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DEPARTMENT OF AGRICULTURE,
VICTORIA.

PROCEEDINGS OF CONFERENCE
OF
HORTICULTURAL SOCIETIES AND FRUIT
GROWERS' ASSOCIATIONS.

Held in the Board Room, Lands Department,
29th and 30th March, 1894.

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CIRCULAR OF INVITATION.

Melbourne, 5th March, 1894.

SIR,

I have the honour to inform you that a meeting of representatives of Horticultural Societies and Fruit-growers' Associations, at which the Minister of Agriculture will preside, will be held in the Board Room of the Lands Department, on Thursday, 29th inst., at 11 o'clock a.m., for the purpose of considering the measures which should be adopted for checking the increase of insects injurious to fruit trees, and also for discussing other matters of interest to the fruit industry. It is the wish of the Minister that each Society and Association appoint one delegate, and I shall feel obliged if you will bring the matter under the notice of your Society and furnish me with the name and address of the delegate selected. To facilitate business at the meeting, it would be advisable for each delegate to prepare a paper on any subject which he wishes to bring under prominent notice, and the paper, when read, could be discussed. The subject of the paper should be communicated to me in time for preparation of a programme.

I have the honour to be,

Sir,

Your most obedient Servant,

D. MARTIN,

Secretary for Agriculture.

CONFERENCE OF HORTICULTURAL SOCIETIES AND FRUIT-GROWERS' ASSOCIATIONS.

HELD AT LANDS DEPARTMENT, MELBOURNE, THURSDAY,
29TH OF MARCH, 1894.

THE HON. W. T. WEBB, MINISTER FOR AGRICULTURE,
IN THE CHAIR.

Societies represented at Conference :

- Mr. G. Smith, Horticultural Society, Ballarat,
- „ A. R. Stone, Horticultural Society, Brighton,
- „ J. R. Warren, Horticultural Society, Castlemaine,
- „ E. M. Bill, Horticultural Society, Diamond Creek,
- „ C. Craike, Horticultural Society, Geelong,
- „ F. J. Young, Horticultural Society, Mooroopna,
- Dr. Branson, Horticultural Society, Richmond,
- Mr. J. Banks, Horticultural Society, Victorian,
- „ W. Grieffenhagen, Fruit-growers' Association, Bendigo,
- „ O. Bertuch, Fruit-growers' Association, Castlemaine and District,
- „ T. Petty, Fruit-growers' Association, Doncaster,
- „ W. Farquharson, Fruit-growers' Association, Dunolly,
- „ M. Kavanagh, Fruit-growers' Association, Goulburn Valley,
- „ F. K. Shaw, Fruit-growers' Association, Goornong,
- „ S. Lancaster, Fruit-growers' Association, Kyabram,
- „ W. Anderson, M.P., Fruit-growers' Association, Kara Kara,
- „ J. Williams, Fruit-growers' Association, Numurkah
- „ W. W. Capon, Fruit-growers' Association, Mildura,
- „ J. Munfleet, Fruit-growers' Association, Yarrowallá,
- „ P. Pullar, Fruit-growers' Association, Ardmona,

- Mr. J. Clarkson, Fruit-growers' Association, Lockwood,
 „ J. H. Dardell, jun., Fruit-growers' Association, Geelong and District,
 „ P. W. J. Murphy, Fruit-growers' Association, Arthur's Creek,
 „ W. H. Goff, Fruit-growers' Association, Beaconsfield, &c.,
 „ J. Sykes, Fruit-growers' Association, Burwood, &c.

Board of Horticulture.

The Secretary for Agriculture,
 Hon. W. Anderson,
 H. Boyce,
 C. Draper,
 J. Harris, M.P.,
 J. Lang.

The CHAIRMAN thanked the delegates for attending to discuss the past and future of the fruit industry of Victoria. He hoped that when they had exchanged experiences and ideas they might discover some reason why the fruit industry of this colony had not responded to the assistance afforded in the same way as other assisted and less promising industries had done. If they could bring this industry, as they had hoped to do some years ago, into prominence as an export industry the time would not be wasted. He had had some figures prepared by Mr. Martin, which had astonished him. First, as to the position of the fruit industry. The acreage under cultivation in the year 1889 was—fruit trees, 27,533 acres; vines, 12,886. Since the bonus regulations came into force, and up to the present, there had been additional vines planted 12,826 acres, and fruit trees 8,854 acres, from the years 1890 to 1893 inclusive. £2 per acre was due for the vines and £3 per acre for the fruit trees. Of this sum £12,600 had been paid up to date for the vines, and £8,000 for the fruit trees. While the fruit industry was not advancing to the extent they anticipated, still he was surprised to find it had fallen away in the past year so far as exports were concerned. In addition to that, the State had given as bonuses for canned fruit—the quantity being 1,135,000 lbs.—£4,850; for green fruits, £603; for factories, £575. Now they would naturally conclude that the result of that system would be that our exports would have increased materially, but he found from the list prepared that in 1890 we exported in round numbers nearly 18,000,000 lbs.; in 1891 it had slightly increased to 21,000,000 lbs.; in 1892 there was a decided increase to 36,000,000 lbs.; but unfortunately in 1893 it fell to 29,000,000 lbs. As to dried fruits they would naturally conclude, more particularly as so much had been said in

connexion with that particular industry, that at all events it would have increased in exports. The figures were :—In 1890 we exported 1,900,000 lbs.; in 1891, 1,350,000 lbs.; and in 1892, 1,400,000 lbs. Bottled fruits:—In 1890, 223,000 dozen ; in 1891, 101,000 dozen. These fell in 1892 to 44,000 dozen ; in 1893 to 33,000 dozen. Those figures showed that so far as the fruit industry of this colony is concerned, from which so much was expected, it had rather decreased than increased as to the output. As to imports, although it might be said in regard to his statement that we were supplying our own wants to a very great extent, which showed an improvement had taken place, unfortunately, if we took the reduction of imports all round he was afraid that there would not be so much reason to be satisfied. To put it in round numbers:—Fresh fruit in 1890, we imported 17,000,000 lbs.; in 1891, 13,000,000 lbs.; in 1892, 17,000,000 lbs.; and in 1893, 14,000,000 lbs. So that our imports, taking the general falling off, and the effect of the depression, were about on an equality to what they were three years ago. In dry fruit we imported in 1890, 8,000,000 lbs.; in 1891, 6,000,000 lbs.; in 1892, 7,000,000 lbs.; and in 1893, 5,000,000 lbs. In making the comparison, the result must be put down not so much to the increase of our own products, but to the general effect of the depression. Bottled fruit again showed about the same proportion :—1890, 6,000 dozen ; 1891, 10,000 dozen ; 1892, 10,000 dozen ; 1893, 4,000 dozen. It was to be regretted that the fruit industry of this colony, taking into consideration the assistance afforded it, had not made more rapid strides than those figures indicated. They might ask what was the cause ? Had they planted the proper kinds of fruits ; were they treating them properly ; were the methods of transit by rail and sea as good and as cheap as they ought to be ; had they the best market, or had they sent to the best market ; or were their goods packed in the best manner and placed before the British consumer in the most attractive form ? These questions were worthy of consideration. Then, again, it might be asked, was it because our circumstances here might be regarded as unfavorable as compared with those of competing countries ? Take the Americans for instance. Could we compete with them, or were they too favorably situated for us to do so ? Could we, unless our conditions were altered, progress and compete in this industry ? Then there was the labour conditions, the transit by sea and land, and other issues that were too large to go into to-day. His own opinion was that, having regard to our climate and the energy of our people, we were quite in a position, if the industry got a fair chance, to compete with any other part of the world, and if any means can be suggested by which this industry can be galvanized into life, and

our exports from that source increased, this Conference will not have met in vain. He might here add that if ever there was a time in the history of the colony when it was necessary that our exports should be increased, it was to-day. He was sure the delegates were thoughtful men who would recognise the position and give their assistance to bring about any improvement possible. There was never a time in the history of the colony when it was more needful for thoughtful men to take into consideration the necessity of applying our lands and labour to the best possible use, in order that the depression now hanging over us might be removed. He noticed in the press frequent paragraphs headed—"The depression and the way out of it." He would say that, shortly put, the way out was to make the best use of our lands and our labour, and if we do so the time is not far distant when the colony will be lifted out of the depression. Another question they had to discuss was the Insect Pests Bill. It was of little use encouraging planting and extending the area, or to make individual efforts to cope with the insect pests, until there was a law to deal with the matter universally. He brought in an Insect Pests Bill last session, and was surprised at the attitude taken by Parliament with regard to it. Many men took alarm and said, because the Government were going to take powers to compel men to clean their orchards or have them eradicated, that it was far too drastic. Still there was no other remedy. How could they allow a man to have all his trees full of disease and infest all the orchards surrounding him? It was necessary that that provision should be included in the Bill, but from that and other clauses dealing with the disease in a somewhat similar way, the Bill met with very little favour. However, he believed that if they would discuss the matter to-day, when next it was brought before Parliament, if presented with a statement of their approval, it would be considered more favorably, and the probabilities were that it would be given effect to in law.

Mr. O. BERTUCH, of the Castlemaine and District Fruit-growers' Association, read the following paper on the "Best means for dealing with Insect Pests":—

In answer to a circular received by the Castlemaine and District Fruit-growers' Association I was appointed their representative at this Conference. While I approve of much that has been done by the Government to instruct the fruit-growers on insect pests destructive to fruit trees, and the way to destroy them, as illustrated in Handbook, Parts I. and II., by Mr. Charles French, still nothing has as yet been published with

regard to the nature and growth of fungi, and how to destroy them, and yet in every measure brought before Parliament to enact legislation for the eradication of noxious insects fungi have been included.

What we want on this point is education. We are convinced that an Insect Pests Bill should be introduced, which would enforce united action for the destruction of noxious insect pests, but as many of them have come from our native trees, stringent measures and heavy fines should not be resorted to, especially where knowledge as to the means to destroy certain insects is wanting.

1. The apple root-borer (*Leptos Hoyrei*) is one of the worst we receive from wattle and gum trees, and to eradicate it at a fortnight's notice cannot be done—it takes years to get rid of it—still it is not necessary to destroy all trees which have the worm, as some of my trees, treated with bisulphate of carbon two years ago, are bearing fine fruit this year.

2. The codlin moth is one of the easiest to keep in check, if united action be taken to carry out the regulations to destroy the insect. By no means will the codlin moth be eradicated any more than the rabbits. The bandaging of the stems of the trees and scraping off the rough bark are necessary; also destroy all props, rubbish, &c., and disinfect fruit cases. If these be done, the presence of the moth would hardly be felt. Fruit, with codlin moth, should not be allowed to be offered for sale; and fruit, which has been badly affected with fungus, should not be offered for sale, being almost unfit for consumption; but the sale of fruit slightly affected by fungus should not be prohibited, as more than half the crop of apples and pears has traces where fungus has been, and to prevent the sale of the fruit would ruin many fruit-growers.

3. The woolly-aphis, which has been known in Victoria for 40 years, cannot be eradicated, but may be kept down. It should be exempt from the Bill.

4. The cherry and pear slug should be destroyed.

All regulations to prohibit the introduction of new insect pests, by means of trees or fruit, are approved of.

1. Remedies should in most cases be enforced, and fruit-growers compelled to apply them, under penalty.

2. Remedies cannot be so applied as to clear trees of insects in a specified time, as it may take months and even years to clear trees of fungi and other diseases.

3. There are no insects known on fruit trees requiring trees to be destroyed to kill the insects, but abandoned orchards should be destroyed.

4. Remedies are not always reliable; some are too powerful and destroy leaves and fruit for the season.

5. No fines should be imposed with regard to fungi and apple root-borer as long as it can be shown that means have been used at the proper time for their eradication.

Fines should not be enforced in regard to insect pests arising from native trees so long as the regulations are being complied with as regards spraying. To assist the Department of Agriculture in giving effect to the Act, local boards of fruit-growers should be formed in each district, and an inspector appointed under the supervision of the board. All regulations should be submitted for approval of a central board, composed of one member from each district, and no fruit trees should be destroyed except with the advice of the central board.

