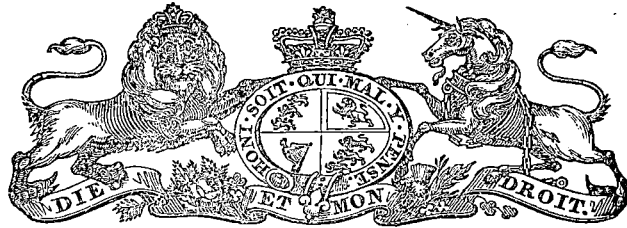


(No. 24.)



1889.

PARLIAMENT OF TASMANIA.

CODLIN MOTH ACT:

REPORT OF CHIEF INSPECTOR TO APRIL 30, 1889.

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



THE CODLIN MOTH ACT.

Office of Chief Inspector, Hobart, 30th May, 1889.

SIR,

I HAVE the honor to furnish my Annual Report upon the working of the Codlin Moth Act up to the 30th April, 1889.

My Interim Report to April, 1888, informed you that 19 Fruit Boards had been formed under the provisions of the 1887 Act. Since that date, and during the last Session of Parliament, the Codlin Moth Bill of 1888 has become law. Under the present Act twenty-five (25) Fruit Boards have been elected, five districts declining to elect Boards, consequently these latter are being worked by Inspectors under my control, thus making a total of thirty districts. Still petitions are coming in to increase this number. I may at once state that I am opposed to the formation of many of the proposed new districts, from the knowledge that the amount of tax that can be legally levied under the Act would be altogether insufficient for the payment of Inspectors' salaries and other contingent expenses. This must be so on account of the small area of orchards in the proposed district, together with the serious alteration defining the rateable orchard acreage under Sect. 36; 52 Vict. No. 16.

I might here mention that great dissatisfaction has been expressed by various Fruit Boards, and several Chairmen have tendered their resignations, in consequence of the requirements of the Act when a tax larger than that authorised to be collected under Sect. 40 is to be levied. As the law now stands it is absolutely necessary that, should further funds be required by a Fruit Board than those collected under the above section, the Governor in Council must be petitioned (Sect. 48) by the Board to authorise a second levy, which will necessitate the issue of a second series of demands, causing annoyance to orchardists and a large increase of clerical work to the Inspector, who should be otherwise employed.

I respectfully suggest that the Act be amended in this particular, and so framed that the Governor in Council, upon the receipt of a petition from a Fruit Board pointing out that the levy of four shillings per acre will be insufficient to pay all demands, may have power to authorise the levy in the first instance of such an amount as will enable the Board to liquidate all liabilities, but that such tax shall not exceed the full amount authorised under the Act.

The work performed during the past year was to a certain extent nullified by the fact that the season was too far advanced before the Boards were elected and in a position to enforce the use of traps and bandages, and to cause the picking of infected fruit.

After the present season there certainly should be a decided decrease in the pest, but of this I am sceptical, in consequence of the absence of simultaneous action among the Boards.

My opinion is borne out by reports that are furnished verbally to me by members of different Boards, that adjoining districts are violating the provisions of the Act and Regulations. In only two cases have these objections been reduced to writing. I thereupon took action, calling upon the Chairmen for an explanation of the circumstances, with the view of ascertaining if any negligence had occurred. Facts such as these clearly show that the Board system is not so smooth, or I am confident, so effective as was anticipated. There is an under-current of dissatisfaction caused by the fact that an Inspector appointed by one Board cannot take action in the case of a neglected orchard outside his boundary without interfering with the functions of the neighbouring Board.

I hold that any Inspector (although appointed by, and the servant of, a particular Board) should have jurisdiction throughout the Colony, with power to take action in any case of a breach of the Act that may come under his notice in another district.

