APPENDIX.

CIRCULAR ADDRESSED TO CATTLE-OWNERS THROUGHOUT THE COLONY.

SIR,— Stock Inspector's Office, April, 1889.

Tuberculosis having been found to exist among New Zealand cattle, I would respectfully draw your attention to the facts that definite danger arises from the presence of tuberculous cattle in a herd; that a tendency to disease is certainly bequeathed in many cases by affected parents (whether male or female) to their progeny—that possibly the very germs of disease may be so transmitted; and that the disease may spread by way of contagion when infected animals are penned with healthy ones.

With a view to lessening the evil, I would recommend the destruction of all wasters, as there is certain loss in keeping such cattle. Animals with chronic coughs should be looked upon with suspicion, and cattle of doubtful health should never be used for breeding purposes. I would further recommend that the offspring of those known to be tuberculous should be either spayed or castrated.

As tuberculosis is rare in young dairy-cows, and as it becomes increasingly prevalent with advancing age, I would suggest that dairy-farmers weed out their herds from time to time so as to limit the age of the cows from which milk is obtained.

With regard to the general management of cattle, it may be noted that the prevalence of tuberculosis among mankind in any district is more beneficially affected by drying of the subsoil than by any other cause; and with cattle also it is found that tuberculosis is specially prevalent among those kept on low damp pastures.

I might here refer to the necessity of supplying cattle with extra food and shelter during winter in poor or exposed districts; but these and other precautions will readily suggest themselves. There is no doubt that all depressing and debilitating causes are as effective in favouring tuberculosis among cattle as among men, and in cases of threatened disease the removal of such causes will have like beneficial results.

The attached report of the Departmental Committee appointed to inquire into this subject in Great Britain contains much useful information. I have, &c.,

To . Inspector in Charge.

REPORT OF THE DEPARTMENTAL COMMITTEE APPOINTED TO INQUIRE INTO TUBERCULOSIS IN THE UNITED KINGDOM, 1888.

Nature of the Disease.

1. This disease, technically known by the term "tuberculosis," or "tubercle," is so called because it produces in the tissues of most warm-blooded animals small inflammatory lumps or knots, the Latin word for which, as originally applied by Celsus, was "tuberculum."

2. The disease is known in the United Kingdom by different names, according to the parts of the body it may happen to attack, or according to the kind of lesions it produces, or, finally, according to its general effect on the body. Thus, it is commonly called phthisis or consumption, pining, and wasting (the animal being called a "waster"), scrofula, strumous disease, cheesy inflammation of the lungs, caseous pneumonia, caseous broncho-pneumonia, tubercular pleurisy, the grapes, the grape disease (German *perlsucht*), consumption of the bowels, tabes mesenterica, tubercular meningitis.

3. For many years most of these conditions were supposed to be different diseases; we now know for certain that they are all forms of one and the same process, and caused by a microbe—*i.e.*, a parasite misco-organism, which, growing in the tissues, gives rise to the tubercles, and which, by reason of its being thrown off from the diseased animal in quantity, renders the malady a contagious one.

Tuberculosis, therefore, exists only in those localities where the microbe happens to be endemic—that is, however, in all European countries—and can only occur in an animal by reason of the microbe being introduced into its system. The microbe, or bacillus, thus forms the poison or virus of the disease.

4. The great discovery that the tubercles or foci of the disease contained a virus or poison capable of producing the malady when inoculated into the lower animals was first made by Klencke in 1843, but first described at length and placed on an undeniably firm basis by Villemin in 1865. The nature of the poison itself remained unknown till it was discovered by Koch, in 1881, to be a rod-shaped microbe.

5. He found that this rod-shaped microbe was of a length about equal to or less than the diameter of a red-blooded corpuscle. When magnified very highly and stained with certain dyes it presents a dotted appearance, showing that the protoplasm forming its body is interrupted. This condition of the protoplasm is supposed further to indicate its reproduction by spores or seeds, such seeds or spores of microbes having, it is well known, greater vitality than the adult rod.

6. This greater vitality of the spore, and the viability of the rods, are, of course, points of the utmost importance, since, if the mucus, or saliva, or expectoration of an animal or human being suffering from tuberculosis be dropped upon the ground, flooring, or furniture of a room or shed, it is obvious that such secretions are, in proportion to the effect which exposure at the temperature of the air and drying may have in destroying the organisms and their spores, a source of