Mr. F. SHAW, Goornong Fruit and Wine-growers' Association, read the following paper on "Whether Legislation is Premature to check Insect Pests":—

Mr. Chairman and Gentlemen,

1st. On insects, their cause and remedy, it is premature to legislate.

2nd. Means should be employed for instructing fruit-growers how to keep insects in check.

Legislation to be effective will have to be locally guided by the different conditions of the destructive insects to be dealt with.

Take the most destructive of insects, the locust, their eggs are hatched in the spring in the north and north-west. To compel the land-owners there, by legislation, to destroy the eggs, would mean an unjust tax on them for our benefit.

In my neighbourhood they have only hatched once since about the year 1868 to come to maturity. The last flight of locusts we had laid their eggs all over the Campaspe Valley, where they remained in the ground till the autumn rains. They hatched with the moist heat in the day and were destroyed by the low temperature at night. While the locusts fly south, many of our butterflies and moths fly north to propagate.

The vine-moth has increased each season.

For some years I have had all the caterpillars destroyed in my vineyard, and yet the second brood this season was the most prolific, and we have killed as many as 135 on a year-old vine.

Take what Mr. French calls the "Rutherglen pest or wood-beetle," it first comes from decayed wood or vegetable matter; you will see them on an old camping ground which grew thistles. They come out of an evening, some days before flight to the air, as thick as ants. If local, they can be easily scalded; when allowed to swarm they distribute themselves all over the vineyard

or orchard, laying their eggs on any small patch of thistles or weeds. It is from the young fry hatched in the orchard the damage is done to the fruit. It is about sixteen years since they did considerable damage to my fruit; since then I keep the ground well stirred when they are about, so as not to allow any weeds for them to mature upon. The codlin moth I have not had much experience with, and this is only the second season that I have noticed it, it only thinned out my apples; but I caught a moth in December, and I found eggs on the outside of the apples. The heat seems to dry them up. I lost seven bee-hives this season with the moth. To legislate to make the orchardist keep his trees clean, when his neighbours' hives, &c., have got the moth, would be an act of injustice. I think if the Health Act was put in force, prosecuting all sellers of diseased apples, it would enable the diligent and industrious man who keeps the codlin moth in check to obtain a better price for his fruit, and the public would not be imposed upon.

To legislate to compel owners to keep orange and lemon trees clean of scale, when it is on many garden shrubs and on various plants through our forests to the coast, would not be reasonable. I think we must look to the cause of scale and want of thrift in many of our orange and lemon trees, to climatic influence and grafting on the wrong stock. The olive in my district is a great breeding ground for scale.

The aphid gave the growers very little trouble about 30 years ago, as the hot winds cleared them early off the trees, and fruit trees were planted on land containing the alluvial deposit of ages, which stimulated their growth, and they were surrounded by a forest, which kept the atmosphere moist.

The nurseryman is not troubled much with the aphid, he puts the seed in well-trenched and manured land, mulched on the surface, and he keeps the trees growing closely together, with the hose continually watering them. His strongest trees are very often the worst blighted when planted out, which shows they have been reduced to poverty, hence the parasite; we must look to the root before spraying the head.

The root-borer of the apple is one of the worst pests we have to deal with until we have more information of the habit of the insect. With me, it destroyed most of the apple trees when they began to bear. It destroyed the Newtown Pippin, Five Crown, and Cleopatra, and left the Rymer healthy between them. I think from that, the insect that comes to the surface finds the blossom or fruit of the Rymer is not suitable to its taste.

We used to look upon the vine bug, a few years ago, as a friend which destroyed the vine caterpillar. The last two seasons the bug has come too late, but in time to put its trunk in the early

fruit. It increased to become a plague till the second week in January when it mostly disappeared. The vine grub that is very bad on young cuttings cannot exist in a vineyard if weeds are not allowed to grow, as the moth always lays its eggs on weeds and lives on them till the vine bursts. I look upon insecticides to a starved plant as no better than a packet of Pears' soap to a starved man for improving his condition. Miss Omerod's advice to farmers with the fly on turnips is—stimulate the plant to resist the pest, and instruct the fruit-growers with a view of keeping the insect pest in check. We have a gentleman at the head of the Entomological Department who, by his published works, shows he is well qualified to analyze any information we may furnish him with. We are daily coming in contact with insects both destructive and otherwise, and it is at present every fruit-grower's business to send him information. I would propose stations, the same as the rain-gauge stations, furnishing charts of the different insects at the stations; also specimen lamp and appliances to catch insects, as many of our insects swarm about sundown and dusk. Had such stations been at Geelong, when the phylloxera was about, the Board would have been better able to cope with its habits, and phylloxera would not have been at Strathfieldsaye for a number of years without being observed.

The heat in spring causes all vegetation to reproduce its seed; the same heat causes all insects to come to the surface to reproduce themselves when vegetation is tender. That is the principle time we should be on watch as to their habits. To be forewarned is to be forearmed.

Mr. MARTIN, Secretary for Agriculture, read a paper by Mr. W. Farquharson, Dunolly Wine and Fruit-growers' Association, who was not able to be present, on the "Codlin Moth":—My committee have instructed me to give an outline of the views of this association, on a few points which may be discussed at the Conference.

As insect and other pests are spreading to an alarming extent, this association considers it is necessary that some means be adopted to deal with them systematically, and to compel all growers and owners of fruit trees to keep their trees and vines clear of pests which may be carried or find their way into neighbouring orchards and vine-yards. In this district the codlin moth, peach blight, apple root-borer, red spider, woolly-aphis, Rutherglen fly pest, and the vine moths are the principal insect pests which we have to deal with. With the exception of the codlin moth, many growers here are of opinion that no very stringent measures would be required to deal with most of

them. Growers can, if they choose, keep the other pests sufficiently in check, and be indifferent as to whether their neighbours do so or not. One thing that it is considered should be stringently dealt with is the sending or carrying of diseased or insect-infested trees, plants, or fruit to or from any place outside or in the colony; such trees, plants, or fruit should be seized and destroyed at owner's expense wherever found. If that were done, growers would either have to destroy the pests or give up the business. All disused orchards and vineyards ought to be destroyed.

Fungoid diseases generally affect certain varieties of fruit trees and vines in unfavorable situations, and are worse some seasons than others. Most growers in this district do not consider that it is necessary to legislate regarding them.

With regard to inspection of orchards and vineyards, this association is of opinion that there ought to be an insect and disease committee in each district to act in conjunction with an inspector, and a consulting entomological and fungoid diseases expert in Melbourne.

It will, however, be extremely difficult to legislate effectively regarding insect or other pests. Many of the proposed remedies are of doubtful efficacy or involve great labour and considerable expense in application. Besides, it will be difficult to compel a man to do more than use certain means for the destruction of the various pests, and unless done under the eye of an inspector, it might be done in such a way as to do little or no good. Any compulsory legislation will have to be very carefully considered, if it is not to be a mere sham, or to drive many out of the fruit-growing business altogether.

Mr. J. SYKES, of the Burwood, Nunawading, and Mulgrave Fruit-growers' Association, read the following suggestions respecting Prohibition of plants, and suppression of insect pests:—

Mr. Chairman and Gentlemen:—

At the general meeting of the Burwood, Nunawading, and Mulgrave Fruit-growers' Association, I was appointed to attend this Convention, and instructed to lay various resolutions, *re* Insect Pests Bill, before you. We wish to affirm the desirability of such a Bill, because unless we have legislation dealing stringently with the pests, in the very near future fruit-growing will be almost an impossibility; even if some growers are willing to enter into a crusade against the pest, other growers are indifferent, and will not do the necessary acts, consequently those who try to clean their gardens are handicapped to such an extent as to make their

efforts almost hopeless, because their gardens are inundated with pest from the indifferent man's garden. Again we think that old abandoned orchards should be destroyed, as they are only breeding places for pests, and again I would say that delay in this matter will only give time for the insects to become so numerous, that to undertake to eradicate them will be a far more difficult task ; for instance, I have never known the pear slug so bad as this year, and last year it was worse than the year previous, and so on. This pest is spreading year by year, and others likewise. Hence the necessity for Legislative enactment. Great care should be taken to prevent the measure being arbitrary or oppressive, aiming at cleansing and avoiding destructive measures, except in cases of abandoned orchards. We think, too, it should prohibit the importation of nursery stuff from disease-infested colonies. For instance, young orange and lemon trees are imported from New South Wales. The round orange scale abounds there ; therefore young trees of the citrus family should be prohibited from New South Wales ; this is one example, and must stand for all. Heaven knows we have plenty of disease to cope with without importing more. We do not think there is nearly so much danger of disease being imported in cases of fruit as with young trees, and we think all plants from any colony should be fumigated or steeped in some solution before leaving ship or train ; for the pear slug (*Selandria cerasi*) is said to have been imported in some plant other than a fruit tree.

What insects the Bill should include, we would respectfully submit that there are many pests we do not even know the name of, to say nothing of a means of destruction, and while we think that a Bill should not overlook any, we think it should only be drastic towards those for which there is a known remedy, for instance—Hellebore powder will certainly destroy the pear slug ; bandaging the bole of the trees, and putting some warm soft substance in the fork of trees and spraying with Paris green while the apples are in their earliest stages will be effectual in keeping the codlin moth within bounds. I am afraid it can never be eradicated, but it can be kept within such a limit as to make it of very little danger. The red spider and peach aphis, especially the black, can be coped with successfully, the green aphis is rather more difficult, but can be destroyed ; on the other hand, the root-borer, as far as I know, cannot be coped with, or there is no specific found yet that is effectual, others the same way. So we suggest that the Bill for the time being will only be stringent towards those insects, such as the pear slug, codlin moth, red spider, and peach aphis, for which there is a known remedy.

We would also suggest that the words trees, plants, or vegetables shall include hedges, especially whitethorn, because they

are harbors for the pests. Administration.—We think the success of the Bill will depend on its being well and wisely administered, and we think the interested parties should have a voice in the administration of the Bill.

We would suggest that six inspectors be appointed; the colony divided into six fruit districts; that each fruit-growers' or horticultural society in each district appoint a local board of advice, said board to act in conjunction with the inspector, rendering him all assistance possible; the inspector to submit a report on the state of the district for said board's guidance, and that no inspector take action against any one without the consent of the board. The idea is that an inspector's district may be perhaps 40 miles square; he may be at one point to-day, but he may not be there again for a month.

The appointment of a local board, like a board of health, would be a responsible board always there; and further, we think that to administer the Bill properly there should be appointed a central Horticultural board under the presidency of the Hon. the Minister for Agriculture. Such board to be elective, and to hold office for, say, two years, to always meet in Melbourne, and to consist of, say, six fruit districts, each district to elect three representatives—eighteen members in all, with the Minister for Agriculture, *ex officio*, president.

Just one other little matter and I am done, some money is bound to be spent, no Act can be worked without cost, and we think we ought to make war pay for war. A good deal of agitating has been done, and a good many attempts made to have duties placed on bananas and other foreign products, which coming in direct competition with us cause us to suffer to a good extent, and we think that as the Government is hampered for want of money, some such scheme ought to be adopted; such as a duty on early vegetables from Sydney, peas, beans, &c., a duty of say 1s. per bunch on bananas, and we would have more than sufficient money to run our Insect Pests Bill.

Mr. C. ALLEN, jun., Brighton, on the subject of fruit trees and their pests, said:—I have had considerable experience in insect pests. I think it will be of use if I define the different insects that attack the various kinds of trees. For instance, the apple. There are the codlin moth grub, the light-brown moth grub, the mussel scale, the curculio beetle, the harlequin bug, and the *fusicladium* or black spot. These only affect the fruit, but do not kill the trees. As to the pests that destroy the trees, there are the apple tree-borer, the root-borer, the *prosops pidisequus*.

