

(No. 67.)



1890.

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PARLIAMENT OF TASMANIA.

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“THE RABBITS DESTRUCTION ACT :”

REPORT OF CHIEF INSPECTOR.

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Presented to both Houses of Parliament by His Excellency's Command.



*Office of Inspector of Stock, Hobart, 30th June, 1890.*

SIR,

I HAVE the honor to forward my Report for 1890 upon "The Rabbits Destruction Act."

In doing so I beg to draw your attention to the suggestions therein contained, particularly to the necessity of the introduction and use of wire netting, and the amendment of the present Act to make the use of poison simultaneous and compulsory throughout the Island. Both these suggestions have been adopted in Victoria with the most beneficial results.

I have the honor to be,  
Sir,

Your obedient Servant;

THOMAS A. TABART, *Chief Inspector.*

*The Hon. the Chief Secretary.*

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*Office of Inspector of Stock, Hobart, 30th June, 1890.*

SIR,

I HAVE the honor to furnish my Report upon the working of "The Rabbits Destruction Act, 1889."

The past Session of Parliament brought about the repeal of the 1888 Act, which had, as its principle, working under the Boards elected by the various occupiers in districts named under that Act.

This system for the destruction of rabbits was an undoubted failure, except in a few districts where the Boards used energy in having the law enforced, and discretion in the appointments of competent inspectors, resisting the influence of those locally interested by appointing gentlemen to the position who would carry out the law without fear, favour, or affection, thus demonstrating that they recognised their responsibility as a body who had to control and manage their own affairs, and declined to be influenced in these appointments by outside pressure, which, I am sorry to say, was not uncommon.

Under Board management rabbits in some districts were well kept down; and in others little or nothing was attempted to destroy the pest; so that after a trial, which from the initiation I predicted would accomplish but little, it has terminated in the undoubted increase and extension of rabbits into country where four years since no signs existed, and which will require time and expense to reduce.

The present law came into operation on 1st January, 1890, and with it the preliminary work of organisation, namely, the appointment of inspectors, proclamation of districts, declaration of infested districts, and the distribution of inspectors into various portions of the Island.

Names of Inspectors appointed, and districts under their supervision :—

Mr. M. Fletcher, Longford, Evandale, Selby, George Town, and Ringarooma.  
 Mr. Chas. W. Tabart, Campbell Town and Ross.  
 Mr. Chas. J. Chalmers, New Norfolk and Hamilton.  
 Mr. Chas. Grueber, Brighton and Green Ponds.  
 Mr. Chas. Griffith, Oatlands.  
 Mr. Geo. Wilson, Richmond, Spring Bay, Sorell, Clarence, and Carnarvon.  
 Mr. Francis Oldaker, Mersey, Latrobe, Emu Bay, and Russell.  
 Mr. R. W. M'Gowan, Deloraine and Westbury.  
 Mr. Wm. Stonehouse, Bothwell and South Longford.  
 Mr. A. Mortyn, Fingal, Glamorgan, and Portland.

From the country these gentlemen have to travel over and inspect, besides performing all duties connected with the office, it will be understood that the position of inspector is no sinecure.

*The Proclamation of Districts and declaration of Infested Districts.*

I deemed it wise to recommend that all Districts throughout the Island should be classified as infested, from the fact that rabbits are extending, and that proclaiming clean and infested districts would be a mere absurdity where an imaginary boundary is only in existence. Had the boundary of districts been wire-netted, to prevent the egress and ingress of rabbits, the position would be different.

I have always been in favour of the centralization of "The Stock Act" and other Acts worked from this Department, with "The Rabbit Act," as being the most economical to stockowners, causing less annoyance when collecting the tax, and it would also be the means, under amended legislation, of enforcing uniform and simultaneous action. This principle is patent to all practical observers as being the only successful solution of this difficult question.

Of the vast importance of the rabbit question, and the increasing injury to both the pastoral and agricultural interests of the Colony by the rodent, there can be but one opinion, particularly when we remember that in 1888 the Government of New South Wales offered as an inducement the sum of £25,000 "for the successful demonstration of a scheme to eradicate rabbits."

It is acknowledged that the success attending future pastoral prospects is regulated by the presence or absence of rabbits; I therefore unhesitatingly affirm that the most pressing question in Australia is how to eradicate this pest.

