

1888.
NEW ZEALAND.

THE RABBIT NUISANCE

(ANNUAL REPORT ON), BY THE SUPERINTENDING INSPECTOR.

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

Mr. B. P. BAYLY to the HON. the MINISTER of LANDS.

SIR,—

Crown Lands Department (Live Stock Branch), Wellington, 19th May, 1888.

I have the honour to furnish you with my annual rabbit nuisance report for the year ended 31st March, 1888,—

The situation respecting the rabbit nuisance is little altered from previous years; in some localities a decided headway is being made against the pest, whilst in others, although a check is being kept upon a rapid increase, yet there is no concealing the fact that each year rabbits are slowly and surely encroaching upon hitherto clear country.

In the North Island, in the Auckland District, from the North Cape until the Waikato is reached, no badly-infested country is known, although there are a few places where rabbits have been seen, but the conditions under which they exist are not favourable to their overrunning the country without absolute rabbit-farming being entered into; however, when the country in the Waikato, from Alexandra to the Puniu River is reached, a different state of affairs obtains. This area is better grassed, with conditions more favourable to the increase of the pest; and although comparatively limited in extent, there are a few places where the land can be termed badly infested, and on country where such should not be the case, unless attributable to gross neglect on the part of owners. Another drawback to satisfactory work being effected is owing to the number of small and comparatively valueless sections, either abandoned or unused by their owners, wherein cover of all descriptions is furnished for the pest. The difficulty of dealing with these properties is still further increased in ascertaining the whereabouts of the owners, and when found they frequently prove pecuniarily unable to comply with the requirements of the Act. When the number of privately-owned abandoned allotments to be dealt with by the department is taken into consideration, numbering some 180 owners, representing over eleven thousand acres, in blocks from fifty acres upwards, and within an area of thirty or forty miles, it can be readily seen that to deal with all these is no easy matter; independently of these, there are large numbers of Government sections scattered about also requiring the attention of the department together with the above. Most of the roads in this district are in a neglected state, being overrun with gorse and fern, and, as they bound the grass lands, could not be better situated for perpetuating the evil. Generally speaking in this country the population is large in comparison with areas owned, and rabbits should, with only ordinary exertion, be well kept under.

After crossing the Puniu River a sprinkling of rabbits is found through a good portion of the King Country, from Kihikihi to near Otorohonga, but in no very large numbers in any one place. This being all Maori country renders the adoption of ordinary means impossible, as, were poisoned grain resorted to, the Maori pigs, upon which the Natives mainly depend for food, would be destroyed. An expert was specially engaged to show the Maoris the method of trapping, but, from the number of pigs scattered over the country and the disinclination of the Maoris to adopt these means, it had to be discontinued. An inducement to the Maoris was then offered by the exchange of powder and shot for rabbit-skins. Even with this arrangement they became dissatisfied, and, as a last resource, a bonus of 3d. per skin was given for all rabbits destroyed by the Maoris within Native country. This course has proved, as yet, the most advantageous, and about four thousand skins, at a cost of some £50, were delivered within two months; and I must say the work has been more thoroughly done than I have witnessed elsewhere, as the rabbits are nearly all obtained by first burning off the cover, then digging the burrows out. A rabbit agent has been specially instructed to supervise this work, primarily with the object of keeping the Natives constantly engaged, as well as preventing skins from other than Native lands being brought forward for sale. From what I myself saw in the autumn, I am satisfied that if the same energy is displayed throughout the winter on the block rabbits will be reduced to a minimum.

In the Hawke's Bay District matters are much the same as last season. The boundary-fence at Waimata has been extended several miles farther inland, and is still affording a good check to the advance of the rabbits from the Wairarapa. The Hawke's Bay Rabbit Board is administering the provisions of the Rabbit Act in a successful manner, using every exertion to prevent any increase of the pest within the district. The rabbits near the southern border, together with the few seen within its jurisdiction, should keep the Board fully on the alert. A very close supervision is being kept on the fence and its vicinity with good results; rabbits are not as yet in any numbers near the boundary, and as they appear have been destroyed, and, the natural enemy released, this fence has without doubt proved of very great benefit.

In the Wairarapa District a greater diminution of the pest has taken place, and fewer rabbits are to be observed at this season than has been the case for years past, and inquiries tend to show that some other factor has been at work besides ordinary methods of destruction. Four separate parasitic diseases have been found to exist—namely, bladder-fluke, coccidia, scabies, and lice; of these the bladder-fluke is evidently the most destructive, but none are of a virulent type in their present form. The whole matter has been intrusted to Professor Thomas, of Auckland University, for thorough investigation. This gentleman has made an exhaustive inquiry, and furnished an interim report, but a decision as to whether this disease shall be further propagated as a means of rabbit destruction or not is kept in abeyance until the researches now being made into the rabbit question by the Royal Commission in Australia are made known and future action on their report determined. A copy of the above report by Professor Thomas, and rabbits affected with bladder-fluke, have been sent to the Sydney Commission. I may add that a very wet and cold spring helped without doubt to assist in the decrease of rabbits in the Wairarapa, and the natural enemies of the rabbit in shape of ferrets and cats are reported to be more numerous than hitherto.

