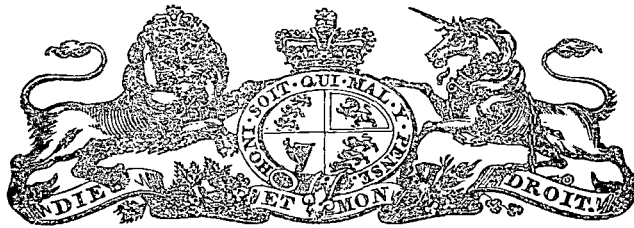


(No. 52.)



1891.

PARLIAMENT OF TASMANIA.

CODLIN MOTH REPORT:

REPORT OF CHIEF INSPECTOR.

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



CODLIN MOTH ACT.

Office of Chief Inspector, Hobart, 31st May, 1891.

SIR,

I HAVE the honor to furnish my Annual Report upon the working of the Codlin Moth Act up to 31st May, 1891.

Before dealing with the benefit or otherwise that has resulted from past season's working, I deem it my duty to make a few observations with reference to the friction that has, unfortunately, existed between the Chief Inspector's Department and some of the Fruit Boards.

I have upon all occasions candidly expressed my objection to the system of carrying out any Act under Boards,—the Fruit Boards being no exception. My past experience has proved conclusively that to have laws justly administered when the eradication of pests is desired, it must be accomplished by a central authority. This was clearly exemplified when it was attempted to eradicate scab from Victoria under the Board system. This signally failed, but success was achieved under central authority. With reference to the friction that has existed as before stated, it is evident that members of Fruit Boards do not relish the Chief Inspector intimating to the Ministerial head of his Department or the general public the abuses found to exist; but so long as I have the honor to hold that position, which can only be so long as I retain the confidence of the Minister controlling the Department, I consider I should be wanting in honesty did I not frame my reports in such language as to draw your attention to such abuses; and it is evident from your knowledge and my own of certain correspondence that has taken place with one Fruit Board, that a Chief Inspector is not "entirely useless or unnecessary." It is a matter for congratulation that, at a meeting of the Fruit Boards held in Hobart in February 1891, I was for the first time invited by the Chairman of the Hobart Fruit Board—who was the convener—to attend, with the gratifying result that all my suggestions and additions to proposed amended regulations framed by members of Boards at the previous meeting were unanimously accepted.

From reports of Inspectors under Fruit Boards, Government Inspectors, and orchardists, and my own observations, I note that the Codlin Moth has not been so active during the early part of the present season, on account of the wet and cold weather up to Christmas, but since that time much fruit has been infected; and although the apple crop generally is short compared with that of last season, still I believe that the quantity of infected fruit will be proportionately large.

I am not astonished at this season's loss of fruit, on account of the large number of grubs that escaped in some districts during the season of 1889-90; and so long as a strict supervision is not kept over orchards whose owners are negligent—and this class of owner must be within the knowledge of an inspector of ordinary intelligence—no good towards reducing the pest will accrue.

I still hold the opinion (which is that expressed by practical orchardists and some whose very livelihood is dependent on the success of the fruit industry) that the picking of the *whole of the fruit* from orchards where infection has been present during the preceding season must be adopted if any permanent good is desired.

It daily becomes more patent that eradication will not be complete from simply picking a portion of infected fruit, leaving a large percentage unpicked in which the grub is developed and allowed to escape.

In my Report for 1889-90 I remarked that "Members of *some Boards* will protect, and have protected, their individual interests by preventing informations being laid and the law allowed to take its course when the offender is a member of their own body."

In my reply to the report made to you by Members of several Fruit Boards assembled in Hobart, at a meeting convened by the Chairman of the Hobart Board, and forwarded to me for remarks, I drew your attention to cases in point which fully justified me in making the assertion.

At this same Conference exception was taken to my use of the term "some Boards," the Members deeming that I was thereby casting a reflection upon the whole of the constituted Fruit Boards throughout the Colony. This I regret, as some Boards have done good work. The sentence, however, should certainly have been correctly interpreted by the Boards to which it applied, and which were purposely unnamed by me.

In compiling this Report, as in former ones, my desire is to emphasize the evil that is likely to arise from that laxity in carrying out the law which is the theme of adverse criticism by those orchardists who are desirous of dealing with the Codlin Moth, and fostering an industry that is second only to wool. This is shown by the fact of such services as the P. & O. and Orient line of steamers being attracted to the Port of Hobart for freight of fruit alone that will amount to between £20,000 and £30,000 for the year 1891.