I had the honor to represent Tasmania upon "The Royal Commission of Inquiry into Schemes for the extermination of Rabbits in Australasia," and was present at the taking of evidence upon proposed methods for their destruction by disease, poison, and mechanical appliances. After exhaustive enquiry, the Commission affirmed the following principle:—That, to successfully effect the dislodgment of rabbits, wire-netting fences must be a prominent factor. This, with the liberal use of poisoned grain, digging out burrows, and destroying harbor, are the only effective modes from which we can at present hope to eradicate or reduce the pest.

The above have always been the opinions expressed and put forward in my reports.

If the rabbit is to be successfully and permanently dealt with, the erection of rabbit-proof fencing will become more generally recognised as indispensable, and the primary step to be taken. This means of reducing the areas of land to be operated upon is followed by the question, "How are landowners and occupiers to deal with so large an expenditure of money, when, financially, the position of many would preclude the possibility of such an outlay?" I unhesitatingly repeat that the rabbit question is a national one, and that it has a vast influence over our cities, whose progress depends upon the pastoral and agricultural interests of this Colony. If their prosperity is interfered with, so in turn comes stagnation of trade and business; and, therefore, the rabbit being a common enemy, it can consistently be contended that the question of Government assistance may justly be considered, under such conditions as I now propose; viz.—

That the Government shall be the importer of wire-netting for rabbit-proof fencing, which should be admitted free of duty, and carried over the Government lines free of cost, but only for the above purpose.

That the Government shall supply netting for rabbit fencing to the landowner at cost price with freight added.

That the price of such netting be paid by the landowner by yearly instalments extending over a term of years, and bearing a low rate of interest.

That the cost of netting fencing be made a lien upon the property; the owner in all cases to make the application.

That the standard for netting in all cases shall be 3 feet 6 inches in height, that is to say, when erected 3 feet above the ground and 6 inches under the ground; the mesh shall be in all cases 1½ inches with 17 gauge.

At the present time the Victorian Government see the urgency for preventing the further encroachment of the pest, and the landowners are being furnished with netting under somewhat the same conditions as those I now propose.

If effect were given to the preceding scheme it would assist owners to secure their runs from the inroad of negligent neighbour's rabbits. In the case of small properties adjoining they could be fenced in groups, and the expense equitably distributed.

With such assistance provided by the Government, the Fencing Act would require alteration so that boundary line fencing with wire netting could be regulated. Instances have been named to me showing the willingness of one neighbour to wire-net the boundary and the adjoining neighbour has declined to contribute his share of the cost of erecting this permanent barrier, so that the fencing has to be abandoned, or the careful owner submits to the whole expenditure for the benefit of one who is careless or negligent.

It will also require the law to be made penal to prevent the wilful destruction of netting fencing; in fact, the Act requires to be exceptionally stringent to protect wire-netting fencing. While upon this subject I may state that objections have been raised attempting to show that wire-netting would be useless in country which is hilly and in places where deep ravines occur: the following extract contradicts such an assumption, and was made in evidence by Samuel Green Hubbe, Esq., before the Commission on the Rabbit question:—

1310. Have you made any recommendation to your Government in regard to the suppression of the rabbits in these thickly infested parts? I have suggested the desirability of erecting rabbit-proof fences. My idea was to fence off the pastoral from the agricultural country, as by doing so the rabbits from the pastoral country would be prevented from getting into agricultural areas, and so isolate the country where they are now to be found. My opinion is that if rabbit-proof fences were generally adopted the solution of the rabbit difficulty would be found.

1315. *The Chairman.*] Have you considered the difficulty of fencing rough country and watercourses, especially parts that are subject to floods? Yes, I have considered that. It could be met in the same way as with the rabbit-proof fences that were erected east of the Murray on the cliffs for 16 miles. That line of fence crosses innumerable gullies and ravines that run into the River Murray. It was composed principally of pine pickets, set side by side. In places where the line crosses these ravines sluice-gates were left, and these were formed by swinging pickets on strong wires. Whatever flood matter was brought down by the floods swept through these sluice-gates, in some cases doing damage and in some cases not; but in all cases where damage was done it was repaired at very little cost by the boundary-rider who was in charge of the fence. I will send in specifications of this fence. I have found that this picket fence barred the progress of the rabbits, and I have received numbers of letters from settlers stating that these fences saved them from ruin.

This evidence speaks for itself, the difficulty having been practically tested.