With reference to the South Island, in the Marlborough District a new departure was made during the past year, inasmuch as the rabbit country there is now being dealt with by the Awatere Rabbit Board, whose operations began last winter, when an exceedingly good poisoning was effected; but I am led to believe the success was not followed up with proper measures, consequently a large increase of the pest has been reported again to have taken place during the summer on the low-lying country. This Board has expended its funds chiefly in the introduction of stoats and weasels, but I am afraid that, as they have been distributed in small numbers as apportioned, their effect will not be noticeable for some time; and I hear that already a petition is being got up by many of the ratepayers to have the Board dissolved, and I shall not be surprised to find that before another season this department will have again to assume charge of the area now being dealt with by this Board.

Near Blenheim a new phase of the question appears. Here a large and organized system is being carried on for tinning the rabbits in great numbers, some 200 hands are at present employed: a delicate question of administration therefore arises. The country near this preserving factory is low-lying dry country, where the natural enemy has not been a success, thus affording all the surrounding necessities for the rapid increase of the pest. Being near a considerable population satisfactory results will follow if the vigorous work now being carried out in this direction is continuously employed; but the great danger to be feared is that in summer, when the skins are less valuable and the rabbits breeding, therefore not so fit for preserving, will they not be allowed to increase so that more profit may accrue in the winter? Again, will not this system bear heavily upon those properties situated on the margin of this preserving area, and where poisoning and other decisive action is taken? I can see only one equitable solution of the case, which is that where the preserving of rabbits is carried on in this way the owner or owners of such properties should be compelled to thoroughly secure their boundaries with rabbit-proof fencing.

With the exception of this block of country I am informed that if anything a decrease is observable on the higher country and the rabbits well in check.

On the southern boundary of Marlborough the North Amuri and Hurunui Rabbit Boards have been constituted with the object of preventing, by means of rabbit-proof fencing, and introduction of the natural enemy, a further advance of the pest into North Canterbury. The fence extends from the sea some fifty miles inland, traversing in some places very high and rough country. The promoters are sanguine of being able to thus offer a very decided check to the pest's advance. I trust their anticipations may prove correct; and should this fence prove a barrier during the coming winter and spring it will go far towards confirming this as a means of protection. Together with this fencing, a number of the natural enemy have been released on the margin of the pest, and they should materially assist in checking the dreaded advance.

The infested country at Te Akatarawa, north of the Waitaki River, referred to in my last report, is, I regret to say, if anything, even in a worse state. A further spread of the pest has occurred, and it is to be regretted that this corner was not fenced off last year as recommended. The South Canterbury rabbit-fence determined upon last season is now in course of erection. Some thirty miles are in course of erection, and as the remainder of material ordered is now in the colony its completion should not be long deferred. I am glad to be able to report that from all accounts the dreaded influx of rabbits in myriads from the Ohau Gorge has not as yet occurred, and it is to prevent such a contingency that this fence is now being erected. It commences at a point east of the Tasman River, and extends for some twenty-two miles, ending at the east corner of Lake Pukaki. Together with the fence a rabbitier has been specially employed near Birch Hill, on the western side of Tasman River, and over two hundred stoats and weasels turned out near the Hermitage, Pukaki Lake, Ohau and Dobson Gorges, and Naumann Range. Not more than sixty rabbits have been killed by the said rabbitier up to date, and these are reported to have come down the Tasman; and I consider the steps taken by Government during the last two seasons, in releasing the natural enemy as available on the outskirts of the pest, has resulted well. A further line of fencing is being erected from Stony Creek to Hakateramea, over a distance of some fourteen miles, as a part of this fencing scheme, and so affording a barrier of over thirty miles to protect Canterbury

from a southern invasion. With a portion of the fencing material on hand, it is also proposed to at once erect about six miles of fencing on a portion of Te Akatarawa, and thus confine the infested country there within its present limits, at the same time assist in reducing the rabbits in that part of Canterbury by preventing them from spreading when the work of destruction is being carried out. I have for some time looked upon this piece of fencing as a work of necessity, more so than any of the other lines in course of erection.