I have seen that at Baldwin. It is an insect that pierces the stem of the tree and lays its four eggs, and seals them up with some succulent matter. That pest will entirely kill the tree. There is not one inch of the tree that is not perforated by it, and it will have to be dealt with in the Act for eradicating the pests. Then there is the mussel scale. That will also kill the trees. Then there are the red spider, the woolly-aphis, thrips, and various fungi. As for the codlin moth, I have fought it for years, and the only thing to do is, in the autumn, scrape all the soil from around the trees, scrape the trees themselves, take off the bands, and burn all the scrapings. Then spray the trees with a very strong solution of whatever you like. I use kerosene emulsion or resin compound, sulphate of copper, or sulphate of iron. Spray the stems and buds. That certainly assists in killing the pests for the following spring. Then, in the following spring, you have to spray the trees with Paris green or London purple, or any other insect destroyer. I use those in December after the fruit has set. About twice in the month is sufficient, and by adding a little bluestone it helps to clear the black spot or *fusicladium* off the tree. The bands then have to be put on again in the spring. By doing so you have a fair chance of keeping the place clean—that is, providing your neighbours do the same. If they do not, you are infested just the same as ever. For the light-brown moth grub the same treatment is applicable. The mussel scale, which affects the fruit as well as the tree, requires to be sprayed in winter, after pruning, with a strong solution of resin compound, two or three sprayings. The same with the harlequin bug and the curculio. The *fusicladium* is most difficult to combat with, and I find that sulphate of iron or sulphate of copper, or IXL compound, is a very good remedy and beneficial in the winter and spring. The strength of the sulphate of copper is 4 oz. to 40 gallons of water; sulphate of iron, about 1 lb. to 60 gallons of water. The apple tree-borer bores into the branches of the tree, and the grub gnaws away and destroys the branches. The root-borer attacks the lower roots. The consequence is that to get at the root is a difficult matter. It will go down 6 or 7 feet in the root, and it is almost impossible to reach it by any means. Bisulphate of carbon will kill it, but it is too expensive. This pest is spreading all over the colony. Pears, plums, oranges, lemons, every tree I can think of. It kills everything before it. It succeeds best in stiff soils. It cannot fly, and sand gets under the wings and legs and destroys it. There is little of it in Brighton. It is one of the greatest curses, and is a native of the colony. It is one of the worst things we have to contend against. The beetle crawls up in the spring into the tree and lays its eggs on the leaf, one egg over the other, or doubles the leaf up. It

lays there like a honeycomb, and there are a great number of eggs in each cell. The only plan I have seen effectual is that adopted by Mr. Tealey, at Doncaster—zinc collars round the trees, then as the beetles crawl up they can be caught underneath this shield. As for spraying or anything like that I think it is useless. The *prosops* perforates the branches, and the tree, especially apples, is killed and destroyed. For that the resin compound is the most successful. The red spider attacks not only the apple and plum, but nearly all varieties of trees. I find the most effectual way for its suppression is to spray the trees after pruning in the winter with a strong solution of carbolic acid or something like that, 1 in 60; there will then be few found in the following spring. The kerosene emulsion I generally use, about 1 in 20, and it is effectual in destroying them. As to the apricot the diseases affecting them are mostly shot-hole fungus, the brown scale, the brown aphid, the black spot, and the root-borer. The remedies I have found most effectual for the shot-hole fungus are sulphate of copper, but some use one solution and some another. Tobacco, soft soap, magic soap, 1 lb. to eight gallons, and some use caustic soda and resin like a composition of resin compound. The aphid is very easy to kill, but I find the best way to attack it on the peach and the apricot is to clear the earth from around the trees and spray the trees after pruning with either sulphate of copper or sulphate of iron. I prefer the latter. The aphid is round the roots of the trees, and if sprayed with a very strong solution in the winter will die. Then in the following spring if a paper bandage be pasted round the tree, and then some tar put on the top of the paper the fresh brood may be caught when climbing up. If you are spraying the tree all the time, you are working at the top instead of at the bottom. The seat of most of the diseases is at the roots. The same applies to green aphid and curl leaf in the peach, and also the rust. The curl leaf is a very small white insect. It was generally supposed to be a fungus but it is not. I clearly proved that at one of the meetings of our society, and Mr. McAlpine inspected the thing and has reported to the same effect. If the trees are well sprayed in the winter there is very little curl leaf or aphid, brown or green, but if it does appear in the spring we have to spray it. The nectarine is subject to the brown aphid. Quinces are subject to the pear slug for which Hellebore is used, and waxy scale, the cure for which is kerosene emulsion. In the orange and lemon we have the red scale. Lime dusted on the trees or fine wood ashes or kerosene emulsion should be used. 1 in 14 or 1 in 20 is the most effectual remedy for that. Pears are afflicted with the *phytoptus*, which is a small insect causing the leaves to turn red on the outside of the rims mostly. It is a very difficult thing to destroy, but the emulsion answers the

purpose as well as anything I know of. Then there is the oyster scale, a large round scale on the trees. The codlin moth grub also attacks the pear, and we have the red spider and the fungus called the sooty fungus. The tree turns black all over. The only remedy for that is either spraying the trees with carbolic acid—I find that the most successful—or dusting them with lime. And then there is the root-borer in the pear. The root-borer and the pear slug are the worst. The cherry tree is afflicted with a small caterpillar, which punctures the fruit as soon as it is formed, bores a hole right in the centre, and the fruit withers and dies, leaving only half a crop. That can only be got at by spraying with Paris green or any other poison that will kill the pest without harming the tree. Then there is the cherry borer. The only remedy is to scrape out the spot, and have a little can filled with kerosene or eucalyptus, and inject that into the hole and plug the hole up with soil or clay. Then there is the gumming of the tree. It is necessary to scrape that off and paint the tree with a mixture of cow-dung and clay, which heals the wound. The plum tree is afflicted with the pear slug, the red grub—something like the codlin moth grub, but it is not the same—the rust, the red spider, and also the borer, so that all those varieties of trees are afflicted with those pests, and it takes a considerable amount of work to eradicate them and keep them down. The number of insect pests that affect our trees as a whole is about twenty, and the number of scales eight. The pear slug is causing devastation all through within 20 miles of Melbourne, and it is spreading in spite of us. If something is not done to cause every one to take united action, the result will be very serious. The first time I saw the slug was in the spring of 1888. The saw fly appears about the 8th of October, sometimes the 11th—last year it was the 11th—and it commences to lay its eggs on the leaf. The slug is the larva of the saw-fly; and the slug, after having changed its skin four times, becomes of a yellow orange colour. It descends the tree and spins itself a cocoon of earth joined by some threads of silk, where it is hardened to a leather-like toughness, and forms a protection from wet. I have watched it carefully, and I think there are four broods in the season—one in October, the first brood; in December, January, and again in March. They are now on the trees busy, the last brood. Last year it was here nine months, from October to June. It is spreading very fast all round. I have seen it in all the suburban area, that is within 20 miles of Melbourne. It will spread all over the colony, and is causing great destruction to the trees. It attacks the cherry, plum, pear, quince, cherry plum; and the hawthorn hedges are a perfect harbor for them. It will kill all the trees if not stopped, and something must be done to get united action in the matter,

and that very soon too. It is no use one man keeping his orchard clean by spraying, and his next door neighbour doing nothing at all. I have tried many remedies for it, but I find there is nothing so successful as the Hellebore powder, 1 lb. to which may be added 2 lbs. of soft soap and a handful of flour mixed together into a paste. Let them stand for an hour, and then add 40 gallons of water. The flour will make the mixture stick better on the leaves and slugs. Hellebore is best for cherries, plums, cherry plums, and quinces. I found this year that pears sprayed with 1 oz. of Paris green, 1 oz. of sulphate of copper, that is 2 oz. in all, mixed in a paste, then adding 20 gallons of water, did very well. It takes longer to kill the slug, but it is certain death to it; and it also kills the codlin moth grubs at the same time, helps to do away with the black spot on the fruit, and seems to last longer on the trees. I only sprayed them once with that, and where I used the Hellebore, I had to use it three times, but I found it only safe to use it on the pear trees. It will not do on the cherry or plum, as the leaf is too tender for it. It is to the interest of all our orchardists to keep good fruit, and they cannot do it when the trees are filled with disease. Last year I thoroughly cleaned my orchard and thought there would be no codlin moth in it. It was just as badly affected, because they came from the surrounding orchards. Unless we get united action we cannot cope with these pests. In 1888 there was a Bill brought before the House, the object being to destroy the pests. I was against the Bill, because we had not the information in regard to the pests. We did not understand them then. We asked the Government to appoint an entomologist, and he has been working ever since, and now there are remedies in his books for all those pests. The Government has done that much for us, and now it is our duty to put that advice into practice, but we must have an Act of Parliament. The Government, in bringing in an Act of Parliament, must not be too drastic and severe. In my opinion the Bill should contain provision for the appointment of an electoral State board and local boards throughout the country, and inspectors to go through the orchards. The financial depression to-day is so great that the Government cannot clean our orchards, and we should be mean to ask for that. I think we should say we will pay for the supervision and inspection. The colony should be divided into districts. Then there should be a tax upon every orchardist in Victoria. Every one with over one acre should pay so much and be rated, and it should be collected into a State fund. I think the Act ought to be self-supporting, and estimating the acreage of the fruit trees in the colony, the individual tax would be very small. We have somewhere about 31,770 acres of orchard in the colony, of which the

system of bonuses has added 8,333. In vines, in 1882, there were 5,732 acres, and in 1892, 28,052 acres, and through the bonus system 12,500 acres of this area has been added, so that by the bonuses the Government has increased the area of vines and fruit trees by nearly 21,000 acres. That nearly totals 60,000 acres for 1892. How much an acre would that amount to? Not 3d. an acre on every orchard grower. That could be collected with a municipal rate. The name of the ratepayer would be put down as an orchardist, and consequently he would have the right to vote, and only he, for a local board or a State board. I should say the fruit-growers should select their own representatives, not by any society, because a man may be elected by the society who is not qualified. I think if we do that much for ourselves the Government will do their share by providing the markets and outlets, by giving bonuses for canneries, and assisting us in finding markets. I feel certain no orchardist would be against any properly-qualified inspector examining his orchard. He can tell what to do, and explain how to get rid of the pests. I visited an orchard on the Murray. The owner told me his place was perfectly clean. The first tree I came to was an orange, and I saw it was sickly. It was smothered with scale and the man did not know it. That is an illustration of the result of bringing in a stranger to have a look round the orchard. I told him what to do with it. The diseases, instead of decreasing, are increasing more than ever, and we have some of the deadliest pests going. The State board could, from time to time, issue instructions as to the right thing to do in each particular season.

Mr. HARRIS, M.L.A., said that the Bill of last session had been gone through very carefully by himself and other members of the Board of Horticulture, and they made several amendments, but, unfortunately, the Bill did not become law. Mr. Allen referred to the fact that the Bill had been previously introduced. Three Bills had been introduced, and they all proved abortive, but he certainly thought that the Bill introduced last September would have passed both Houses of the Legislature. Unfortunately, there were not in the Legislative Assembly many men who understood horticulture, and the immense destruction that had been done to our fruits by the insect pests. A good many members spoke on the Bill, but they wanted delay in order that they might consult their constituents, and owing to the pressure of business at the close of the session, the Bill was not brought forward again, and if it had been he believed that it would have been lost. He complimented the Minister of Agriculture on having convened the present large meeting of representatives, and he hoped that there would be some good result. They had met to consider some of the most important things that could engage the interest of any one, and they looked to

the Minister as the head of the Department of Agriculture, which he thought was the leading department of the State. They all recognised that it was to mother Earth that they must look for a return of the prosperity they had lost for the present. He had heard with pleasure some of the gentlemen give their views on insect pests. Most of the gentlemen who had spoken agreed that we must have legislation to deal with the insect pests. He thought the best plan would be for the meeting to go through the Bill, and for the delegates to suggest any amendments they might think desirable. If that were done he thought it would fortify the Minister and the members of the House when the Bill was again introduced next session. Mr. Bertuch (who read the first paper) said some portions of the Bill were very drastic. He could inform him that the last Bill was not half so drastic as similar measures which were in force in the other colonies. In New Zealand, in Tasmania, and South Australia, they had measures dealing with insect pests. In Tasmania it was restricted only to the codlin moth Bill, but in New Zealand and South Australia they had Bills dealing with various other insect pests. Mr. Bertuch recommended that diseased trees should not be destroyed. It was not the intention of the Bill that they should be destroyed. It was left to the Minister to deal with them as he thought fit, especially with trees, plants, or vegetables introduced into Victoria, that those might be fumigated or otherwise dealt with. He also recommended local boards. That was the intention of the Bill, and inspectors. The question in the House was whether the State should be called upon to pay for that inspection. They were aware there was something similar in regard to the phylloxera disease. The colony had spent something like £40,000 in the eradication of that in the Geelong district, but they did not want to take any such stringent measures as that. Mr. Bertuch referred to the fact that woolly aphis was not mentioned in the Bill. He (Mr. Harris) did not think it necessary. The Bill introduced by Mr. Bell some two or three years ago included some 22 various insect pests. All those were submitted to the Board of Horticulture, who, in their wisdom thought it not necessary to include all those, and they selected four of the most destructive—the codlin moth, the pear slug, the lemon scale, and the orange scale. But he found that other members of the House found that even those four were far too many. He believed the Bill would have been carried had it been confined to the codlin moth alone, which was the most disastrous thing they had to deal with. Mr. Shaw spoke about locusts. He thought they need not deal with them. Their business here was as horticulturists. They were dealing not only with diseases, but also with other matters connected with fruit—the export and transit of fruit by sea and land.