I consider the following extract from the final Report of the Royal Commission, which treats of the destructive properties, suitability, and method of mixing phosphorus, will be interesting, instructive, and applicable to the circumstances of Tasmania, particularly when the use of this poison has unquestionably at opportune times decimated rabbits in different parts of our Island where landholders have adopted this agent:—

#### POISONS.—GENERAL.

The general rule is that poisoned food is taken only when natural green food is scarce. When green food is abundant the poison used should be specially attractive, or it should be given on specially attractive food. Phosphorus appears to be the most attractive of the various poisons employed; rabbits, like most other rodents, being specially fond of it. It is generally given as phosphorized wheat, occasionally as phosphorized oats. A New Zealand Parliamentary Report of 1886 stated that experience there had shown it to be "very efficacious in the breeding season and summer," when green-growing food is abundant. In Australia, however, the general experience has been the reverse of this, it being found that when natural food is abundant the phosphorized grain is for the most part neglected. Specially attractive foods, to be used when green fodder is abundant, are various kinds of fruit and succulent roots, such as apples, peaches, quondongs, carrots, turnips, beets, &c., some or all of which, when cut into slices, sprinkled with or soaked in poison and distributed in furrows, have for a time been used in various localities with great success (*vide* Progress Report, page 62, Andrew Smith, Q. 526-529). The plain rule is so far as possible to humour the rabbits' liking for change of food, and to make use of such succulent foods as are obtainable locally at the least expense. Specially attractive flavouring substances have been proposed and occasionally used, such as sugar, treacle, essential oils, oil of rhodium, aniseed oil, and amylic valerianate. In regard to these, Professor Ivey, of the Canterbury Agricultural College, N.Z., has stated as a result of his "fairly exhaustive" experiments that "when grass is about aromatics introduced into the food substance have no attractive effect whatever." The result of this experiment has been confirmed by practical experience in Victoria.

In regard to the quantity of poison necessary to produce death in a rabbit, without a series of special tests no absolute statement can be given. The action of poisons on different animals varies so strikingly, owing to specific idiosyncrasy, that no *à priori* judgment can be formed. We may, however, assume for the purpose of a rough calculation that the action of poisons on man and on rabbits varies in proportion to their respective weights. A rabbit is about  $\frac{1}{70}$  of the weight of a man, and roughly we may suppose that  $\frac{1}{70}$  of a fatal dose for a man would prove fatal if administered to a rabbit. But in actual practice, even were this calculation reliable, such an economical use of poison could never be attained. Thus, for instance, the average fatal dose of phosphorus for a man is  $2\frac{1}{4}$  grains. Let us even assume that  $\frac{1}{30}$  of this, or

say  $\frac{1}{2}$  grain were sufficient to kill a rabbit, then 1 lb. avoirdupois of phosphorus should dispose of 140,000 rabbits. Such a calculation as this shows the desirability of some definite tests being made in regard to the minimum of poison which may with confidence be administered.

#### MINERAL POISONS.

*Phosphorus* is a poison of such well-proved efficacy that nothing need be said in its favour. The evidence taken before the Commission, however, shows that uniformity of success in its use has not always been attained, even where the season and food conditions have been favourable to its employment. And the question has been asked as to whether the raw phosphorus is liable to vary in its poisonous qualities. It may be stated generally that there is no reason for supposing that stick-phosphorus varies appreciably in this respect. There is always a small variable amount of white incrustated phosphorus on the sticks which may possibly be somewhat less actively poisonous than the inner waxy part, but the variation is probably very trifling. There is a form of red phosphorus which is known to be less active in this respect, but this form is never met with in the market mixed with the stick form. It would perhaps be interesting to have tests made in respect of the poisoning activity of the different kinds of phosphorus. Practically, however, it may be said that any fluctuation in the success of the use of this poison must be attributed to want of uniformity in preparing and distributing the phosphorized grain, as well as to varying susceptibility of the rabbits. If the phosphorus be not thoroughly soaked into the grain, or if, being deposited on the outside, it be not covered with some protective material, it will more or less rapidly volatilize.

In regard to methods of preparing phosphorized grain, the earliest, simplest, but least efficient is described by Mr. George Riddock at page 63, question 551, of the Commission's Progress Report, as follows:—"I used 1 lb. of phosphorus to 100 lbs. of wheat. The phosphorus was put in water and allowed to stand all night, and in the morning a quantity of flour paste was put in."

This simple method has been discarded for that known as Captain Raymond's, which consists in digesting together the phosphorus and wheat in hot water contained in a slowly revolving iron cylinder, underneath which a fire is kept burning; with the heat the phosphorus melts, and, in consequence of the slow agitation, adheres in small particles and flakes to the outside of the grains. This method is lengthy, tedious, and not without danger, as the flakes of adhering phosphorus are liable to spontaneous combustion, and moreover the poison in this form readily volatilizes.