In the Otago District there is nothing out of the ordinary routine to report. The pest may be considered well kept in check, but no more so than is annually the case; and the few places where a temporary increase has occurred will be vigorously dealt with during the ensuing winter. In Wallace and in parts of Southland Districts improvement is still reported, but little or no headway can be made in the huge areas of country bordering the Wakitipu and Wanaka Lakes.

CROWN LANDS.

These still create the largest expenditure the department has to meet, and my remarks upon that subject in last year's report, wherein I showed at length the peculiar position this department holds in reference thereto, are still equally applicable.

NATURAL ENEMY.

Authority having been given to purchase all ferrets bred at a certain price, ferret-breeding has been largely gone into, with the result that over 3,600 ferrets have been bred under the conditions of contract; these have been distributed as follows: In Otago, 2,755; Canterbury, 367; Marlborough, 480. Independently of these, over four thousand have been liberated by private owners; of this number about seven hundred were released in the North Island, the remainder in the South Island. The reports received of the benefits derived from ferrets are generally very satisfactory, and I fully anticipate that the number bred and released next summer will establish beyond doubt the usefulness of the ferret as a factor in the destruction of the rabbit.

A shipment of 94 stoats and 225 weasels has been recently imported, and, with the exception of twenty, which were released on Crown lands at Clarence River, the remainder were released on the boundary of Canterbury and Otago; besides this shipment several have arrived for private owners: and from the above it will be seen that both by importation and local production the greatest stride of testing the utility of the natural enemy has been made this season.

Together with the means already recorded, resource has at last been had to science, and a delegate sent to attend and report upon the investigations now being made in Australia as to the feasibility of introducing disease as an exterminator. The reward offered by the New South Wales Government has had a most beneficial effect; suggestions of all kinds have been received by the Commission from all quarters, and I am firmly of opinion that it will be from this source that our ultimate relief will come. One thing is positively certain that all means employed up to the present time will be duly weighed and their value rightly appraised or determined; under any circumstances a fund of valuable information will be obtained that must tend to operate beneficially, but some months will elapse before the results of the Commission can be known.

It is satisfactory to be able to show a slight increase in the number of sheep depastured on what were the worst-infested runs of the South, and this on unimproved as well as improved lands; but more than this is wanted; at present the expense of keeping the pest in check is still too great a tax on simply pastoral country.

A statement of expenditure is attached herewith.

I have, &c.,

BENJ. P. BAYLY,

Superintending Inspector.

The Hon. the Minister of Lands, Wellington.

APPENDICES.

APPENDIX A.

STATEMENT of EXPENDITURE, &c., for the YEAR ended 31st March, 1888.

District or Port.	Number of Tenders accepted for destroying Rabbits on Crown Lands.	Amount- ing to	Quantity of Phosphorus used for Crown Lands.	Quantity sold.	Quantity on Hand on 31st March last.	Total Number of Skins exported from the Colony during Year ended 31st March, 1888.	Value.	Estimated Area of Crown Lands to be dealt with this Year.
		£ s. d.	lb.	lb.	lb.		£	Acres.
Auckland ...	1	11 18 0	...	...	34	1,468	12	10,000
Wellington ...	...	...	...	...	...	337,988	3,428	...
Wairarapa ...	21	311 3 0	...	...	...	...	...	20,000
Nelson ...	...	...	10	29	16	...	...	3,000
Blenheim ...	...	...	55	...	80	87,716	972	10,000
Kaikoura ...	...	...	55	60	15	...	...	4,000
Lyttelton ...	...	...	...	...	...	762,556	6,147	...
Lake Ohau ...	...	...	21	...	19	...	...	66,000
Oamaru ...	...	...	...	...	...	52,700	440	...
Dunedin (Otago)	59	2,150 9 8	889	280	474	9,986,752	85,842	1,187,560
Invercargill ...	...	...	...	...	...	896,691	11,388	...
Totals ...	81	2,473 10 8	1,030	369	638	12,125,871	108,229	2,300,560

GENERAL REMARKS.—Payments to agents, labour, material purchased, and other contingencies not included in this expenditure. It is impossible to give the number of skins from each district; but the total export for the whole colony from the 1st April, 1887, to the 31st March, 1888, is shown herein, as exported from the different ports. The number of rabbit-skins exported during the year ended 31st March, 1887, was 8,900,692, of the value of £66,246. The number of ferrets released on Crown lands by Government during last financial year was 3,600, and over 4,000 ferrets are known to have been released by private owners.

APPENDIX B.

SIR,— The Minister's Office (Live Stock Branch), Wellington, 9th March, 1888.

I have to request that you will be good enough to furnish replies to the following questions with as little delay as possible. The period to which these questions refer is between the 1st April, 1887, and the 31st March, 1888.

