

Te-Puke.

BAY OF PLENTY.

July 5th 1923.

Dear Dr. Frengley,

I have to thank you exceedingly for your very kind interest in Bush Sickness, and for your communications of 18th and 20th June, with copy of Mr. A.R. Young's report. It is perhaps presumptuous on my part to try to give expression to an opinion when capable people have given the matter whole time study; have done experimental research; have conducted agricultural and feeding experiments; have examined the pathology and bacteriology of the disease; and have met with some considerable measures of success in treatment. So far, I have failed to find any clinical descriptions of the disease from its commencement to termination.

There is a Seasonal incidence. Going on the assumption that the affection in sheep and cattle is similar disease, it is easier to study it and arrive at conclusions in sheep, and particularly in lambs, because there it assumes a much more accurate form. If sheep are brought from a healthy district on to "Bush Sick" land, say, in March they will thrive and do well (given average weather, feed and water conditions) until the end of October or into November, when they will commence to give evidence of being affected. Lambs born in August, of such sheep are healthy, grow well, look well, and put on average weight, until about the same time – early November, when one begins to notice that they are not thriving. They are ill – eyes infected and running water; losing weight; light dry lustreless coat; perhaps epidermal exudations (seals), and perhaps, corneal ulcerations. By Christmas time, the sheep are all, more or less showing signs of disease, and there will probably be few lambs alive. Let these same sheep and lambs, however, be removed at end of October to a healthy district and bring them back in first week March and they will keep on being healthy until the following November when if they are not removed, they will fall to the disease. That is to say, the Determining Cause of this disease, only manifests itself from about the beginning of November to end of February, roughly speaking.

WEATHER CONDITIONS. During the active period of the disease it is a fact that it is more prevalent in wet, warm, muggy weather. Regional Incidence: This disease is limited to certain tracts of country, which is computed to be about one million acres. Nevertheless I have known of affected animals being removed to another paddock not two fences away and make very spectacular recoveries, and where neither the feed nor the land was in any way different from that of the paddock they had vacated – and that more particularly should it be a paddock that has been closed to cattle and sheep for some long time.

Some farms in the same district are notoriously worse than others – in fact they may be along side each other, a comparatively healthy and a very unhealthy place.

RACIAL INCIDENCE. Sheep and cattle of all ages may be affected. Practically all lambs and calves are affected. Horses and pigs are immune. It had long been thought that rabbits succumb to this affection as they do not multiply freely and what rabbits there are, are small. In sheep I know that at one time or another nearly all varieties have been tried (at least all the common varieties) but one breed succumbs apparently as quickly as another. I don't know if Persian sheep have been tried. Lambs show symptoms and die after exposure to the cause much faster than grown sheep.

AGE INCIDENCE. Young stock, both lambs and calves, of whatever breed, are very prone to contract the disease. Those born of healthy mothers about August are well developed and thrive normally until November at least. By December, lambs and even those suckling the mothers, are mostly all dead. Early calves then, are born healthy and thrive well until November when they are normally advanced. They are then exposed to the causative agent of the disease. So long as they are fed with skim milk they manage to maintain themselves and grow fairly well, but taken all over they don't do as well as they ought to. They have already come "under the ban". When they are weaned, and weaned carefully, they lose the supporting easily digestible nutriment and having probably an atonic digestive mechanism, the result of the latent infection, they are apt to go to pieces in a short time.

FEED. Has long been regarded as a causative factor in the bush sick area. But it is not proved to be a conclusive fact. Cattle and sheep brought in, in March, do quite well on the feed, and do not contract the disease till November at least. As a contributing cause or a predisposing cause it may rank as a factor during the active period. Long feed of a comparatively innutritious nature and of indigestible character would at least appear to aggravate the disease already present.

WATER. There are some who blame the water supply, certainly a lot of water is simply surface drainage, tapped into a trough on the side of a hill, or even a water hole dug out of the ground. If the water carries any infection it is probably only as a carrier, by having surface washings carried to it, and is probably not the original reservoir of infection.

DISEASE AS SEEN IN CROWN CATTLE. Here we are dealing with the disease where it evinces itself in a much more chronic and insidious manner than in young stock. Going on the assumption that it is a contagion of some sort, and that the cause becomes active in early November, it is an easy matter to arrive at a comparative length of incubation period in calves or lambs. It is not so in grown stock, which individually show such varying degrees of susceptibility. I have seen Jersey cattle develop symptoms quite acutely like sheep – temperature 104 degrees (although temperature does not appear to last long) injected and swollen eyelids; lacrymation; discharge of mucus from nostrils whilst sneezing. These cattle ultimately came to be typically "Bush Sick"; I have also known Jersey cattle to develop the illness and die quite suddenly after a short period of illness.