A drawback to the success of the Act of a most serious nature is apparent when members of any Board do duty as their own inspectors, as shown by the limited information afforded to the Chief Inspector in the monthly reports required by the Regulations, and furnished by bodies acting in the above capacity. The conclusion I draw from such reports is that, in districts where the work of inspection is left to the members of the Board, the supervision is not of that searching nature which is absolutely requisite to cope with a pest that materially affects our fruit industry, and requires the rigid enforcement of the provisions of the Act without respect to persons.

New Zealand has already taken the initiative in prohibiting the importation of infected fruit, and it is not improbable that the other colonies will follow suit; and as New South Wales is one of our best established fruit markets, it behoves all orchardists who are members of any Fruit Board to be indefatigable in their efforts to prevent the export or removal of infected fruit or cases, and to use every possible energy to stamp out this destructive moth, which must ultimately, if simultaneous and stringent action is not taken, cause a vast decrease in a product that ought to be one of the most remunerative in Tasmania.

The question to be now seriously considered is—Will the present legislation effect the desired end of eradication? I have had lengthy conversations with practical gentlemen capable of giving an opinion, and who, I find, hold the same view as myself, viz., that it *will not* do so, but that it will keep the moth within bounds, and possibly reduce the number of grubs that would develop were the present means not adopted.

In my previous Report I intimated that the extermination, to be complete, must be effected by the destruction of the grub before it leaves the fruit, which, in effect, means that the crop must be destroyed, even if subsidies have to be paid in proportion to the previous year's yield of sound and marketable fruit.

This opinion I must again reiterate. Many instances have come under my own observation where the grub has left the fruit and taken shelter under the shingles of old buildings, paling fences, and amongst the rubbish in neglected gardens. Had the fruit been picked and destroyed in the early stage, these grubs would not have escaped to perpetuate the pest.

I consider one of the greatest causes of the distribution of the grub is the return of old and used fruit cases to inland and coast districts without any precautionary measures being attempted to effectually destroy any grubs that have secreted themselves in course of transit to market or when within the merchants' stores.

This risk could be entirely obviated if growers were to cause all return cases to be immersed in boiling water before being forwarded for the reception of their fruit crop. It is important that very strict supervision be exercised to deal with this danger. I would therefore suggest that an inspector be appointed, whose duties shall be solely to inspect all fruit cases, bags, or other receptacles arriving at or leaving Hobart either by land or water.

I believe that the pest can be successfully dealt with in quite as satisfactory a manner as was scab in sheep, if a stringent law is enacted and energetically carried out so as to compel simultaneous action. Many people speak contemptuously of the possibility of dealing with an insect that so easily moves from place to place. I can see no reason why the pest cannot be reduced if all possible means are adopted, and orchardists work and assist the Department to carry out the law. It is an authenticated fact that "scab" has long ceased to exist in Tasmania, notwithstanding the outcry when legislation was first proposed to deal with this disease; it was hounded down as the ravings of a theorist, and over-legislation. Results have proved otherwise.

I pointed out in my last Report that a vat (as now erected and placed within the Old Market enclosure) was a most essential requirement. The vat is connected by a steam-pipe to Mr. Tolman's engine, which is in constant use, so that at a very short notice boiling water can be in readiness for the immersion of fruit or cases. The vat has been placed under the control of Mr. Tolman, who supervises the process of immersion upon the following conditions:—The provision of labour is undertaken by him, and a charge of $\frac{1}{2}d.$ per case or other receptacle, and $3d.$ per bushel on fruit covers all expenses in connection with the process. Mr. Tolman also has power to retain possession of all cases or produce treated until the fees are paid.

I suggested to the Chairman of the Hobart Fruit Board the necessity of instructing the Inspectors under that Board to send all infected fruit and cases found exposed for sale or otherwise to be treated at the dip. This course has, I am glad to say, been adopted, and has acted as a deterrent to those who persistently marketed infected fruit.