I have, &c.,

B. P. BAYLY,

Superintending Inspector.

Rabbit Inspector

- (1.) What means have been adopted for destroying rabbits?
- (2.) Have you any recommendations to make?
- (3.) What progress has there been made?
- (4.) How many tenders have been accepted?
- (5.) What did the whole of them amount to?
- (6.) Number and description of reserves you will require to deal with, and the approximate area of such available for grazing purposes?
- (7.) What quantity of phosphorus was used for Government purposes?
- (8.) What quantity was sold to private individuals?
- (9.) What was the quantity on hand on the 31st March, 1888?
- (10.) Number of prosecutions?
- (11.) Number of convictions?
- (12.) Number of dismissals?
- (13.) Names of owners of properties dealt with under section 11?
- (14.) Number of ferret-breeders?
- (15.) Have any ferrets been turned out by Government; if so, how many, and with what results?
- (16.) Have any ferrets been turned out by private owners; if so, about how many, and with what results?

General Remarks :

From Rabbit Inspector DRUMMOND, Auckland.

(1.) Shooting, hunting with dogs, digging out burrows, clearing bush, scrub, and rough lands, burning, &c. (2.) The turning out the natural enemies in as large numbers as possible on Crown and Native lands. (3.) I believe on the whole there has been fair results made. (4.), (5.) Nil. (6.) None, as far as I am aware. (7.), (8.) None. (9.) 9lb. (10.), (11.), (12.), (13.) None. (14.) Not aware of any. (15.) None. (16.) Not aware of any.

From Rabbit Inspector OLDHAM, Hamilton.

(1.) Trapping, ferreting, shooting, and digging out burrows. (2.) An Act passed to compel owners of land to clear their property of gorse and briar would be a very great assistance in getting rid of the rabbit nuisance. (3.) Government lands have been well attended to, and rabbit-killing has been gone on with on private lands during the summer up to the end of December. (4.) One. (5.) £11 18s. (6.) Eleven, including Native reserves, varying from 15 to 800 acres. None available for grazing. This does not include Alexander town lots. (7.), (8.) None. (9.) 3lb. Also one case four tins, 25lb., received from late Chief Inspector Lewis. (10.), (11.), (12.) None. (13.) Eight. (14.) Four. (15.), (16.) None.

From Rabbit Inspector ORBELL, Masterton.

(1.) Phosphorized grain, carrots arsenicized, working tame ferrets with nets; in some places trapping, shooting, and hunting; warrens and watercourses broken up, ferrets and cats turned out, boundaries of landed estates wire-netted, bush and scrub cleared. (2.) The natural enemies to be turned out in unlimited numbers in badly-infested country. The diseases that exist among the rabbits in the Wairarapa District to be propagated, provided that Professor Thomas reports that any of the rabbit diseases here are worthy of propagation. (3.) Good progress, and very satisfactory. (4.) Twenty-one. (5.) £311 3s. (6.) Three, principally bush; the approximate area for grazing purposes about 8,000 acres. (7.) 80lb. (8.) 22lb. (9.) 38lb. (10.) Six. (11.) Six. (12.), (13.) None. (14.) Nine. (15.) None. (16.) Yes, about seven hundred, with excellent results. *General Remarks.*—The rabbits in Wairarapa South are considerably reduced; the stoats, weasels, ferrets, and cats are increasing, spreading, and doing excellent work. The diseases that exist among the rabbits here do not appear to be virulent, although a number seem to die from the effects of the malady that they are affected with, viz., bladder-worm, rabbit-itch, coccidia (liver-disease), and a form of consumption; but I may state that the mortality has not reached to any great extent, to cause any great diminution of the plague; but possibly one or two of the diseases may develop in time to a nature more destructive and fatal, as to be worth propagating and becoming a valuable agent in extirpating the pest.

From Rabbit Inspector BLUNDELL, Nelson.

(1.) Phosphorized grain, shooting, trapping, hunting, and digging out. (2.) None. (3.) Rabbits have been kept in check, but I cannot report any decrease in numbers. (4.) None. (5.) Nil. (6.) There are no reserves; but I estimate that there are about 3,000 acres of unoccupied Crown lands and river-bed that will require poisoning during the coming winter. (7.) 10lb. (8.) 29lb. (9.) 16lb. (10.) One. (11.) One. (12.), (13.), (14.), (15.), (16.) None. *General Remarks.*—I have noticed a greater number of young rabbits than are usually to be seen at this time of the year.

From Rabbit Inspector HULL, Blenheim.