Surely with such prospects it behoves orchardists, both large and small, to band together for the advancement of Tasmania, and by united action strive to decrease the Codlin Moth pest, instead of, as in one or two notable instances has been the case, remaining passive and submitting to as little work as possible being performed so long as proceedings are not instituted in a court of law. This is the general rule adopted by one Fruit Board, in whose district the Act is administered in a most farcical manner. In numerous orchards in one district infected fruit is neither picked up nor gathered from the tree, so that the grub has escaped to perpetuate the evil. The incapacity shown by the Board of this district to uphold the law and deal with offenders is lamentable in the extreme. One instance I brought under the notice of the Inspector clearly denotes the abuses of Board rule, wherein the Chairman of the Board was prosecuted and the case dismissed, not upon its merits, but upon technical grounds. I also brought under the notice of the same Inspector a number of cases containing infected fruit over which the lids were placed. Upon these were two cases containing a small quantity of paper for fruit-packing, and over all two 3-bushel sacks. Upon removing these bags it was found that the grubs of the Codlin Moth had taken refuge there after leaving the infected fruit. This fruit was in close proximity to cases of fruit for sale. The question naturally arising is, What became of the cases that had contained the infected fruit? Did the Inspector have them immersed in boiling water? No report of the circumstances has been made to me. This occurred in the orchard of the Chairman of the Fruit Board previously named. A case such as the foregoing clearly exemplifies my object when I remarked in my Report for 1890 that "if the immersion of all fruit cases were made compulsory before leaving Hobart the steady extension of the grub would be decreased. I have myself seen the cocoon of the grub in used cases returned to Huonville, showing that the utmost care should be taken and the strictest supervision exercised in order to prevent the grub being conveyed into comparatively clean districts.

The importation of the Codlin Moth grub to the Colony by means of American fruit-cases and also in Australian infected fruit, which has occurred on several occasions both in the North and South since my previous report, points to the necessity of careful inspection of fruit at the port of arrival.

I also strongly entertain the opinion that if Tasmanian orchardists desire to maintain the high estimation in which their fruit is held both in the adjoining Colonies and the English market, the exported fruit should undergo the strictest inspection to prevent unscrupulous orchardists shipping infected fruit. There is evidence of this description of fruit having been conveyed into our preserving factories.

These remarks lead up to the necessity of the registration of brands upon fruit-cases, so that the ownership can be easily traced and the Inspector's attention be readily drawn to consignments from orchards known to be infected. If the eradication or even the decrease of the Codlin Moth is to be effected, a uniform system must be adopted for applying the Act. This does not now exist. For instance, one Fruit Board in 1890 did not consider it necessary to remove bandages until 31st August, although the Regulations fixed the date 31st July, a date to which the other Boards were adhering.

I beg respectfully to draw your serious attention to the provisions of the Codlin Moth Act and Regulations, which, from working are found to be defective, and beg to suggest that the amendments which were proposed and passed at a meeting held at the Town Hall, Hobart, in June, 1889, (together with a few alterations which were found advisable at a later date), should receive consideration with a view of having the Act and Regulations amended.

During the past year several experiments have been made with sprays to deal with the pests attacking pippin fruits—one by steam, which system was advocated by a Mr. Lowe, from Victoria, who gave a practical exhibition of it. This, however, was not a success, as the foliage and fruit were destroyed, and one of the pests—viz., the scale blight—remained alive. Paris Green has been the most successful compound used, whereby in several orchards a large percentage of fruit has been saved. Another pest likely to devastate the orchards throughout the Colony—viz., “The Pear Tree Slug,”—has increased to such an extent since I brought it under your notice in my Report for 1889 that, unless stringent action is taken, I apprehend considerable loss in small fruit, if not the death of the trees. Spraying with Hellebore and Paris Green is reported from Nelson, New Zealand, to be the remedy, and in orchards where this treatment has been resorted to the following year’s crop of fruit has been saved. The remedies must be applied at the earliest appearance of the slug.

I desire to draw your attention to a Paper by Mr. P. F. Laffer, upon the “Packing and Exportation of Fruit and Vegetables,” read at the first Congress of the Agricultural Bureau of South Australia on the 4th and 7th March, 1890, as the matter contained therein has an important bearing upon the export of fruit from this Colony to England. Mr. Laffer shows conclusively that if orchardists desire to retain a profitable market where the demand is practically unlimited, more care must be taken in sorting and packing.

