

1886.
NEW ZEALAND.

PARASITIC DISEASES IN SHEEP IN NEW ZEALAND
(REPORT ON).

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

Professor A. P. W. THOMAS to the Hon. the COLONIAL SECRETARY.

SIR,—

University College, Auckland, 14th June, 1886.

In reply to the inquiry made in your letter of the 20th May, I have the honour of forwarding the following brief interim report of my investigations into the parasitic diseases affecting sheep in certain parts of the colony.

In this interim report I make no reference to the life-histories of the various parasites, and the inferences with regard to methods of cure or prevention which may be drawn from such knowledge. A good deal, however, is already known; and, if the Government desire it, I could draw up a short sketch of the natural history of the parasites in question, and modes of cure, but more especially of prevention. This, I would suggest, should be written in popular language, so that it might be printed and circulated amongst sheepowners. It would gain in clearness if a few woodcuts or other illustrations could be introduced. I send herewith a copy of a pamphlet for popular instruction which I drew up for the Royal Agricultural Society of England. In this instance, however, a shorter paper would probably suffice.

I venture to make the present suggestion because there are modes of prevention which might be carried into effect at once, without waiting for the detailed knowledge which can only be gained by long months or probably years of laborious investigation.

The Hon. the Colonial Secretary.

I have, &c.,

A. P. W. THOMAS.

INTERIM REPORT of INVESTIGATIONS into PARASITIC DISEASES of SHEEP.

THE following report is based principally on investigations carried on during the past summer in the Hawke's Bay and Bay of Plenty Districts. Three separate visits were made to Tauranga in the months of December, January and March, and since then sheep have been received from Tauranga for examination. A visit was paid to Hawke's Bay in February, and ten days spent in the district in going over the sheep-stations and making numerous *post mortem* examinations of sheep, and conducting experiments to test the value of remedies for the parasitic diseases prevalent in the sheep of the district. The inquiry was then extended to Wellington and Canterbury. In Canterbury the dry weather which had prevailed for some months had proved unfavourable to the development of parasitic diseases, and, after consulting the sheepowners and Inspectors of Sheep for the district, it was found that no sheep suspected to be attacked by parasites were obtainable. Mr. Foster, Sheep Inspector of Amberley, however, showed me specimens of parasites obtained by him during the previous season, and these were identified as belonging to the same species as those found troublesome in Hawke's Bay.

Ten different kinds of internal parasites have been found in the sheep examined; in one case one lamb contained eight distinct species of worms.

Of the parasites observed, the following were met most frequently or in the largest numbers :—

1. *Strongylus filaria*, the lung-worm, inhabits the bronchial passages.
2. *Strongylus contortus*, inhabits the fourth stomach usually.
3. *Strongylus filicollis*, inhabits the upper part of the small intestine.
4. *Trichocephalus affinis*, the whip-worm, found in the cæcum and large intestine.
5. *Strongylus hypostomum*, inhabits the large and all the small intestine.
6. *Taenia expansa*, tape-worm, found in the small intestine.

All the above parasites are worms, the last being a certode or tape-worm, whilst the others are all nematode worms.

Lung-worms were found in rather more than half the number of sheep examined, and there were generally three or four or more different forms of parasites in the intestines of the same sheep.

We have therefore to deal with parasitic disease due to the combined effect of lung-worms and various intestinal worms, and methods of cure or prevention must take into consideration both classes of parasites.

It has been supposed that the disease from which sheep suffer at Tauranga is peculiar to the district. Most of the sheep from the Tauranga district which were examined proved to be affected by the same parasitic diseases as are prevalent in other parts of the colony.

I have, &c.,
A. P. W. THOMAS,
Professor of Natural Science in University College, Auckland.

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