(1.) Phosphorized grain, shooting, and trapping. (2.) That every effort be made to introduce disease, all other things as yet discovered being only of a temporary nature, and a constantly-recurring expense. (3.) Notwithstanding the excellent work done during last winter, when the rabbits were reduced to a smaller number than any time previously, they are now as thick as ever, and have increased more rapidly during the past summer than they have ever done before. (4.) None. (5.) Nil. (6.) About 8,000 to 10,000 acres; all high mountainous country, of little or no use for grazing purposes. (7.) 55lb. (8.) None. (9.) 80lb. (10.), (11.), (12.), (13.) None. (14.) One. (15.) None. (16.) About one hundred and fifty on Glenlee are doing pretty good work, there being plenty of water. *General Remarks.*—The larger part of the district is under the jurisdiction of the Awatere Rabbit Board, and excellent work was done by them during the winter, but owing to the dryness of the season few of the "stops" were destroyed, consequently the young rabbits, which are generally destroyed by wet, have been left to breed, and there has been a more rapid increase during the summer months than has been known for years past. Most of the breeders of ferrets in this district have left off breeding them, counting on the introduction of the weasels and stoats to take their place.

From Rabbit Inspector MOORE, Kaikoura,

(1.) Poisoning, turning out ferrets, ferreting with nets, and shooting. (2.) That the reserves at the Hapuku and Waimanararu be let or sold, the former being unfitted for village settlement, and requiring constant attention. That poisoning be continued this winter when possible with safety to ferrets; and ferrets on hand be turned out in spring, and their breeding be encouraged. (3.) Owing to the great mortality last season among the ferrets by distemper, which almost exterminated them in portions of district, rabbits have in places shown up in fair numbers; however, with exception of one or two spots, they are well in hand through the district; and, with ferrets turned out in spring, will, I consider, be reduced to a minimum. (4.) None. (5.) Nil. (6.) Mongama (Native), Hapuku, Waimanararu, South Bay, Peninsula, North and South Beach, and Crown lands unsold; about 4,000 acres; about 200 fit for grazing. (7.) 55lb. (8.) 60lb. (9.) 15lb. (10.), (11.), (12.) Nil. (13.) None. (14.) Five. (15.) About 680; have been out short time, but doing excellent work. (16.) About 300, doing excellent work. *General Remarks.*—That facilities be given to persons willing to erect rabbit-proof fencing. Poison and the natural enemy the only sure means of permanently dealing with the pest. The work of poisoning, shooting, and ferreting on Crown lands and reserves has been most satisfactorily performed.

From Rabbit Inspector COOKE, Waiau.

(1.) Poisoned grain and turning out of natural enemies, some shooting, also trapping. (2.) Nothing new. (3.) Rabbits so far well in check. (4.) None. (5.), (6.), (7.) None. (8.) None. (9.), (10.), (11.), (12.), (13.) None. (14.) Four. (15.) Yes, twenty; rabbits disappeared from where ferrets put out. (16.) Estimate about 1,000; results good. *General Remarks.*—By dint of much looking after rabbit-infested places, good work has been done. Since forming the North Amuri Rabbit Board, some 1,000 stoats and weasels have been distributed and turned out; also about 1,000 ferrets and about 800 cats. Rabbits are certainly spreading over a greater area; but do not appear, in the aggregate, to be more numerous.

From Rabbit Inspector FOSTER, Christchurch, in charge Canterbury District.

(1.) At Aketerawa the chief means used have been rabbiters; a little poisoning has been done, and ferrets turned out. In other parts shepherds have been employed rabbiting. (2.) A few stoats and weasels should be liberated on Mr. Sinclair's, at Mesopotamia; and the islands in the Waitaki, Ohau, and Tekapo should be dealt with this winter. (3.) At Aketerawa rabbits have increased, and probably also in the immediate neighbourhood; elsewhere the reports from Inspectors, agents, and surveyors show that rabbits have decreased. (4.), (5.), (6.), (7.), (8.), (9.) Nil. (10.) One; Turnbull Miller. (11.) One. (12.), (13.) Nil. (14.) Three. (15.) Yes; 367 in South Canterbury, with good results. (16.) Nil. *General Remarks.*—It is confidently expected that the Hurunui Rabbit Board's fence, and those being erected in South Canterbury, will prevent any serious influx of rabbits into this district. The rabbits in the Rangitata and Ashburton Upper Districts will be vigorously dealt with this winter; and, beyond a few stoats and weasels for Mr. Sinclair, I do not anticipate any necessity for further Government expenditure.

From Rabbit Inspector SUTTON, Timaru.