The chairman suggested the question whether we had been growing the right kinds and on the right principles. No doubt we had made mistakes in the past in growing wrong kinds, especially for export. He was sorry to find from the chairman's remarks that the export of fruit had fallen off so much. One reason was that the apple crop had been a partial failure in the colony this year, and he believed that unless we took some steps within a very short time to exterminate the codlin moth it would be a long time before we could export apples as they were now doing from Tasmania. By the s.s. *Massilia*, which left on Saturday, Tasmania was sending 22,000 cases of fruit. Some previous steamers took 10,000 to 20,000, and the steamer leaving to-morrow would take 16,000, all from Tasmania. With our immense acreage—he believed we had a larger acreage of fruit than they had in Tasmania—he did not see why we should not export fruit the same as they did. He was aware that the Codlin Moth Act in Tasmania had been to a great extent a failure, but still the people had taken private as well as united action in dealing with the pest irrespective of what the Act of Parliament directed them to do. Mr. Farquharson in his paper recommended that in case of all diseased plants the tree should be destroyed. He (Mr. Harris) did not agree with that. They would need to be very bad indeed before he would apply such a remedy as that. Mr. Shaw had given a very interesting paper, and pointed out that the pear slug and cherry slug had spread very rapidly. They could all corroborate that. Mr. Shaw had said that all the pests should be included in the Bill for which antidotes were known, and he gave the opinion that no remedy had been found for the apple borer. He (Mr. Harris) was sorry to hear that. He had thought there was some remedy, but, as with the phylloxera, they might lessen its ravages even if they could not cure the disease. He did not agree that the export of orange and lemon trees from New South Wales should be prevented. We could not propagate them here profitably. After 30 years' experience as a nurseryman, he said, without hesitation, that we could not propagate them in Victoria as well as in New South Wales. He had found very few diseased oranges and lemons coming from New South Wales. He thought that diseased trees were the exception. He agreed as to the dividing of the colony into districts, each district to send three representatives to a central board. He thought the best plan now would be for the Secretary to read the clauses of the Bill seriatim, and for the Conference to go into committee and deal with the Bill clause by clause. Then, if the majority agreed to certain lines of action, Members of Parliament would be fortified by that opinion and would be very glad to pass a measure of this

nature. It was possible that the fines might be modified, but he might mention that they were very much less than in any of the other colonies.

Mr. MARTIN, Secretary to the Department of Agriculture, took charge of the Bill.

"A BILL

"To prevent the Introduction and to provide for the Destruction of certain Insects which injuriously affect vegetation and for other purposes.

"Be it enacted by the Queen's Most Excellent Majesty by and with the advice and consent of the Legislative Council and the Legislative Assembly of Victoria in this present Parliament assembled and by the authority of the same as follows (that is to say) :—"

Clause 1, as follows, was read and passed :—

"1. This Act may be cited as the *Insect Pests Act* 1893."

Clause 2 read—

"2. In this Act unless inconsistent with the subject-matter or context—

"‘Disease’ means any disease affecting trees plants or vegetables and which the Governor in Council may from time to time by proclamation in the *Government Gazette* declare to be a disease within the meaning of this Act and whether or not caused by or consisting of the presence of insects :

"‘Diseased’ means affected with ‘disease’ :

"‘Fungus’ means any fungus or vegetable parasite which the Governor in Council may from time to time by proclamation in the *Government Gazette* declare to be a fungus within the meaning of this Act :

"‘Insect’ means the insects known as—

Codlin moth or *Carpocapsa pomonella*

Pear slug of cherry and pear or *Selandria cerasi*

Red scales of lemon or *Aspidiotus citricola*

Red scales of orange or *Aspidiotus aurantii*

in whatever stage of existence any such insect may be, and shall include any other insect which the Governor in Council may from time to time by proclamation in the *Government Gazette* declare to be an insect within the meaning of this Act, and shall include any such insect in whatever stage of existence the same may be :

"‘Regulations’ means regulations made pursuant to the provisions of this Act :

"‘Tree’ ‘plant’ and ‘vegetable’ shall respectively include the fruit or other product of any tree plant or vegetable and every part of any tree plant or vegetable (as the case may be) and the fruit or product thereof."

Mr. BERTUCH, on the question of inserting fungi in the Bill, suggested that people should be educated as to the remedies, and then in a year or two more stringent measures should be introduced.

Mr. SHAW said there was a clause in the Bill as to fungus that might lead to great injustice to vine-growers. He had found,

in treating oïdium with sulphur, unless the heat of the sun was strong enough to melt the sulphur and cause the fumes to rise it was of very little use. He had tried it two or three times last year, and had great difficulty in getting rid of the oïdium. As to black spot, that could be eradicated. It was only necessary to open up the ground round the roots, cut away the fibrous roots, and keep them open all that season; the next season dig very early and leave ground rough; the soil would then take sufficient nutrition from the air and rain, and there would be no more black spot. The first ten years in his vineyard he had the oïdium and black spot very badly, but for the last 20 years he had had it very little.

Mr. CRAIKE thought a slight addition should be made, to render the Bill acceptable. The idea had been mooted that many of the clauses were too stringent. Several leading vine-growers in the Geelong district would agree with him in suggesting the insertion, after the words "Governor in Council," the words "on the request of the central board of advice." The Governor in Council or the Minister might be requested by an inspector to declare something a fungus or an insect pest under the Act when it might not be necessary, whereas if it were proposed by the central board of advice then all fruit-growers would have confidence that the thing was required. The apple root-borer was one of the most serious of the insect pests, and it was not mentioned in the Bill; and the *fusicladium* was not mentioned amongst the scales. The only ones mentioned were the lemon and the orange scales, which only affected a very small portion of the colony; while the black spot on the pear and apple were spreading very rapidly through the colony. He thought the root-borer should be included, because it destroyed the trees; whereas the codlin moth did not, and was a matter easily coped with.

Mr. BERTUCH seconded the amendment.

Mr. HARRIS said he would like to hear the opinion of the vine-growers as to the advisability of including fungus at all. One or two Members in the House spoke strongly against the fungus clause. He thought it ought to be inserted, but would like to know whether the vine-growers present thought the oïdium, the black spot, and other fungus diseases of the vine should be included?

Mr. LANG said he believed fungus was left out of the Bill because at the time no remedy was known for the cure of black spot in the apple and pear. But since the Bill was before the House Mr. McAlpine had found a remedy for thoroughly eradicating black spot. He and his neighbours had last year tried the remedy suggested by Mr. McAlpine, with thorough success. One of his neighbours had a large number of Cleopatra apple trees, and

all fruit-growers knew that that was one of the worst sufferers from black spot ; in fact, around Melbourne it was impossible to grow that apple. The grower he referred to had no crop of apples from those trees for four years owing to the fungus. Previous to that time they got 600 to 700 cases of splendid apples. This year he sprayed the trees with Mr. McAlpine's remedy, and now if they went to that orchard they would witness a sight that was not to be seen in any other part of the colony. Every one of those trees was simply perfect, and he believed there were close upon 1,000 cases of apples on the trees, all through that spraying in the winter time. They tried it on other trees for the black spot and found it equally efficacious ; and he had no hesitation in recommending that the fungus *fusicladium* should be put in the Bill, because this remedy was thoroughly effectual in eradicating it.

Mr. INGRAM said that climate had a great deal to do with the *fusicladium* pest, and he thought one year was no test.

Mr. LANG said that on the opposite side of the road there was another orchard that contained over 100 of the Cleopatra trees, that a few years ago bore splendid fruit. Those trees had not been sprayed this year, and there was not a single apple of any consequence on the trees, and there was only a chain distance between the two orchards, so that in that case it could hardly be a question of climate.

A Member of the Conference said he had had the *fusicladium* for fifteen years. He agreed that the seasons had a great deal to do with it. He had grown pears this year such as he had not grown for years. This had been a most favorable season as against the fungus. As the progress of the fungus was dependent on the season and climate, he thought it would be dangerous to put fungus in the Bill. He thought it better to wait till they knew more about it. He had tried to find remedies for years. As the clause said it "shall include any other insect," he thought there was no occasion to put in the root-borer. Any other insect could be proclaimed within the meaning of the Act.

Mr. WARREN thought that unless they had the black spot included they might as well have no Act at all. He fully corroborated what Mr. Lang said, and he would not be without the spraying that he carried out last year for a large sum of money. He was very sure as to the result of the test, because he was right in the centre of a number of orchards, none of which had been sprayed last year, and they could produce scarcely a case of Cleopatras. The previous year he himself could not get a dozen New York apples in his orchard to take to any show, whereas he ought to have had 400 cases. He had this year 600 or 700 cases of New Yorks, the equal of which would not be found in the colony; and he attributed that to the spraying.

He had got the same results in connexion with pear trees. The codlin moth did not do nearly the damage that the black spot did. He would rather have the former struck out than not have the black spot put in.

Mr. DRAPER asked the altitude of Mr. Warren's orchard?

Mr. WARREN : 1,200 feet above sea level.

Mr. DRAPER thought that had a great deal to do with it. His place was only 400 feet above sea level.

Mr. ALLEN agreed as to the effect of the climate. He had known of trees not bearing for four years owing to the black spot, and the fifth year being quite clean. A moist spring would cause the *fusicladium* to spread. Where Mr. Lang and Mr. Warren were it was a great deal higher, and it would not be so much affected with the *fusicladium*.

Mr. BANKS thought the black spot should be included.

Mr. BERTUCH thought the people should be educated, and the fines made very light. In regard to the fungus have little or no fines for the first year, but enforce the law that it must be destroyed.

Mr. WILLIAMS suggested the adding of the words—"That it should include any other insect or fungus." He certainly thought fungus should be retained.

Mr. SYKES agreed with that view.

The CHAIRMAN said they had great difficulty as to this clause, because the word fungus covered so wide an area ; but they need not put the clause into operation until such time as the people were educated up to the necessity of doing something as against the ravages of some special variety of fungus. As to Mr. Craike's amendment, he would point out that the House would never accept any proposal that took the controlling power out of the hands of the Minister for the time being. The Minister would be certain to act on the opinion of the central board, but he did not think it would be wise to say that they should be the moving spirit. The Minister and the department were the responsible ones in the administration of the Act ; so to give the power to move into any other hands would be unwise. As to the black spot, he thought the department and Parliament would have no objection to add that to the schedule ; but the clause they were considering provided for the introduction of any kind of fungus or insect on proclamation in the *Gazette*, so that even placing that in the schedule would only have this advantage that it would come into operation immediately the Bill was passed without having to issue a proclamation.

Mr. WILLIAMS moved that black spot, or *fusicladium*, be added to the schedule.

Mr. WARREN seconded the amendment.

Mr. SHAW objected to the matter being left in the hands of the proposed board. He thought the vine was going to lift the colony out of the depression if only it was dealt with favorably.

THE CHAIRMAN said the Minister would be responsible to the people for the administration of the Act, and they need not think that he would do anything injurious.