It has frequently been asked if this destructive insect pest is identical with that which is found in America. I have no hesitation in saying that it is the same as that described in the work upon "Insects injurious to Fruit," by William Saunders, F.R.S.C.; but whether it is or not, unfortunately we are well aware of the destructive powers of the moth we have in Tasmania.

Local orchardists have yet another pest to cope with, and one that threatens to be most destructive. It is known in New Zealand, where it has obtained a firm hold, as the "leech blight," but is described and named in a work by William Saunders, F.R.S.C., "The pear-tree slug." In and around Nelson, N.Z., it attacks not only the foliage of the fruit trees, but the quick hedges, entirely denuding them of leaves.

In this Colony I have every reason to believe its first appearance (at all events in the southern portion) was in the early autumn of 1888. No steps were taken to destroy the leech-like looking insect, and this year it again appeared in the early autumn, the rapidity of its spread being marvellous.

The Mayor of Nelson, New Zealand, writes that in that colony no Act has been passed to enforce the destruction of the pest, and that where owners of orchards have neglected to apply the remedy, which is authentically stated to be "hellebore," the loss of fruit is consequent. Hence, it appears that Tasmania must have legislation for this pest (which I strongly recommend), otherwise great loss of fruit and depreciation of orchard property must follow. The following are the printed directions for using hellebore and Paris green:—Mix 1 oz., or a tablespoonful, of fine white hellebore (poison) with one pint of boiling water; when cold fill up to a gallon with cold water, and syringe the trees. Hellebore in Hobart is about 3s. 6d. per lb. The time to apply it is immediately the "leech" is seen. Paris green is also used on the quick hedges in proportion of $\frac{1}{4}$ oz. to 10 gallons water.

This pest has been known in America since the year 1790, and was reported upon by Professor Peck, who wrote a pamphlet entitled "Natural History of the Slug-worm."

Attached is a Report upon some interesting spraying experiments carried on by Messrs. Lipscombe, of Sandy Bay, which I would suggest may be printed for the benefit of orchardists; also some methods employed by Mr. Tasman Morrisby for the treatment of Scale or Mussel Blight.

THOMAS A. TABART, *Chief Inspector.*

The Hon. the Treasurer.

69, Elizabeth-street, Hobart.

DEAR SIR,

IN compliance with your request for a report of our experiments with the Triplet Cyclone Spray Pump, we beg to state that it has been most successful, and we have every confidence in recommending spraying to orchardists for the suppression of the grub. American papers recommend spraying operations when the fruit is about the size of small peas and upright on their stems; but we find, from observations in our orchard, that it is not necessary to spray before the middle of November, and requires to be applied every ten days until the middle of March. We tried spraying with several mixtures, viz., London purple, Paris green, and caustic soda. With each mixture we added a small amount of soft soap. Of the mixtures used, we found London purple the most effective (of which we sent you a sample). We discovered the first eggs of the moth on the first of December, on the Williams' Bon Chrétien Pear, and on the 3rd we found several more eggs, two of which we brought you on the fruit to put under the glass. Others we put under bell glass to hatch, which they did after being under the glass about four days. As soon as we saw the first eggs we commenced spraying, and continued it, on a row of pear-trees every ten days, until they were fit to pick, and succeeded in saving ninety per cent. of the fruit. We did not have a single good pear off these same trees last year. On two Eyewood pear-trees we applied the spray four times, and succeeded in saving about 70 per cent. of fruit; and on one Early Crawford pear-tree, a small one which was more easily sprayed, we saved every pear; but we attribute this to its standing some considerable distance from any other trees, and, as the moth is not at all good on the wing, was not so likely to attack the fruit on this tree so often. Before the fruit trees were in bloom last season, we secured several grubs for the purpose of finding what description of egg it laid, and also what quantity. We put three of them under each bell glass. The first grub became a moth on the 10th November, and was closely followed by two more, all of which had been taken from an early pear-tree (the Jargonelle). Those taken from an Eyewood pear-tree, being a late variety, did not become moths until late in January; and, in our opinion, there is one continual hatching, and no second brood, as grubs we obtained from fruit early in the season are still in the grub state; and we do not think the moths lay any great amount of eggs, as we only had thirty-four eggs from the six grubs, but being treated artificially may have had something to do with this. We may mention that in using the London purple we mixed one ounce in one quart of boiling water, then added fourteen gallons of cold water and about half a pound of soft soap, then applied the mixture until the leaves began to drip. We had 470 bushels of pears infected with the grub this season, and only saved those on trees that had been sprayed. We are quite satisfied as to the efficacy of the spray, and we are importing a quantity of London purple for the purpose of spraying the whole of our trees continually during the coming season.