(1.) On the stations rabbiters have been employed, as well as poisoned grain, in the winter months. This summer a number of ferrets have been turned out. (2.) Stoats and weasels should be turned out in the high country that is covered with snow in winter. All islands in the large rivers should be dealt with this winter. (3.) Rabbits have increased on some of the runs on the north bank of the Waitaki River; in other parts of the district the destructors of the pest have kept them from increasing. (4.), (5.), (6.) Nil. (7.) 4½lb. (8.) 4lb. (9.) 1½lb. (10.) One; Mr. T. Miller. (11.) One. (12.), (13.) Nil. (14.) One. (15.) 347 on Rangitata Island and Waitaki County; results good. (16.) Nil. *General Remarks.*—Poisoning, where necessary, should be commenced next month (May), and where any ferrets have been liberated they should receive every protection from rabbiters, also in country that has been poisoned in winter months.

From Rabbit Inspector H. S. THOMSON, Omarama.

(1.) The use of phosphorized grain in winter; packs of dogs and digging out during summer. Ferrets have been liberated on Benmore, and on the unoccupied Crown lands at head of Lake Ohau. (2.) That the natural enemy, especially stoats and weasels, be turned out on the back country in as large numbers as can be procured. (3.) On the runs which were most infested a large diminution in rabbits is perceptible, on others there is an increase. (4.), (5.) None. (6.) 66,000 acres, of which 20,000 may be available for pastoral purposes. (7.) 21lb. (8.) None. (9.) 19lb. (10.), (11.), (12.), (13.) None. (14.) One; R. Campbell and Co., Benmore. (15.) 150. No appreciable results. A few of the ferrets have been lately seen. (16.) 650 by R. Campbell and Co., Benmore. Rabbits still on increase, though numbers of nests have been found destroyed by ferrets.

From Rabbit Inspector CLIFTON, Dunedin, in charge Otago District.

(1.) Chief means the use of phosphorized grain; liberation of the natural enemy; trapping. (2.) That scientific means of rabbit destruction be tested, and its application, if proved innocuous to stock. The introduction of the natural enemy, particularly the stoat. (3.) Pest reduced from destructive numbers. (4.) Fifty-nine. (5.) £2,159 9s. 8d. (6.) Commonages, runs, reserves, bush-frontages, &c.: total area about 1,187,560 acres. (7.) 889½lb. (8.) 280lb. (9.) 474½lb. (10.) Eleven. (11.) Ten. (12.) One. (13.) Twenty-seven. (14.) Fifty-seven. (15.) 2,713; satisfactory. (16.) 2,960; satisfactory. *General Remarks.*—Application, if innocuous to stock, of scientific means of rabbit destruction. Service of notice under section 8 of Rabbit Act to be repealed. Wire-netting fences to be made legal, and power given to compel adjoining owner to pay half cost. Power should be given Inspectors to compel owners to cut or destroy gorse- and broom-fences. The introduction of the natural enemy.

From Rabbit Inspector FULLARTON, Oamaru.

(1.) Poisoning, dogging, digging out, ferreting, and shooting. (2.) I would recommend that the natural enemies, viz., stoats, weasels, and ferrets be liberated on the rough country up the Waitaki. (3.) Fair progress has been made over the district in general. On some parts of the Waitaki, owing to a heavy fall of snow when laying the poisoned grain, there was not the destruction that otherwise would have been. (4.) Four. (5.) £108 18s. 6d. (6.) Unoccupied and abandoned country. Area about 81,000 acres; very poor rough country. (7.), (8.) None. (9.) 20lb. (10.), (11.), (12.), (13.) None. (14.) One. (15.) Ninety; results not known yet. (16.) 650. Have not made themselves felt. *General Remarks.*—Should suggest that the phosphorized grain should be mixed in an iron drum or cylinder, not, as often is the case, in a wooden barrel; and not less than 1lb. phosphorus

to 50lb. oats in winter, and 1lb. to 40lb. oats in summer, and more supervision over the mixing of it; likewise turning a sod or running a plough-furrow, wherever practicable, and laying the grain on the sod or furrow.

From Rabbit Inspector S. R. QUARTLEY, Palmerston South.

(1.) After the general winter poisoning, trapping, shooting, dogging, fumigation, digging-out, and summer poisoning have been used as means to destroy rabbits in different parts of Waihemo, Waikouaiti, and Maniototo Counties. (2.) None. (3.) Very satisfactory work has been done in the Waikouaiti and Maniototo Counties, and in most parts of the Waihemo; all sheep that I have inspected have been in good condition, and feed has been abundant. (4.) Two. (5.) £45 10s. (6.) Sheep Reserve Blocks 1 and 7, North Harbour and Blueskin Survey District; quarry and railway reserve, same district, about 500 acres; two small mining reserves on Shag River, Waihemo, about 50 acres. These reserves are not capable of being dealt with for grazing purposes. (7.), (8.), (9.) Nil. (10.) Two. (11.) Two. (12.) Nil. (13.) Messrs. Wright, Stephenson, and Co., Mr. Hans Paull, John W. Mepsted, Thomas Mee, F. W. Plew, R. L. Stanford. (14.) One. (15.) None, (16.) About 100 recently. *General Remarks.*—The high country for the most part is generally free from rabbits, and, as they are confined to the low lands and not scattered to any great extent, a judicious simultaneous poisoning this winter should reduce the pest in the counties under my charge to a minimum.