A third method—known formerly as the Felton and Grimwade process, and now as the Lascelles process (Mr. E. H. Lascelles having purchased the patent rights)—consists in (1) dissolving the phosphorus in bisulphide of carbon, (2) the mixing of the solution so obtained in a churn with flour paste so as to form an emulsion, and (3) the coating of the wheat in a revolving cylinder with this emulsion. The solution of phosphorus is made and kept under water, so as to prevent spontaneous combustion. This method has the advantage of facility and quickness, of the even distribution of the poison over the grain, and also of the prevention of volatilization by the coating with flour paste. More detailed descriptions of these methods and of the machines necessary for their application can be obtained from the respective makers.

In regard to the method of distribution, the very ready spontaneous testimony on the part of witnesses before the Commission in favour of the Lascelles and Anderson's distributing machine was so general, there can be no doubt that for the plains and for moderately open and even country this is the best means of distribution yet devised. It is known that rabbits are specially attracted by freshly upturned soil; and this machine, which can be attached to any cart, consists of a scarifier, to be fixed to the cart axle, for making a slight furrow in the ground, and of a hopper with suitable valve and leading-pipe for dropping the grain into the furrow made by the scarifier. For mountainous and rocky country, and for areas within dense scrub to which there are no passable tracks, some modified form of this machine, or some device based on the same principle, would be desirable.

The fatal dose of phosphorus for a human being varies ordinarily from  $1\frac{1}{2}$  to 3 grains, the average being  $2\frac{1}{4}$ , and the period of death is from four hours to seventeen days. From this may be gained some idea as to the amount of phosphorus necessary for poisoning a rabbit, and it will be understood that the effect of the poison may not be seen sometimes until several days after it has been given.

Digging out burrows and destroying harbor is doubtless one of the essentials to eradication, but then, again, the expenditure, although being reproductive, has to be considered. If the land is not first-class, would the outlay be justified? The only argument that could be advanced is that the burrowing land is in almost all cases loam or sand, so that upon this description of soil the plough can be utilised as a burrow-destroyer.

I propose, as concisely as possible, to review certain mediums that are likely to cause rabbits being perpetuated.

The first is the employment of professional trappers. The encouragement of such labour practically demonstrates two facts, viz., the landowner desires the value of skins taken in the winter months to pay the cost of clearing the estate during this season of the year, the skins being then of the best quality and highest value; secondly, that so soon as rabbits are scarce, and the trapper demands scalp money, the labour is withdrawn, and the pest increases for the trapper to profit by in the following season. Neighbours who wish to kill rabbits, and have the misfortune to reside in the locality of an owner who acts as above suffer considerably in consequence of such parsimonious action. I purpose taking immediate steps when such a mischievous state is reported to me by Inspectors.

The next great evil to be apprehended is the establishment of any Rabbit Preserving Company for shipment. This will encourage landowners, as it has done in the past, to depend upon summer increase of rabbits for a profit in the shape of a bonus from trappers for the right of taking skins and carcasses, as has been frequently done in Tasmania. Such establishments should be suppressed as injurious to the country and revenue.

The only means to be adopted to prevent such conditions as mentioned is to pass an amended Act making poisoning compulsory and simultaneous throughout the Island, and that a day be named for the commencement and continuance of the laying of poison under a heavy penalty. Desperate evils require desperate remedies, and only a very stringent poisoning clause will meet with success.

The perfunctory modes of rabbit destruction now resorted to are a perfect sham, only sufficient means being adopted to evade the law. Up to the present date proceedings have in a few instances been instituted where Inspectors have reported flagrant breaches of the law; the majority have, however, ended in dismissals.

In consequence of the present Act coming into force on the 1st January last, that being the month when harvesting and shearing operations are in activity, those causes, with the scarcity of labor, compelled me to delay carrying out the stringent provisions of the Act, and Inspectors were instructed accordingly. In future seasons the harvesting and shearing will not be admitted as an excuse by those who are too ready to cling to any pretext for ignoring the law. I find as a rule that those who assert much do little.

In conclusion, I would most strongly recommend the appointment of a Magistrate to hear all cases instituted under the Acts administered by my department, and thus prevent the serious liability of a miscarriage of justice through the potent influence of local interest. In the majority of cases when a conviction has followed the lowest penalty has been inflicted, and frequently the costs remitted.

I have the honor to be,

Sir,

Your obedient Servant,

THOMAS A. TABART, *Chief Inspector.*

*The Honorable the Chief Secretary.*