Mr. PAGAN said that they had nothing to fear as wine-growers. It would put them out of their vineyards altogether if they allowed the black spot to come in. They had nothing to fear in being made to keep their vineyards clean.

Mr. DARDELL asked whether the vine was included in the Bill they were discussing?

The CHAIRMAN said it included any plant on which the pests named might be found.

Mr. SHAW said that if it included only the apple he did not object.

A Member present asked why was the black spot put in, as it and the *fusicladium* were two different things?

Mr. WARREN said it was to protect the interests of the fruit-growers. He had found a remedy, and was going to apply it. Unless others took measures to eradicate the scale and black spot on the apple he and others would suffer. One of his neighbours thought of cutting down 400 apples trees owing to the black spot, but he was not going to do so now, as a remedy had been found. The black spot was doing more damage amongst the apple-growers than any other disease.

Mr. LANG.—The particular fungi are the *fusicladium dendriticum* (black spot on apples) and the *fusicladium pyrinum* (black spot on pears). In the Bill they would be put in with those scientific names, so they could not be confused with the black spot on the grape.

A Member of the Conference said he thought this was a time when they should not be going in for half measures. They had orchards of many years' standing, but there were also in many parts of the colony orchards just beginning. They wanted protection from this black spot. He thought the time was coming when they must be protected from their neighbours' dirty backyards.

Clause passed, with an addition that the black spot be added in the schedule.

Clause 3 read—

"3. The Governor in Council by proclamation in the *Government Gazette* may either absolutely or subject to any regulations prohibit the importation introduction or bringing into Victoria or any portion of Victoria specified in such proclamation of any tree plant or vegetable which is likely to introduce any disease or insect into Victoria, and may at any time alter or revoke any such proclamation."

Mr. MARTIN stated that as the law now stood there was only power as regards vines. Any other diseased plant might be introduced into Victoria without let or hindrance.

Clause 3 passed.

Clause 4 read—

“4. (1) No person shall import introduce bring or cause to be imported introduced or brought into Victoria any insect or fungus except for scientific purposes only and with the consent of the Minister.

“(2) No person shall import introduce bring or cause to be imported introduced or brought into Victoria any tree plant or vegetable contrary to any proclamation under this Act or to any regulation.

“(3) Any insect or fungus or any tree plant or vegetable imported introduced or brought into Victoria contrary to this Act or any diseased tree plant or vegetable imported introduced or brought into Victoria and any package or case containing any such insect fungus tree plant or vegetable may forthwith be seized by any person authorized in writing by the Minister and shall be destroyed or otherwise dealt with as the Minister may direct.”

Mr. MARTIN stated, as to part 3, that some objection was taken to that portion of the section. He wished to point out that in no case could action be taken without the consent of the Minister, and it was not likely that the Minister would give a written order without full inquiry into the matter.

Clause passed.

Clause 5 read—

“5. If in the opinion of the Minister the destruction of any diseased trees plants or vegetables is a matter of necessity and extreme urgency he may in writing give an order directing the destruction of such diseased trees plants or vegetables.”

Mr. MARTIN explained that this would operate only in the case of urgent necessity, and the order could only be issued by the Minister, power being required principally in the case of neglected orchards. As they were aware, in the neighbourhood of Melbourne, there was a large area of old orchards neglected, which were the breeding ground for a large number of the insects of the colony.

Clause passed.

Clause 6 read and passed—

“6. If within fourteen days after the service upon any person in the occupation of any land or building or in command of any ship or vessel upon or in which there is any diseased tree plant or vegetable of an order under the hand of the Minister directing such person to take the measures and do the acts therein mentioned for the eradication of any disease or the destruction of any insect such person do not take such measures or do such acts he shall be guilty of an offence against this Act.”

Clause 7 read—

“7. If proof be given to the satisfaction of a court of petty sessions that any diseased trees plants or vegetables are suspected to be growing or are growing upon any land such court may authorize in writing any person to enter upon such land at any time with or without any assistants to search

for diseased trees plants or vegetables and to remain thereon so long as may be reasonable for such purpose."

Mr. ALLEN said the clause read "any person." He thought it should be an "authorized inspector" or "authorized person" from the Board of Horticulture.

Mr. MARTIN said that Mr. Allen had overlooked the fact that it was the court that issued the order. A person could merely act on the authority of the court. That was to enable any fruit-growing districts to establish a local board, and those boards should appoint their own inspector, who would take the necessary action. The court would not issue the order to any person, but only to a person who was thought fit; and, no doubt, an inspector under the local board would be the person selected.

Mr. CRAIKE thought the word "inspector" should be adopted, as the inspector would not have to go to the court to get authority.

Mr. SHAW pointed out that the man referred to could not destroy the trees. The court gave the order.

Mr. ALLEN thought the court should have nothing to do with it. The court knew nothing about diseases

Mr. WARREN approved of the clause. He said no person would go and lodge a complaint against an orchard unless he had good cause to do so.

Mr. WILLIAMS suggested the insertion of the words—"if proof be given to the satisfaction of the local and central board."

Mr. MARTIN pointed out that, in making it the court, there was machinery already provided. In the case of the local and central board the machinery was not there, and at present they trusted the petty sessions with quite as important matters as cleaning the orchards.

Mr. CRAIKE thought an ill-natured neighbour might go and swear that his neighbour had disease in his vineyard. He might force himself into the vineyard in order to spy. He suggested the words "authorized person."

Mr. SYKES said that his association regarded that clause as the curse of the whole Bill. The source of the information was bad, and there was nothing definite about the whole matter. One neighbour could spy on another. They suggested that wherever the words "any person" occurred they should be struck out, and "inspector" put in—a definite authorized inspector.

Mr. WILLIAMS suggested the words—"may authorize in writing any authorized person."

Mr. DRAPER suggested that they should first of all decide whether they should have boards.

The CHAIRMAN said he thought it would be better if the proof were given to the Minister. He might then authorize any person to enter on such lands.

Mr. DRAPER moved—"That the Bill provide that there shall be local boards in each district and a central board."

Carried.

Mr. KAVANAGH moved that the word "Minister" be inserted instead of "the court of petty sessions."

Carried.

Mr. SHAW inquired as to the persons who would constitute the board?

The CHAIRMAN took it that the expression of opinion was that only men interested in the administration of the Bill would secure seats on the board.

Clause 7, as amended, carried.

Clause 8 read and passed—

"8. When any person authorized as aforesaid finds diseased trees plants or vegetables upon any land such person may by notice signed by him require the owner lessee or occupier of such land forthwith to destroy all insects or fungi on all trees plants or vegetables then growing upon such land."

Clause 9 read—

"9. (1) At the expiration of fourteen days from the date of the service or giving of such notice such authorized person may if he think fit summon the owner lessee or occupier of the land to whom such notice was directed before a court of petty sessions.

"(2) If in the opinion of the court the owner lessee or occupier has failed or neglected to take all necessary means to destroy all insects or fungi referred to in such notice the court may make an order in writing authorizing such person to enter upon such land at any time with or without assistants, and to destroy all insects or fungi on all trees plants or vegetables then growing upon such land.

"(3) Every such person shall in any court of competent jurisdiction or in a court of petty sessions be entitled to recover from such owner lessee or occupier the expenses of such destruction and eradication together with costs."

Mr. DRAPER suggested the insertion of the words "board or Minister" instead of "courts."

Mr. MARTIN pointed out that the Minister could not recover or inflict penalties.

Mr. CRAIKE moved the addition of the words—"At the expiration of fourteen days from the date such authorized person shall recommend to the local board of advice, and if the board see fit——"

The CHAIRMAN said that was not necessary, because the party authorized would be altogether under control. He would not be acting on his own responsibility; consequently, he would not go to the court till he was advised.

Mr. KAVANAGH said still there might be a vicious inspector, who might take action without the direction of the board; and he

should not be allowed to act without the sanction of the central or local board or of the Minister.

The CHAIRMAN pointed out that clause 7 provided that the inspector should be under control.

Mr. SYKES suggested 21 days instead of fourteen.

Mr. BERTUCH said it was impossible in fourteen days in some seasons of the year to commence operations against some of those insects.

Mr. CRAIKE said he believed that if the clause was left as it was there would be decided opposition to the Bill.

The CHAIRMAN pointed out that the local boards would be constituted by the Minister, under regulations, for the duties.

Mr. CRAIKE said the local board was not mentioned.

The CHAIRMAN stated that it was to be inserted in the Bill in the proper form.

Clause passed.

Clause 10 read and passed—

“10. (1) If there is no occupier or lessee of any land or such occupier or lessee or the owner of such land is unknown or absent from Victoria and such occupier lessee or owner has no known agent resident in Victoria, then any notice or order under this Act shall be affixed in some conspicuous place upon such land and a copy thereof shall also be published in some newspaper circulating in the neighbourhood thereof, and every such notice or order so affixed and published shall be deemed and taken to be a sufficient notice or order to the occupier lessee or owner of such land from the time of its being so affixed and published.

“(2) It shall not be necessary for any such notice or order to specify the name of any person as occupier or lessee or owner of the land therein referred to in such notice or order.”

Clause 11 read and passed—

“11. No proceedings shall be taken against any owner of land for failing to comply with any notice or order to destroy insects or fungi on trees plants or vegetables upon any land until the provisions of this Act have been enforced against any occupier or lessee of such land upon which such insects or fungi are found.”

Clause 12 read—

“12. (1) The Governor in Council may by proclamation in the *Government Gazette* order that certain trees plants or vegetables specified in such order shall not be removed from or out of any nursery orchard or other place the boundaries whereof shall be defined in such order; and may at any time alter or revoke any such proclamation.

“(2) No person shall remove or carry away or order or cause to be removed or carried away from or out of any such nursery orchard or other place any tree plant or vegetable contrary to the terms of such proclamation.”

Mr. MARTIN said this clause was to strike at the birthplace of the disease from which it was distributed.

Mr. CRAIKE said the clause meant certain ruin to all the nurserymen in the colony. He suggested the words—"unless properly disinfected." The thing would then be perfectly safe.

Mr. DRAPER agreed with Mr. Craike.

Mr. CRAIKE continued that it was a simple thing for a nurseryman to disinfect all the stock he sent out. When he himself planted trees he always disinfected them, and never had an outbreak of aphid on the young peach trees or other trees. He thought no stock should be sent out of the nursery without being disinfected.

Mr. WILLIAMS stated that he had planted trees since the bonus was put on, and the trees were now thoroughly destroyed. His peach orchard was thoroughly infected with peach disease brought from the nursery. He thought nurserymen should be licensed. In his opinion, there could not be too great restrictions put on the distribution of diseases like that.

A Member of the Conference said it was important to legislate for a new and clean district.

The CHAIRMAN thought the clause very important. Whoever administered the Act would not do an injustice. The clause was to prevent them sending out diseased trees to spread disease, and under proper administration that could not be too drastic.

Mr. CRAIKE said let them take *fusicladium*; how could any one tell that that disease was on the tree?

Mr. KAVANAGH said it was absolutely necessary that stock going from any nursery should be clean before it went out. He did not think that any nurseryman, whether his orchard was clean or not, would object to come under the regulations to fumigate his trees before they went out; and that was what the clause meant—that they should not be taken out without a guarantee that they were clean before they went out. They had to consider the whole country as well as the nurseryman, and it was only a small cost for him to clean his trees. If the trees went out dirty it might be a great national loss—while the Government were encouraging the planting—while there were unscrupulous nurserymen to spread disease through the country.

Mr. SMITH thought it was a very wise precaution. As a very old nurseryman he would be only too glad to have such an inspection if there were any such diseases in his district. If they could not go on the straight lines of growing healthy stuff they should be closed up altogether. This was going to be a great industry. He thought there was a great future for the fruit-grower and for the nurseryman who supplied him, and he thought that the straighter the lines they went on the better for the colony at large and the nurseryman in particular. The fruit-growers must go to the nurseryman, and the more strictly the latter did

his business the better for the nurseryman who wished to achieve success. His sympathies were with the clause; and he thought that the local boards, if elected only from those interested, would have good result. There would be proper supervision, and he did not see how it could be arbitrary. The inspector would be under the local board, the regulations would be proclaimed by the Minister; the boards would act under those regulations, and they would appoint their inspector. He thought that they were now at the present stage taking a step that should have been taken years ago. Any nurseryman who wished to keep a legitimate trade should be able to look his customers in the face ten years after as well as on the day he sold the stock to them.