From Rabbit Inspector SHAW, Clyde.

(1.) During the winter months phosphorized grain; remainder of the year, dogging, trapping, shooting, ferreting with nets, digging, and drowning-out burrows, bisulphide of carbon, and arsenic and carrots. (2.) That the Government should turn out large numbers of stoats and weasels in all rough and inaccessible country. (3.) Very fair progress has been made in this district during the last twelve months. (4.) Six. (5.) £810. (6.) Cromwell Commonage, 8,500 acres; Clyde Commonage, 6,000 acres; Black's Commonage and Tiger Hill Reserves, 1,800 acres; Hunter Valley, 31,500 acres; Run 459, 8,570 acres; Run 93, 44,000 acres; Hawea Hundred, 12,000 acres; possibly Run 493, acreage not stated on map. (7.) 140lb. (8.), (9.), (10.), (11.), (12.) None. (13.) Charles Colclough, Charles G. Mountney, Richard Olds, Charles Mitchell, Sarah Williams, Cromwell Borough Council. (14.) Six. (15.) None. (16.) 200, with good results in some places. *General Remarks.*—Last winter's poisoning was very successful throughout this district. I find that summer poisoning is a great mistake; certainly a few rabbits are destroyed, but it spoils the general poisoning, as the rabbits do not take the poison so well as when left alone until the proper poisoning season. Ferret-breeding in this district has been most unsuccessful; two runholders having bred from 120 to 170 ferrets each, ready to turn out; they all died of distemper, so that the runholders have ceased breeding ferrets for the present.

From Rabbit Inspector MILLER, Queenstown.

(1.) Systematic poisoning during the winter months; and patch-poisoning in summer during the month of January, when grass is burnt up; poison in summer being laid in the evening and during damp weather; trapping, and ferreting, and liberating ferrets. (2.) None at present. (3.) Fair progress made, especially on Crown runs, and back country generally. (4.) Twenty-one. (5.) £663. (6.) Crown runs, 435,300 acres; agricultural, mining, and bush reserves, 23,450 acres: all fit for grazing, excepting about 5,000 acres, mining, and bush reserves. (7.) 255lb. (8.) Nil. (9.) 145lb. (10.) One. (11.) One; J. Nicol, £50. (12.) Nil. (13.) Twenty-seven. (14.) Seven. (15.) 742 turned out this summer. At the head of Lake Wakatipu, where ferrets were first turned out, they have done remarkable work in preventing the increase of rabbits in the Rees country. (16.) Nil.

From Rabbit Inspector DOUGLAS, Invercargill.

(1.) Principally phosphorized grain, digging out burrows, ferreting, and a little trapping. (2.) None; except that, special provision being made in Amendment Act of 1886 for taking evidence in mitigation of penalty, the service of notices under clause 8 might, I think, be done away with: much valuable time and labour would be thereby saved. (3.) With the exception of a few places on river flats the district is in a satisfactory state. It must be expected that more rabbits are showing at this season of the year about cultivation-paddocks and gorse fences; but they are not at all bad. (4.) Two. (5.) £70. (6.) I do not anticipate having any available country to deal with. There are a number of small reserves and bush frontages in lower portion of district, which I attend to with day-labour. (7.) 23lb. (8.) Nil. (9.) 40lb. (10.) One. (11.) Nil. (12.) One. (13.) Nil. (14.) Four solely for Government, four private on large scale, and several breeding a few each year. (15.) 455 turned out direct; 137 sent to stations to be kept through winter, 62 of which died from disease. (16.) Yes, about 1,200. Ferrets are doing much good, in many places quite stopping increase of rabbits without any summer assistance; but, from some unknown cause, we cannot get ferrets to remain on the Waiau Flats. *General Remarks.*—A better check on sale of ferrets is required. It would be easy to prevent carriage by rail without a permit from Inspector or local constable. At present any number of captured ferrets could be sent away without detection.

From Rabbit Inspector WACHSMANN, Gore.