In 1882 there were imported into England 2,386,800 bushels of apples, and in 1888, 3,796,590, half of this vast quantity being introduced from America. Mr. Laffer goes on to say—“I might here remark that when I was in England large quantities of apples were sent from Tasmania; many were placed in rough paling boxes, and the fruit appeared to be poured in without any care. Some of the samples were wretched—no colour; and many of the cases contained those little after-set apples we often see upon our own trees. I felt thoroughly ashamed, and remarked to the wholesale dealers that it would ruin the trade if more care were not taken. I believe some of this same shipment only realised about 1s. per case. Of course it is ruinous to send home rubbish like this, as the expenses are so heavy.”

I informed you in my Report for 1890 that the Rev. E. H. Thompson, of Franklin, had undertaken to compile a tabulated report upon the various insects injurious to fruit. This he has done; and for the purpose of facilitating the distribution of the valuable information collected, I attach it to my report. Mr. Thompson has performed this arduous and important task as Honorary Entomologist to the Government, and, in according him hearty thanks, I feel certain that I am giving expression to the feelings of the whole community connected with orchards and farming pursuits.

I also append a Report compiled by Mr. Tasman Morrisby upon the working of the Act in the districts under his supervision.

I have the honor to be,
Sir,

Your obedient Servant,

THOMAS A. TABART, *Chief Inspector.*

The Honorable the Treasurer.



TABLE showing Acreage of Orchards for 1889-90 and 1890-91.

District.	Acreage.				Remarks.
	1889-90.	1890-91.	Increase.	Decrease.	
Brighton and Richmond.....	710	765	55	...	
Circular Head.....	99	114	15	...	
Cumberland.....	164	160	...	4	
Devon, West.....	309	341	32	...	
Fingal.....	99	151	52	...	
Franklin.....	730	799	69	...	
Glenorchy.....	1216	1239	23	...	
George Town.....	215	215	...	...
Glamorgan.....	224	217	...	7	
Gordon.....	260	287	27	...	
Hobart.....	600*	690	...	...
Huon, North.....	653	687	34	...	
" Upper.....	268	274	6	...	
" Central.....	470	499	29	...	
" South.....	139	150	11	...	
Longford.....	821	810	...	11	
Longley.....	106	109	3	...	
Launceston.....	815	907	92	...	
Mersey.....	476	503	27	...	
Midland.....	291	274	...	17	
New Norfolk.....	1134	1172	38	...	
North West Bay.....	165	170	5	...	
Port Cygnet.....	710	803	93	...	
Queenborough.....	531	500	...	31	
Ringarooma.....	207	202	...	5	
Spring Bay.....	...	119	...	...	No Return for 1889-90.
Sorell.....	429	449	20	...	
Tasman's Peninsula.....	151	185	34	...	
Wellington.....	176	210	34	...	
Westbury and Deloraine.....	556	573	17	...	
Lilydale.....	...	...	...	...	New District, acreage included in Launceston.

* Given as merely approximate.

APPENDIX I.

CODLIN MOTH ACT.

SIR,

Glenorchy, 31st March, 1891.

I HAVE the honor to submit for your information the following Report upon the working of "The Codlin Moth Act, 1888," in the districts under my supervision.

Since my appointment as Inspector in the Fruit Districts of Midland and Brighton and Richmond, I have endeavoured to carry out the Act to the best of my ability without fear or favour, and with an earnest desire to grapple with the difficulty of the suppression of the Codlin Moth; and although I can only point to a few instances of extermination, I can with confidence state that there has been a great amount of good done, instances of which I will refer to later on.

I find that the pest has established itself in Brighton, Old Beach, Bagdad, Richmond, Native Corners, Jerusalem, Green Ponds, Antill Ponds, Tunbridge, Ross, Campbell Town, and down the Macquarie River, Isis, and Esk, besides in many other outlying places; and while it is being suppressed in numbers, it is still extending its ravages, as each year fresh orchards are being added to the list of "Infected."

I can come to no other conclusion than that this is caused chiefly through the introduction of infected fruit-cases through occupiers of orchards not realizing the necessity of giving stricter attention to this insidious source of infection.

