industry. There are about eighty million sheep in Australasia, fifteen millions of which are depastured in New Zealand; and, although the united efforts of the Government and the sheep-owners, helped by special legislation, have tended in some districts to check the progress of the pest, yet (taking the pastoral area of Australasia as a whole) what has been done seems so ineffectual that we are reaching a stage when, in many districts, the sheep will be exterminated if the rabbits are not.

Hitherto it has been tried to arrest the plague by shooting, by laying poison, and by introducing ferrets, stoats, and weasels. But a question has often arisen whether it would not be practicable to introduce some disease among the rabbits which should be more effectual for their destruction, and, among other suggestions, the red-measles of the pig has been spoke of as a disease which might be communicated to them. The matter was considered by Dr. Hector, F.R.S., Director of the Geological Survey in New Zealand, and he made a minute thereon, of which a copy is enclosed herewith. The recent publication of your valuable report on swine-fever has led me to think that your own researches may have brought together information which would be of great service, and I should be much obliged if you would give my Government the benefit of your advice.

One condition, I need hardly say, of introducing any disease, supposing its introduction to be practicable, is that there should be no danger to other animal life than that of rabbits; and the question, therefore, is whether such a step can be taken at all with safety to other animals, and especially, of course, to man. It is, accordingly, on this point, in the first instance, that I venture to ask your opinion; and next, what would be the best method of introducing any disease which would only attack the rabbits?

Professor G. T. Brown, Agricultural Department, Privy Council.

I have, &c.,

F. D. BELL.

Enclosure 2 in No. 4.

Professor BROWN to the AGENT-GENERAL.

SIR,—

44, Parliament Street, 1st December, 1886.

In reply to your letter of the 26th ultimo, referring to the destruction of rabbits in the Australasian Colonies, I beg to inform you that I entertain a strong conviction of the inexpediency of any attempt to introduce a fatal contagious disease among them for the purpose of effecting their destruction.

In regard to swine-fever, it is undoubtedly the case that rabbits may be infected with the disease by inoculation, but there is no evidence of its communicability from rabbit to rabbit by association. The same thing may be said of tuberculosis.

The introduction of any similar form of skin-disease, such as mange or ringworm, would probably aid in the extermination of the rabbits; but both diseases are readily communicable to other animals, and the parasite of ringworm might be transferred to man.

Under the circumstances, I am unable to suggest any measure beyond those which are usually employed, as guns, traps, snares, pitfalls, and the introduction of the smaller carnivora, stoats and weasels.

The Agent-General for New Zealand.

I have, &c.,

G. T. BROWN.

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1904

The Agent-General to the Colonies, Wellington

In continuation of my letter of the 20th of April, I enclose for your information a copy of the report of the Hon. Sir James Hall, G.C.M.G., of the 20th of April, 1904, in relation to the rabbit plague, and the Hon. Sir James Hall, G.C.M.G., of the 20th of April, 1904, in relation to the rabbit plague, and the Hon. Sir James Hall, G.C.M.G., of the 20th of April, 1904, in relation to the rabbit plague.

Enclosure 2 in No. 4.

The Hon. Sir James Hall, G.C.M.G., of the 20th of April, 1904.

I beg permission, on the part of the Government of New Zealand, to quote the Hon. Sir James Hall, G.C.M.G., of the 20th of April, 1904, in relation to the rabbit plague, and the Hon. Sir James Hall, G.C.M.G., of the 20th of April, 1904, in relation to the rabbit plague.

Enclosure 3 in No. 4.

The Hon. Sir James Hall, G.C.M.G., of the 20th of April, 1904.

In reply to your letter of the 20th of April, 1904, regarding the rabbit plague, I beg to inform you that the Hon. Sir James Hall, G.C.M.G., of the 20th of April, 1904, in relation to the rabbit plague, and the Hon. Sir James Hall, G.C.M.G., of the 20th of April, 1904, in relation to the rabbit plague.