(1.) All means known to experts, viz., poisoning with phosphorized oats during winter, followed up by trapping, hunting with dogs, using working ferrets and nets, and by turning out large numbers of ferrets both by Government and private individuals. (2.) Yes; that when poisoning com-

mences, simultaneous action should be made compulsory when required by Inspector or agent; that cats should be liberated in addition to ferrets; that the present system of giving notices should be done away with and the Inspectors empowered to act summarily; that Inspectors should be empowered to cause owners to cut or destroy overgrown gorse fences without entering in on such lands under section 11 of the Rabbit Act; that in a rabbit district landholders should be prohibited from planting gorse or broom fences. (3.) Cannot speak from personal experience, being only lately arrived; but from information gathered in my travels I find that the rabbits are only numerous in patches here and there, and not so thick as in previous years. (4.) 18. (5.) £250 11s. 2d. (6.) Nearly 300,000 acres, chiefly bush, including commonage, mining, and minor reserves; Runs 214, 423, 190E, and 190B; the latter being fair grazing country in the summer. (7.) 224lb. (8.) 280lb. (9.) 121lb. (10.) One. (11.) One. (12.) Nil. (13.) School Commissioners of Otago, New Zealand Trust and Loan Company, New Zealand Mortgage and Investment Association, W. Saunders, Sew Hoy, Harper and Co., C. C. Kettle, E. Johnstone, H. Driver, and J. McLaren. (14.) Twelve. (15.) 318. In some localities where ground is suitable good results have ensued, especially in the breeding season, when young rabbits are plentiful. (16.) Unable to say accurately from personal experience, but have heard of several lots turned out. *General Remarks.*—It is said by the farmers that the rabbits have done better this year than ever, as the spring was so favourable. The great drawbacks to exterminating the rabbits in this district are the over-abundance of feed all the summer; the subsoil being of a friable, sandy nature, is very favourable to burrowing; the Mokerita District being mostly small holdings, consisting of paddocks surrounded with gorse fences, affording great cover to the pest; and the farmers, being very poor, with heavy liens on their crops and holdings, are actually unable to do much that requires outside labour.

From Rabbit Inspector MILES, Lawrence.

(1.) During winter months phosphorized grain; remainder of year trapping, bisulphide of carbon ignited, shooting, dogging, digging out. Ferrets have also been turned out by two owners, and also by Government. (2.) That ferrets and other natural enemies be bred and liberated on an extensive scale; also that wire-netting be erected where possible in fencing off rough country. That no ferrets or other natural enemies be turned loose after March, but be kept at dépôts, and turned out immediately the breeding season commences. (3.) Excellent work was done during the last poisoning season, but, owing to the continued dry spring and summer, rabbits have again been enabled to breed up, notwithstanding the vigorous efforts used to keep them in check. (4.) One. (5.) £69 15s. (6.) About 60,000 acres, mining and bush reserves, commonages, and unsold sections. About one-third only available for grazing purposes. (7.) 136½lb. (8.) Nil. (9.) 63½lb. (10.) Six. (11.) Six. (12.), (13.) Nil. (14.) Thirteen. (15.) 833 have been turned out on Molyneux banks and Pomahaka banks, with apparent success; they are frequently seen at work, and dead rabbits found, evidently killed by them; also several rabbits have been caught showing signs of having been worried by ferrets. (16.) About 100 have been turned loose on Moa Flat Estate; apparently doing well. *General Remarks.*—The rabbits are still principally confined to the low country, river banks, &c.; and, in my opinion, this is where we require the ferrets, &c., as being the principal breeding-ground.

From Rabbit Inspector SCAIFE, Outram.

(1.) Trapping, snaring, shooting, hunting with dogs, and, in some cases, working ferrets. Fumigation is not much practised, though in some parts of the district it would be particularly successful. Have only been in the district since 1st June, so am not in a position to speak about the poisoning. (2.) If possible, clauses should be inserted in the Act rendering it compulsory for landowners in rabbit-infested districts to trim their gorse-fences at least once a year, and not to allow them to grow beyond a stated width. Also that all old sod walls, where not in use as fences, should be levelled. (3.) Cannot say. (4.) Four. (5.) £67 15s. (6.) As far as I can learn, ten blocks of hundreds, Native, bush, and mining reserves; comprising about 9,440 acres. About 7,000 acres suitable for grazing purposes. (7.) Cannot say. (8.) No record of any. (9.) 7lb. (10.), (11.), (12.), (13.) No record of any. (14.) Four, under contract with Government, also private breeders. (15.) None: 60 sent to Inspector, Queenstown, and 15 sent to G. Nichols, of Abbotsford Station, from Government Dépôt, Outram. (16.) Yes. Gladbrook Station, about 30 this season. The manager says ferrets have done good work. Mr. Nichol has not turned his out long enough to see result.

[Approximate Cost of Paper.—Preparation, nil; printing (1,375 copies), £5 7s.]