On the whole there seems to be a desire on the part of occupiers to render every assistance to the Inspector in carrying out the Act, more particularly by those who are deriving a monetary benefit from their fruit. But those having small gardens, especially in the towns or townships, feel the Act irksome, consequently, when possible, it is evaded, or its requirements are carried out in a half-hearted manner; more particularly is this the case where there are but two or three trees, and these retained for old association's sake.

I suggest that the Act be amended in this respect, power being given the Department to have all such so-called "Orchards" removed.

In all cases throughout the districts before mentioned where instances of neglect have come under my notice I have put the law in force, and in almost every case the complaint has been upheld, and a fine imposed, which has had a good effect.

The regulations under which we work have been somewhat loosely drawn, and, from expressions of opinion by the Bench in several districts, should be more clearly defined, and then, if more universally carried out—which can only be done by the administration of the Act by one head—would prove effective in suppressing the pest; but general extermination will never, I think, be attained unless the whole of the infected orchards can be treated by the removal of all blossom or fruit as soon as formed for one or two seasons.

This view, as you are aware, I have advocated for years, and am now more convinced than ever of its correctness, it having been proved to a certain extent by the action taken by Messrs. John Taylor of Campbell Town, Joseph Johnson of Bagdad, and G. A. James of Tea Tree, who have had more sound fruit this year than they have had for years previously—this, by the destruction of their fruit for one season.

The occupiers of the following orchards have succeeded in exterminating the pest by the removal of "all" infected fruit:—Messrs. A. S. Agnew, of Waverley, Oatlands; William Jones, of "Truelands," near Campbell Town; — Kearney, near Richmond; and G. A. James, of Tea Tree.

The large orchards in the Broadmarsh and Bagdad occupied by Messrs. Henry Jones, C. Matthews, E. Graf, Ed. Ison, and J. W. Palmer are remarkably free—in fact may almost be considered clean—and this has been accomplished by strict attention to the rules laid down for their guidance.

The number of informations laid by me for the year 1888–9 was 21, only 1 being dismissed. The number for 1889–90 was 42, a conviction in every instance; and for 1890–91 I have only had cause to lay 10 informations, in each case gaining a conviction.

Taking the three months January, February, and March of 1889–90, there were 30 informations, and for the same period of 1890–91 there have been but 10, which will tend to show the Act has been better observed this year than last.

I have, &c.

TASMAN MORRISBY, *Inspector.*

THOMAS A. TABART, ESQ., *Chief Inspector, Hobart.*

APPENDIX II.

Franklin, 18th May, 1891.

SIR,

HEREWITH I have the honor of forwarding to you a Report of my observations on the various insect pests which have been submitted to me for identification. Although my offer to reply to any queries addressed to me has been fairly responded to, I am of opinion that many persons did not chance to see your advertisement—at least so I judge from some letters I have received. There can be little or no doubt that there is comparatively little information on the subject of insect or other pests amongst farmers and fruit-growers generally. Amongst other enquiries, I have received questions which I consider that even children at our state schools should have some knowledge of. On the other hand, it is certain that there are many thinking and keen observers who would gladly welcome any efforts which were made to assist them in overcoming their enemies.

Altogether I have received fifty-seven queries, and in nearly every case specimens have been forwarded at the same time. Of these, thirty-five, or more than one half, have had relation to the two fungoid pests attacking the apple and pear—*Fusicladium dendriticum* and *Fusicladium pyrinum*. I am sorry to have to report that these destructive growths are prevalent in almost every part of Tasmania, and as this is the first year of their appearance as far as local observation has gone, it is impossible to foreshadow the future extension of them. I would, however, point out that while the present season, being unusually damp, has proved extremely favourable to the development of the spores, and that therefore their progress in other and drier years may not be so rapid. These pests have occasioned constant and increasing loss in other countries. During the last few years since 1886 the loss due to the *Fusicladium* in South Australia has been estimated at over £10,000, and both in America, Germany, and Australia it has proved exceedingly destructive. It was first described in Germany, then in England in 1883, and since then there are references to it in all countries where fruit is a staple article of commerce. I may mention, that in order that there might be no doubt about the matter, I sent specimens both to Dr. Cobb and Professor M'Alpine, the Pathologists, of New South Wales and Victoria. They both have supported my description, and supplied formulæ of the "ammoniac-copper carbonate" remedy, to which I had already drawn attention in a paper published by me in the *Tasmanian*, Launceston, of January 31st, 1891. Both these gentlemen state that by the use of this emulsion several times the pest can be effectually dealt with; but I venture to question that such frequent spraying can be effected at—as they say—a slight cost to the grower. Even in an orchard of ten acres, and using only two instead of three gallons to each tree as they