Clause passed.

Clause 13 read and passed—

“13. (1) The Governor in Council may make regulations for all or any of the following purposes, viz.:—

“(a) For prescribing the form of notices and orders to be given under this Act and the time when and manner in which such notices or orders are to be given:

“(b) For securing the effectual treatment of diseased trees plants or vegetables and the effectual destruction of any insect or fungus:

“(c) For regulating or prohibiting the importation introduction or bringing into Victoria or any described portion of Victoria of any particular kind of tree plant or vegetable likely to introduce any disease or insect:

“(d) For prescribing penalties not exceeding Ten pounds for the breach of any regulations: and

“(e) Generally for carrying into effect the provisions of this Act.

“(2) All such regulations upon being published in the *Government Gazette* shall be valid in law as if the same were enacted in this Act and shall be judicially noticed; and all such regulations shall be laid before both Houses of Parliament within fourteen days after the making thereof if Parliament be then sitting and if Parliament be not then sitting then within fourteen days after the commencement of the next session of Parliament.”

Clause 14 read and passed—

“14. (1) Every person shall be guilty of an offence against this Act—

“(a) Who in any manner obstructs or impedes any person acting under the direction or order of the Minister or of a court of petty sessions in the execution of such person's powers under this Act, or

“(b) Who disobeys or fails to comply with any of the provisions of this Act or any order given pursuant to such provisions.

“(2) If any person is guilty of an offence against this Act for which no penalty is specially provided he shall for every such offence be liable on conviction to a penalty not exceeding Twenty pounds.”

Clause 15 read and passed—

“15. No action shall be brought against any person acting in the execution of this Act for anything done unless the same be commenced within four months next after the act complained of has been committed.”

Clause 16 read and passed—

“16. (1) No person acting under the direction or order of the Minister or of a court of petty sessions in the execution of this Act shall be deemed to be a trespasser by reason of any entry or removal or destruction under this Act, or be liable for any damage occasioned in carrying out the provisions of this Act unless the same was occasioned by such person wilfully and without necessity.

“(2) No person shall be entitled to receive any compensation whatsoever in consequence of any measures taken for the eradication of any disease or the destruction of the insect causing the same or the destruction of any insect or fungus or prohibited or diseased trees plants or vegetables, or in respect of any loss or injury that may result to him therefrom either directly or indirectly.”

Mr. SMITH presumed that in the regulations the locality would be studied. Locally each board would have certain discretion; and that, practically, would be carried out in the regulations.

The CHAIRMAN.—Certainly.

Mr. CRAIKE said there was an important matter as to the composition of the boards. While in newly-planted districts in the Goulburn Valley under the bonus system they were safe from any undue outlay as to eradicating disease, there were also old orchards which might be ruined by having to take steps to eradicate the disease. He thought a small tax should be levied on the whole of the orchard property of the colony, in order to assist those who could not afford to purchase the necessary materials to clean their orchards. He knew of diseased orchards in the Geelong district to which this would apply. He thought that help might come in the shape of a reduction in the price of materials that needed to be used for the destruction of insects.

The CHAIRMAN said that if a man's orchard was diseased the sooner he got rid of the disease or eradicated the trees the better. If Mr. Craike meant that a man should be paid compensation merely because action was taken under the Act for the purpose of compelling him to protect himself, he (the Chairman) did not think Parliament would indorse any proposal of that sort. Of course there had been compensation paid at Geelong, but under different circumstances, and outside any provisions in the present Bill. In that case it was that one man's vineyard was infested, but at the same time the adjoining one, which was not infested at all, was eradicated. If they were to eradicate a vineyard or orchard not diseased the State, of course, should compensate; but this Bill dealt only with the man whose orchard was actually diseased. He thanked the delegates for adopting the Bill. He believed their action would insure its passage through the House next session. The only alteration they had made was putting in a little more emphasis as to the creation of the boards. Mr. Martin and he had intended that some such board should be formed, and the proposal would, no doubt, be adopted.

The following papers were handed in to be read at the Conference:—

MR. G. PAGAN, MOOROOPNA.

Constitution of the Boards of Viticulture and Horticulture.

Mr. Chairman and Gentlemen—

I propose that the Boards of Viticulture and Horticulture should be both made elective. It is in accordance with the policy adopted with nearly all public bodies in the colony. It would create a wider and a closer interest in the work of these bodies if the members were periodically elected. It would cause members of district vine and fruit growers' associations to take a more active part in the work of the local organizations by knowing that the honour of having a seat on the central board was in prospective.

I suggest that the colony be mapped out into eight or twelve districts; that members only of local vine or fruit growers' associations should be permitted to vote for representatives; that the secretary of the various associations periodically prepare a list of qualified voters; and that the qualification of voters be that they be paid-up members of the local association and hold a minimum acreage of, say, two acres of vines or fruit trees (as the case may be). Voting-papers could be filled in and sent through the post, as in the case of the Council of Agricultural Education. The qualification of a voter to be the qualification of a representative.

MR. A. BLAIKIE, WANGARATTA.

Suggestions for the destruction of Insect Pests and administering Insect Pests Bill.

1st. That it is desirable in the interest of fruit-growers that an Insect Pests Bill be passed, because of the various diseases and pests that are spreading all over this district; and if something is not done, and that very soon, fruit-growing will become an impossibility.

2nd. One of the first steps to be taken to secure the end in view would be to stop the sale of diseased fruit, which at present is being hawked all over the colony, spreading disease broadcast.

3rd. That the colony be divided into districts—say, as shire boundaries; and that local boards be appointed by the fruit-growers of each district to secure the proper working of the Bill.

4th. That an inspector be appointed to one or more districts, whose duties will be to inspect all vineyards and orchards and report to local board.

5th. That a rate be levied from all vine and fruit growers, to pay working expenses.

6th. That all cases, plants, trees, vines, cuttings, &c., be disinfected before leaving any infected area.

7th. If any district fail to appoint a board the Government have power to nominate same.

Finally, I would impress upon the Minister the desirability of having an Act of some kind passed at ensuing session, which could be amended from time to time as circumstances seem fit.

The following paper was handed in to be read at the Conference from Mr. Samuel Lancaster, Kyabram Fruit-growers' Association :—

Mr. Chairman and Gentlemen,

I must apologize for the hurried manner in which my paper has been got up, not knowing that it was necessary to put it in writing till on my way here.

The Kyabram Fruit-growers' Association, which I represent, desire me to speak on the urgent necessity there is for an Insect Pests Bill.

We believe the future prosperity of our colony depends largely on the increased production from the soil. There was a time, gentlemen, when the production of wool was the leading industry, and we have nothing to say against our squatters, they were the pioneers of our country, and were the means of securing to us a vast amount of wealth, but they had to take second place after the discovery of gold, when mining took the lead. In our short history we have sent to the old land something like £220,000,000 sterling. The mines have certainly taken a prominent place in helping to build up our colony, but they have had to give place to larger and more lasting industries, such as agriculture and horticulture, &c., which have now become, and must ever be, our mainstay. Hence the necessity of assisting in every possible way the further development of our boundless resources.

We believe, sir, that the growth of fruit must become a prominent factor in contributing to the prosperity of the colony in the near future.

In the far-famed Goulburn Valley we have during the past two or three years planted thousands of acres of fruit trees and vines. The Government has assisted us in a very substantial manner to bring into existence what is to us a new industry. In the district where I reside, around Lancaster, in about eighteen months we have planted nearly 1,000 acres. Our district is clean, that is, free from those insect pests which have proved ruinous to other fruit-growing centres. We have good land, well adapted for this purpose; and without fear of contradiction I say we have the best irrigation scheme in Australia.

At the present time the codlin moth is being brought into our midst, and doubtless other pests of a similar kind.

We ask, Mr. Chairman, for the protection others get. For instance, the dairyman, whose prosperity depends on keeping his herd healthy; if he finds his neighbour, who is less careful, has pleuro-pneumonia or tuberculosis in his cattle, he has but to report the matter to the authorities, and immediate action is taken in order to stamp it out. At present we have no power to act should a neighbour allow his orchard to become filthy, and thus spread disease and ruin. Allow me to give a case in point. A fruiterer, who resides in a comparatively clean district, had an apple tree, on which the fruit was simply a breeding place for the codlin moth. When spoken to he refused to destroy the tree, and his neighbours were helpless. We ask the assistance of all the fruit-growing associations, so that we may be able to induce the Government to legislate on this matter at the earliest possible date, as it is worse than useless to spend tens of thousands in order to foster an industry like this, and then allow it to be destroyed for the want of a little care in management.

We fear the opposition of those gentlemen who reside within the infected districts, and who only wish to adopt preventive measures for keeping out the old world pests not yet introduced, which is very good and desirable, but which is certainly too limited in its scope.

If it is impossible to get a Bill passed to apply to the colony at large, let us have one which will make it possible to divide into districts, clean and infected, the former being able to prohibit the introduction of diseased fruit or trees from infected parts; also to make it absolutely necessary to fumigate all fruit cases.

Adjourned till to-morrow, at Eleven o'clock.

FRIDAY, 30TH MARCH, 1894.

The CHAIRMAN repeated his suggestion as to the subjects that might with advantage be discussed by the Conference. The first was as to whether the growers in this colony were growing the proper sorts of fruits for export, and even for local consumption. They knew they had made many mistakes as to the selection of fruit trees for planting. He himself did so when first planting, and acting under the best advice he could then get—an agricultural editor of one of our metropolitan journals. Probably they had not then an export trade in view, and he made the mistake

of planting many kinds of apples that were not now suitable for export, and the local consumption was so limited that they were comparatively valueless.

Mr. JAMES LANG, of Harcourt, stated that he had considerable experience as to the varieties of apples suitable for export to foreign markets. He had followed the matter ever since the Indian and Colonial Exhibition in 1866. The experience gained proved that on the whole, given certain conditions, green fruit in the shape of apples could be exported very successfully. He was not able to see the consignment of apples that arrived from England during the spring, but he believed that the apples sent from England were the very early kinds, such as the Lord Suffield, which was one of our own soft-fleshed early apples that were thought too soft to export to England; but the fact that they could send the same apple from England to here showed that we could start with some of our earlier apples, and send them, say, in the beginning of January. He thought we had confined ourselves too much to the later-keeping apples. Last year, by way of experiment, he sent a few cases of Emperor Alexander—the well-known, very large, showy soft, fleshy apples (one that did not keep long after coming to maturity). Those apples arrived in London in sound condition, and fetched a good price. He also sent a few cases of Gravenstein, another of our best summer apples—in fact, the best summer dessert apple that we have. They also arrived in good condition. Those, with the Lord Nelson and the Hollandbury, proved that if we sent those early in the season—that is, before they ripened on the tree—and if they had proper treatment on board ship they were bound to arrive in fair order in London. That would extend our export season one month longer than it had been. They could start in January, and keep it on till the middle of April. The most suitable apple he had found that commanded a steady sale in the London market and arrived in the best condition was the Cleopatra. That is suitable for export more than any other, because no matter in what condition it was plucked from the tree it ripened and matured, and however green when picked it did not shrivel and wither away but became a beautiful golden yellow colour. There is a number of varieties of the same apple—such as the Nickajack—but their names are not well known in the London market; and therefore for a few years, until the public at home begin to know them, the demand would not be very great and the price realized not so good. The Newtown and Sturmer pippins are both well-known old English varieties, which always sold well in the English market. The London pippin is another well-known favorite there, and therefore good samples of it sold readily. The Rome Beauty was comparatively unknown,

but its beauty of appearance and clear skin had been much admired and was causing a demand for it. Another kind that also was not well known in the London market, but would make great headway in time, is the Jonathan, because of its fine appearance and rich flavour. In regard to the names of varieties most suitable for export, he could with confidence refer all fruit-growers interested in the matter to the handbook just issued by the Department of Agriculture, in which all the different and best varieties are classified for export, drying, and all other purposes. There is also a synopsis of the varieties of apples that have become most popular throughout the country. They are classified under different heads. It is a very valuable work, and should be in the hands of every fruit-grower throughout the colony. The information in it is thoroughly genuine and reliable, coming, as it does, from the fruit-growers in the colony thoroughly established for many years and from the different fruit-growers' associations. Cox's orange pippin and the Ribston are very good apples. The Bismarck also is a good apple; but he had confined himself to those most popular on the London market, such as he had himself sent and as the Tasmanians were sending. As to pears, he might say that so far as the export of pears was concerned it had not been a success. That arose in a great measure from the difference between the ripening of pears and apples. When pears are packed in a close case premature ripeness is brought on, and they soon get into a very soft and pulpy condition. He had tried all the different kinds—the latest and the mid-season ones; but he had not recorded a single success in the export of pears. Even the well-known variety the Vicar of Wakefield he had sent early in February when only half-grown, and the advice he had was that there were about 20 pears sound in the case. He had sent off cases of the Winter Nelis to the Colonial Institute. They were packed in paper in the usual way. Gansell's Bergamot he had not sent, and he thought it would not do. Others he had tried were the Josephine de Maline, Duchesse d'Angoulême, Unedale's St. German, and two or three others of which he had not the names at present. He had not tried the Beurré Clairgeau, which is an autumn apple; and he did not think it would arrive in so good a condition as some of the denser pears.