Trusting we have not given you too much detail,

We are, Sir,

Yours truly,

F. LIPSCOMBE & SONS.

Mr. T. TABART, Chief Inspector of Stoc.

Glenorchy, 1st June, 1889.

SIR,

I HAVE the honor to submit herewith some receipts that I have found effectual in the destruction of the "Scale" or "Mussel Blight."

1. *Tar Water*.—Put 4 gallons of gas tar in a barrel of water, stir well, and then let stand for two (2) hours, when apply to the trees, using a spray pump, thoroughly wetting every part of the tree infected. The best time to apply the "wash" is in October, when the young "scale" is moving. This receipt is effectual so far as the scale is concerned; but inasmuch as it causes the bark to crack and peel off in a season or two, I find it objectionable, as too great a shelter is offered to the grub of the "codlin moth."

2. *Caustic Soda*.—To every gallon of water put 4 ounces of caustic soda; apply after pruning, or, say, in July, with a paint brush. I have found this a very effectual cure for "scale," and it gives the tree a healthy and vigorous appearance.

3. *Whiting and Sour Milk*.—This is a very good remedy. Make a thick wash with whiting and sour milk, and apply, in October, with a spray pump. I only sprayed one tree with this wash last season, but have every reason to be satisfied: the "scale" is dead, tree healthy, and fruit was clean.

I have the honor to be,

Sir,

Your obedient Servant,

TASMAN MORRISBY.

THOMAS A. TABART, Esq., Chief Inspector, Hobart.

TABLE showing Acreage of Orchards for the Years 1887-88, and 1888-89, as returned by the various Boards, and their general state.

DISTRICT.	ACREAGE.				STATE.
	1887-88.	1888-89.	Increase.	Decrease.	
Brighton and Richmond	866	679	...	187	Infected
Circular Head.....	61	105	44	...	Slightly infected
Cumberland .....	...	171	...	...	Infected
Devon, West	265	295	30	...	Slightly infected
Fingal .....	...	96	...	...	Infected
Franklin .....	...	691	...	...	Clean. Only 1 case of infection known
George Town .....	...	227	...	...	Infected
Glamorgan	200	223	23	...	Infected
Glenorchy	1261	1216	...	45	Badly infected
Gordon	259	277	18	...	Infected
Hobart	1400	759	...	641	Badly infected
Huon, North .....	...	488	...	...	Slightly infected
" Upper .....	...	267	...	...	Clean
" Central .....	...	448	...	...	Clean
" South .....	...	114	...	...	Clean
Launceston	1730	799	...	931	Infected
Longford	1260	1294	34	...	Infected
Longley	106	103	...	3	Clean
Mersey.....	531	421	...	110	Infected
Midland	480	254	...	226	Badly infected
New Norfolk .....	...	1040	...	...	Infected
North West Bay.....	170	163	...	7	Infected
Port Cygnet	700	694	...	6	Slightly infected
Queenborough	618	554	...	64	Infected
Ringarooma	194	206	12	...	Infected
Sorell	500	419	...	81	Infected
Spring Bay .....	...	110	...	...	Infected
Tasman's Peninsula .....	...	125	...	...	Clean
Wellington .....	...	175	...	...	Infected
Westbury and Deloraine	950	568	...	382	Infected