suggest, 3200 gallons would be required at each spraying, and, putting the cost at not more than one penny per gallon, a cost of £13 would be incurred. It will be quite evident, that if this is to be repeated two or three times, such a remedy would be quite out of the reach of the ordinary fruitgrower. It seems to me, after a very careful consideration of the whole matter, that the most convenient and profitable course would be to give the infected orchards a thorough *winter* dressing with kerosene emulsion. I base my opinion on these facts:—None of the experts whose opinions I have referred to seem to be able to account for the presence of the spores on the freshly forming leaves and fruit in the early spring, except by the supposition that these spores are present in the decayed leaves and vegetable matter of the previous season. I am inclined to question this, and am much more disposed to think that by careful examination it will be found, that not only the leaves and fruit, but also the *bark* of the trees are affected, and that it is in this way communicated to the young leaves, &c.* In support of this theory, I would point out that, in two cases in particular, where *last winter the trees were thoroughly dressed* with kerosene emulsion or some similar preparation, there has been no appearance of the *Fusicladia* this year, even though all the neighbouring orchards are more or less affected. I would be sorry to be too positive on this matter, but I do think that it should be proved, if possible, whether winter dressing does or does not give the trees an immunity from these and other pests. The best mode of making the kerosene emulsion is as follows—

Boil one gallon of milk (failing that, half a pound of soap in one gallon of water), add two gallons of kerosene, and mix while hot. Then dilute, as required, to 30 gallons of emulsion.

Note.—This is for winter dressing; if to be used when there are leaves on the trees, the kerosene should be reduced to one gallon.

The different parts of the Colony from which I have received reports of the *Fusicladia* are—

Hobart.	New Norfolk.	Frankford.
Launceston (2).	Bridgewater.	Port Cygnet.
Emu Bay (2).	Glenorchy.	Huonville.
Railton.	Tasman's Peninsula.	Franklin.
Gould's Country.	Ulverstone (2).	
Jerusalem.	Deloraine.	

I have no doubt that further examination would reveal their presence elsewhere as well.

Many of the other letters contained specimens of various destructive insects, amongst others three different varieties of *Paropsis*, which were described as disfiguring the skin of the fruit (apples). One weevil—most probably *Bruchus obsoletus*—which was feasting on some imported beans; two other insects of the same class (*Rhynchophora*) were described as girdling the young shoots and injuring the fruit (slightly). One of the *Pectinicornes* was also pinned on to an apple, which it was said to have seriously disfigured; in the absence of any corroborative evidence, I am inclined to think that it was an accidental occurrence. Various specimens of *Lagri*a and of the families *Longicornes* and *Trimeru* were also sent, but nearly in every case their attacks seem to have been local and not of grave significance. Some of the Lepidopterous insects were, however, credited with much destruction, notably the *Cacacia*, a moth which has been reported to me from three or four quarters. This moth is reported by the Victorian Entomologist as causing much damage.

One of the worst foes we shall have to combat will be the pear slug (*Selandria cerasi*.) In and about Hobart this insect has proved very destructive, and I have been informed that its ravages in some of the gardens there have proved even worse than those of the codlin moth. I am sorry to say that the pear slug made its appearance in one portion of the Huon the year before last; from one orchard it has now spread over an area of several miles. Energetic efforts are being made to cope with it, and I trust to be able to report successfully.

The scale blight, which some few years ago threatened to utterly destroy many orchards, has, thanks partly to increased care in cultivation, spraying in bad cases, but more particularly to the friendly offices of the lady-birds, become very much reduced, and there can be but little doubt that with constant attention it could be almost entirely stamped out.

In conclusion, I would strongly express my opinion that the whole question of the various pests, whether insect or fungoid, or as affecting farmers as well as orchardists, should be properly consolidated and dealt with as elsewhere, systematically. I am thoroughly convinced that whatever the first cost might be of inaugurating an Entomological and Pathological Department, the Colony would in the long run save many hundreds of pounds every year.

I have, &c.

EDW. H. THOMPSON,
Consulting Entomologist.

The Honorable the Treasurer.

* NOTE.—In proof of my theory as to the fungoid spores being on the wood, I would draw attention to the fact that in those trees badly affected by the black spot, the junction of the new wood with last year's is badly cracked, similar to the fruit.