Mr. ALLEN said he thought the Beurré Clairgeau one of the best pears we have, and that it and the Vicar of Wakefield are the only two that we could succeed with. The latter should be gathered on the turn of ripening.

Mr. LANG observed that the pears he had sent realized £2 per case, and they were worth that and upwards at this time of the year.

Mr. SYKES asked what was the temperature on board the vessels?

Mr. LANG said that opened up a very great question as to the exportation of fruit. The temperature of the cool chamber where the fruit was carried should not be kept at under 40° or above 45°, but it often turned out in practice that when it arrived in London docks the great mass of the fruit was frozen. In fact he had been told by an eye witness that masses of 20 and 30 cases were frozen together when they were taken out. That was the cause of all the mischief. There was no means of regulating the temperature in the cool chamber. There was a thermometer there, and the engineer in charge of the refrigerating chamber was supposed to keep a record of the temperature throughout the voyage; but he had been in the cool chamber of the large mail steamers, and as far as he could see there were no proper means of ventilation. It was not the lowness of temperature, but the ventilation that was so important. Being confined in a close chamber the fruit gave off a certain amount of carbonic acid gas, and that, condensing in the chamber, caused a premature ripening of the fruit. In the cases they had sent fruit in lately they had put a cleat on the bottom, so that there was half-an-inch of space between the boxes when they were stacked. Last year when he was down at one of the vessels one of the officers assured him that he could purchase a case of fruit in Melbourne and put it in his cabin on the voyage home, and that it would arrive in first-rate order, showing that with plenty of ventilation fruit arrived all right. He believed that before the export of fruit became a success the method of carrying it would have to be radically altered. He did not believe in the ordinary cool chambers. He was of opinion that if the ordinary hold of a vessel could be ventilated so that a stream of fresh air could be introduced, driving off the stagnant air, that would be sufficient. The temperature did not matter so much. For instance, if apples were picked in the middle of March they would be stored in an ordinary fruit room where the temperature was about 55°, and they would keep in perfect condition for three or four months, whereas when put in a cool chamber, supposed to be 40°, they went off rotten in six weeks. He met one of the largest exporters of apples in Tasmania—Mr. Shoobridge, the well-known grower—and found that he had come to the same conclusion that properly-ventilated vessels were all that were required for fruit carriage. The expense of sending a case of fruit home was too high altogether, ranging from 3s. 9d. to 4s. 6d., being 95s. the ton of 40 cubic feet. That was a prohibitive price, leaving but a very small margin for the grower in Victoria. They could not depend on getting more than 10s. or 12s. a case in the London market for a quantity of fruit; and the total

charges here last year, including shipment, were 6s. 5d. a case, and he believed that that was as low as it could possibly be done for. The case cost 9d., paper about 2d., carriage of fruit from Harcourt (about 80 miles) 4d., and the charges home about 3s. 10d. The charges in London amounted to about 1s. per case, (including about 6d. per case for handling at the wharves) and 5 per cent. commission on the sales. If arriving in good condition there was sale for hundreds of thousands of cases at from 10s. to 12s. a case. With suitable means of transport at, say, 2s. 6d. a case, there is a wide opening for the export of green fruit. He firmly believed in it himself, and intended to follow it as long as he was connected with the fruit-growing industry. This year he was not in a position to send home owing to a very short crop; but for that he should have done so. This was the first year he had missed for some years past.

Mr. DRAPER asked what the cases were made of?

Mr. LANG stated he had heard from Mr. Neilson that with the fruit going home this year the cases were of a better description and more uniform in size than hitherto. They had followed the pattern he (Mr. Lang) had made some two years ago—a case 14 x 6½ x 28 inches, made of white pine sides, with kauri ends. There was no smell or taint with those. He would caution the growers about the wood. The cases were sometimes made of red pine, which had a very strong smell that would taint the whole of the fruit in the case and make it perfectly useless. There was nothing more susceptible of taking taint than fruit. Last year a friend of his consigned some cherries to the Sydney market. The cases were made of messmate, and the whole of that fruit was spoiled. That showed how careful fruit-growers should be as to the wood of which cases were made. Another thing Mr. Neilson desired him to mention was that the fruit sent away this year had been of a much more uniform quality and superior to any that had gone in previous years. As long as they could keep up the quality of the fruit they would always be able to demand a good price in the London market. It had told against the Tasmanian fruit that many of the growers there had been so short-sighted; they packed in any rubbish—windfalls and so on—and sent them home. The consequence was that the return received for that very poor fruit did not realize the expenses of sending it home. But from what Mr. Neilson said the matter was quite different this year as far as Victorian fruit was concerned. Two years ago he was on the Port Melbourne pier and saw some fruit consigned home, and noticed the codlin moth grub crawling out of the cases. That should not be permitted. The fruit should be perfectly sound, and above all things should have no codlin moth or grubs.

Mr. SYKES asked whether, in the case referred to, the laths were open or close.

Mr. LANG said there was about a quarter-of-an-inch space and a quarter-of-an-inch along the corner, so that if there was any cool air it was allowed to come round the fruit.

Mr. DRAPER said he had had no experience in shipping. Mr. Lang had stuck to it through thick and thin, and his experience was invaluable to all fruit-growers. He thought that now was the time to begin. As to the proper varieties they had been working hard to obtain them, and had shown samples at the present exhibition which he thought would do more than anything to teach the fruit-growers in different districts the right sorts to grow. He thoroughly agreed with Mr. Lang as to starting a month earlier. The Agricultural Department had brought, through Mr. Wilson, specimens from England of suitable varieties. That was a good lesson. As Mr. Lang had remarked, they had not ventured hitherto to send the earlier varieties, and it had now been proved that they would go all right. As to pears, he had exhibited in England, and at the Centennial Exhibition, Philadelphia, 97 varieties, and only three specimens went bad. They were sent by the s.s. *Zealandia*, in which there was no cool chamber, but as there was good ventilation they all went sound. He had contended all along that we must have cool air, not cold air. Fruit grew in about 120°, and to put it down to 40° made it almost impossible for it to keep because there was the thawing and the dampness that came from it. He agreed with Mr. Lang that about 55° would be quite sufficient. He thought that, as with the cool chambers for frozen meat and butter, there might be a part of the vessel set apart for fruit carriage, and through that the air could be forced. As to pears, he sent the *Beurré Clairgeau* to the exhibition, and Mr. Bosisto said they were the best that were sent. They arrived in perfect condition, and were thought a great deal of. But pears would only keep a certain time before they ripened, and they needed to be packed at the right time, allowing for the voyage. He had sent a good many pears, but for exhibition only. The *Beurré Clairgeau* just ripened up by the time they got there. He agreed with Mr. Lang as to the list of the fruit trees published by the Department of Agriculture. He had been exporting and introducing into the colony all the varieties of fruits that he had heard of as being any good in America or England, so that they were procurable in this colony. He had been trying lately to get the right class of peaches for bottling, canning, and drying, and they could now be had in quantity in the colony. He recommended growers to get them. The yellow fleshy peach was one of the best they had in America for canning. The Muir, the Foster,

and the Orange Cling were introduced by the Department of Agriculture. They are good peaches. He had fruited them this year and had excellent results. The department had brought those from California. There were a great many more newly introduced, but these three had been really proved. About 30 had been introduced in the last two years, and they had not come into fruit yet, but from the description in America he thought it was worth trying them in different parts of the colony. As to plums, he recommended all parties to plant them. There was no country in the world equal to Victoria for plums. They had no disease and no drawbacks as they had in America. That included prunes, which he thought would be one of our largest industries, and it would pay even if we grew enough to have to distil them as they did on the Continent.

A Member of the Conference.—They are very hard to sell.

Mr. DRAPER said they could be sold at Bendigo for distilling, and they were very good as prunes. There were specimens in the present exhibition equal to any introduced on the Continent or in America, grown and cured here. Some from Mooroopna, last season, could not be beaten. He had asked one of the wholesale buyers what he could give for them, and he said 1s. a pound for 5 tons of them. That was at the last exhibition. We were still importing prunes, and he thought that there was no reason why we should import either raisins or prunes. The growers were protected by the duty. He would call attention to the exhibits of the Department of Agriculture, containing about 100 varieties of dried fruit. He thought the Department of Agriculture was showing them all the way to do the drying and bottling, and all he desired was for the department to press on and get cheap freightage for fruit to England. He thought this was one of the most important things, and was certain that we could compete with any part of the world. It had been mentioned yesterday that the falling off in exports was due to the short crop, but he attributed it to the bad treatment by the shippers. One eye witness told him that he saw 130 cases in one solid frozen lump on one of the ships. There must be something done to get a cheaper and better way of exporting fruit. At present there was no proper control over it.

Mr. KAVANAGH stated that his association, at Mooroopna, sent away last season 200 cases of grapes. It was the first time of sending them to the London market, and a portion of them brought 1s. a pound, while others, exported, were unsaleable, and he thought what Mr. Lang and Mr. Draper had said fully accounted for it. One of the men who packed those grapes was in his (Mr. Kavanagh's) employment, and it happened that he gave two cases of the same grapes in charge of the cook on board of the vessel,

but they were put in the galley, and they were delivered at one of the British ports in as good a condition as they were in on the day they were packed. They were the same kind of grapes, and packed in the same way, as those that were spoiled in the cool chambers. They were Gordo Blanco grapes.

Mr. CRAIKE stated that the Geelong fruit-growers had been discouraged in exporting by the reports of the unequal condition in which the fruits arrived, though they were all packed the same way. One shipment brought a fair price and another arrived in bad order. Pears were universally reported rotten. They needed to find a reason for that. At the time of the International Exhibition the fruit-growers were invited to send home fruit. They sent a good many cases of pears from Geelong, and the report was that they arrived in good condition and fetched fair prices. He agreed with Mr. Lang that the want of care on board ship was the reason fruit went bad. He would suggest that the keeping quality of pears should be tested in a cool chamber here to find out the time taken to ripen, so as to send varieties that would ripen just on arriving at the home market. The fruit was taken straight from the trees and put in close places, and there was natural fermentation that made so many go bad. As to exporting dried fruits and canned fruits, he thought that the difficulty would lie in the backwardness of associations as to canning. He did not know whether there was any bonus given for equipping factories for drying canned fruit.

Mr. MARTIN.—Yes, in the bonus regulations.

Mr. CRAIKE.—The great difficulty was the general want of capital on the part of the growers for the purpose of starting these new industries, and he thought they ought to get the same encouragement as the wine-growers in the shape of a bonus, say of £1 per £1 for building and equipping drying factories. That would at once give an immense impetus, and secure a better market for fruit. The price had been coming down year by year, and the exportation of green fruit had not been successful. They must send the very best they could grow. Thousands of cases of plums and apples which were now all wasted might be well dried, and find a ready market at very remunerative prices. He believed that pears would always bring a high price, and if experiments could be made as to the kinds which would suit best a very great amount of useful information would be gained as to shipments. The apple crop this year was very light, but as a compensating matter the quality was very good. If all the growers would follow Mr. Lang's example they would come out right in the end. The great mistake made last year was in the shipment of inferior fruit. He had been pleased to see the efforts of the Department

of Agriculture to lessen freights for fruit carrying, though as yet there had not been much result.

Mr. ALLEN, as an old grower and exporter of fruit, said he fully endorsed the remarks of Mr. Lang and Mr. Draper as to the closeness of the places where the cases were packed. He packed a case of apples for a friend last year, and they were put on board at once in his bunk. When he got home to Glasgow he opened the case, and the fruit was in first-class order. Not a single apple had gone bad, and the fruit-buyers there said that they would take every year 15,000 to 20,000 bushels of apples in that condition. There was a *soirée* in his native place, and he put the Australian apples on the table, and the people were very glad to get hold of them. They soon disappeared. Without ventilation, no doubt they must go rotten, so that it appeared that by allowing ventilation they would carry just as well in the hold of the vessels. He thought that the Government ought to grant bonuses for the canning and drying of fruits.

Mr. W. W. CAPON, of Mildura, said as to the remarks about asking the Government for a further bonus for growing, he thought it was quite unnecessary. The Government had treated them very well, and if they could not export dried fruits on the present bonus, the sooner they went out of the business the better. There was no analogy with the wineries. The successful man in fruit-growing must dry the fruit on his own place. Carting would deteriorate the value of the fresh fruit. In the case of ripe apricots, for instance, they would be crushed in carrying. It was simplicity itself to dry apricots or raisins, and it could be done much better on a man's own place than could be done if he sent them to a central *dépôt*. The experience of all fruit-growers would bear him out that if they wanted to make the drying of fruit a success they must learn the business for themselves, and effect the drying on their own premises. When they went in for the export trade they would need to have a packing house where the goods could be graded. They had that at Mildura. Each man was credited with a certain quantity of cwts. or tons of a certain grade. He thought it would be unfair to ask the Government for a further bonus, as the individual grower now got a bonus for the fruit he dried.

Mr. BERTUCH said very few had engaged in the industry of fruit-drying yet, but the number was increasing, and he hoped that others would follow through seeing the experiments made. He indorsed the remarks of the previous speakers that the fruit for drying required to be in a sound ripe state, when it was not fit to be carried away. It was better to carry on the process of drying at the place where the fruit was grown. He had dried fruit in all stages. There were many kinds of plums which had been

dried by the Department of Agriculture, and it had been shown that pretty nearly all kinds could be dried. But all kinds would not sell, so he thought that certain kinds should be pointed out which would do to establish a good trade with and bring a good name. At present there was no market for dried fruit, but that would come as the quantity increased. The principal varieties good for export as prunes are the German Prune, the Fellenburg, Coe's Golden Drop, the De Montfort, and the Angelina Burdett. If these were dried a trade might be established for them. They were not able to command the market with the inferior kinds dried now.

Mr. HARRIS thought the remarks of the previous speakers very practical. Mr. Lang was the first man in Victoria who took to exporting fruit to Europe for business purposes. The first Victorian who exported was Mr. Carson, of Kew, who sent fruit to the Vienna Exhibition many years ago with fair success. Complaints had been made about high charges for freight. From what previous speakers had said the difficulty dwindled down when they found that fruit need not be sent home in the refrigerating chambers. If it could be sent home in the hold or in a part of the ship that was well ventilated it would be taken as ordinary cargo. Mr. Lang and Mr. Draper said that the right temperature was 55°. The temperature in the refrigerating chamber was from 40° to 45°, and sometimes freezing point, which of course damaged fruit, so they might believe that fruit would be carried in the future at a less cost. He regretted to learn that the exportation of pears had been such an universal failure. He wondered whether the pear was more tender and more susceptible to changes of temperature than other fruit.

Mr. LANG.—That is it.

Mr. HARRIS presumed that the pears alluded to were sent in the same chamber with the apples that arrived safely.

Mr. LANG.—That was the case.

Mr. HARRIS said that showed they required different treatment from the apples. The little manual issued by the Department of Agriculture, giving a list of fruit trees, is, he thought, thoroughly reliable. It had been compiled by Mr. George Neilson, one of our oldest orchardists, with the assistance of other gentlemen now present, and he thought their opinions could be relied on. Different kinds did well in different parts of the colony. The Cleopatra was reckoned the best apple in South Australia, but here it only grew in a few isolated places. One mistake we had made in the last 20 or 30 years was in growing too many varieties. Mr. Draper had exhibited 200 kinds at the present exhibition, but he was sure that gentleman would not recommend any grower to plant one-tenth part of the number. No

doubt if they planted for export purposes six or eight varieties of apples and plums and the same number of pears that would be enough. He was surprised to hear from Mr. Lang the kinds of wood used for the apple cases. He was under the impression that the spruce, or the white pine or the white deal, was not suitable. Fruit was abundant just now, and at mid-season apples sold at 1s., 2s. 6d., and 3s. a case. The moral of that was that people must plant later sorts, and those more fit for exportation. Some orchardists had said lately that fruit grown on irrigated land was not so valuable for keeping purposes as that grown on unirrigated land. It would be interesting to know the facts with regard to that.

Mr. KAVANAGH said he had had a little experience in irrigating fruit, and one of the best authorities, Mr. Neilson, was of opinion that apples grown with irrigation would not keep. He (Mr. Kavanagh) had irrigated for three years, and in August last year Mr. Neilson was at his place and examined some fruit grown by this means, and, after testing it, he said he was astonished not only at the keeping quality of the apple, but at the superiority in flavour and size, so that he was convinced that irrigated apples were an improvement on those not irrigated.

Mr. SHAW said there was a certain time to irrigate. If a man irrigated after the fruit came to maturity it was a mistake. As to peaches they must be irrigated when they were just stoning; plums when the seed was properly formed. The vine would have taken sufficient moisture in winter and spring to have formed the seed, therefore the berry was formed and all that needed to be done was to use water to swell that berry out. He had kept apples all the year round that had been irrigated. He was compelled to irrigate to get a market value with apples the same as with grapes.

Mr. PAGAN said he found that grapes on irrigated vines did better and kept better than grapes grown on vines not irrigated, because there would come a dry period sometimes which tended to dwarf the berries. By applying the water they became fully developed and kept better as green fruit than those that had not water at all, simply because the berries were kept in a fresher state, and they were not allowed any time to go bad. Directly a berry began to shrink up a little and shrivel, rain might come and do damage.

Mr. ALLEN said the time for applying irrigation depended on the climate and soil. If the soil was moist it would carry the grape right through, and did not require irrigation. Generally about January the trees wanted moisture, and if it was applied then the fruit would not be allowed to wilt and shrivel. It is necessary to mature the crop, and then it would keep for any time. Irrigation

would not interfere with the keeping quality of the fruit, provided the water was put on early enough to prevent the trees suffering from the effects of drought.

Mr. WARREN desired to ask Mr. Lang as to whether fairly successful exportation was due to packing the fruit directly off the trees and sending off at once.

Mr. LANG replied that it was his invariable practice to pick the apples about a week previous to packing for shipment. Two or three years ago it happened to be a wet autumn at Harcourt, and he could not get the crop gathered in the dry weather, and the mail steamer would not delay for him, so he picked ten or a dozen cases of apples wet off the trees, and dried and packed them at once, and those apples went home in equally as good a condition as those packed the week previous. He had repeated that experiment two or three times, and found there was not the slightest difference. At Harcourt, where they had 26 and sometimes 36 inches of rain in the year, irrigation was usually practised in the summer time. The trees were now pretty well established, and the roots fully occupied the ground, and when a full-sized tree came to bear a full crop there was not moisture in the ground sufficient to carry the crop to maturity, and a little irrigation was the greatest assistance then. He felt sure that no harm had resulted from the practice; in fact, the fruit was much better. They had as good keeping qualities as before irrigation was tried, and wherever irrigation could be had for fruit-growing he would recommend it during the dry months of the summer, even in wet districts, because there were always two or three months in the summer time when a good soaking to the roots of the trees would be of advantage with a heavy crop of fruit on the tree.

The CHAIRMAN said he would like to point out to Mr. Craike that the Government had, from time to time, paid bonuses not only for canning and fruit-drying, but also for a factory. The money had not been claimed to any extent, and in that direction there was a small sum still available. The discussion had led to a very important point, that the department should make experiments in the direction of sending home fruit in the holds or on the deck of vessels. In making inquiry from the P. and O. Company, as to some better way of sending home fruit as general cargo, they had got the information that the hold did not exceed 60°, and only that when passing through the Suez Canal. Vessels going round the Cape would carry at a lower temperature, and they found that Mr. Lang and Mr. Draper had successfully sent home fruit as ordinary cargo. There was convincing proof that even before the refrigerating chambers were thought of, Mr. Draper had sent 80 or 90 varieties, which arrived fit for exhibition

at Philadelphia. It seemed extraordinary that we had neglected to send fruit home as ordinary cargo, and had paid so highly for refrigerating chambers. Fruit might do better as deck cargo, as there would be ventilation, but if cases were made purposely for ventilation, and if a fan were used to ventilate the hold, they might carry at a little advance in the charge for the ordinary hold of the ship. Mr. Kitchen had sent home a consignment of 40 cases as deck cargo. As to the exportation of grapes, Mr. Shoobridge, of Tasmania, one of the largest growers there, had been home lately, and he had expressed the opinion that grapes would be one of our best fruits for exportation, and while some had been a failure, he made use of these significant words, "I would hesitate before I would accept the failure that has taken place as evidence that we cannot send grapes successfully to the English market." The department would take steps to see whether fruit could be carried home as ordinary cargo. He thought that was positively necessary to the successful export of fruit. Either the companies would have to be induced or compelled to reduce their present freights for refrigerating by fully one-third, or they must make a success of carrying as deck or hold cargo. He trusted that such experiments would turn out reasonably successful.

Mr. WILLIAMS, of Numurkah, moved—"That all nurserymen in Victoria should be licensed and under the supervision of the Government, the regulations guiding same to be drawn up by a joint committee selected from the Boards of Horticulture and Viticulture." He said he was not aware that the matter dealt with in his resolution would have been dealt with at the Conference on the previous day, but still he thought it should be placed on record that the distribution of the various insect pests wholesale over the colony should be put a stop to, and also the sending out of trees and plants grafted on to worthless stocks. It was a very serious item, that after the Government had given such an impetus in the way of bonuses to the planting of thousands of acres of fruit trees, after two or three years a grower might find that he had planted worthless varieties for the simple reason that they had been grafted on to suckers or stock unsuitable to the district. For that reason he thought that a general supervision should be placed over nurserymen. Some of the leading ones had yesterday signified their approval of that view. He thought that all present would recognise that sufficient supervision had not been placed over nurserymen.

Mr. BOYCE said, as a nurseryman, that while he had no objection to the propositions embodied in the Bill, he did not think the Government should interfere as to the stocks that the nurseryman worked their grafts on. One stock might be suitable for one soil and not for another. They heard complaints as to trees sent

out by nurserymen, but he thought the planters were to blame. They would insist on getting their trees as cheap as they could. If they went to reliable nurserymen they were generally well served. He did not think the Government ought to interfere as to stocks. In fact, no one could tell what stocks the trees were worked on.

Mr. WILLIAMS withdrew his motion.

Mr. M. KAVANAGH, of the Goulburn Valley Vine and Fruit Growers' Association, read the following paper :—

Mr. Chairman.—The present system of rating land is a hardship on industry, and tends to check the progress of the higher culture of the vine and fruit. Especially so is this felt in connexion with irrigation and water supply trusts, for the fruit and vine grower has not only to pay from five to ten times more taxation for his land to the shire, but also the same amount to the water trust within the district. Now, we claim that, by our industry in planting orchards and vineyards, we make employment, we increase the returns of the railways; besides, we enhance the value of our neighbours' land, and therefore we say that the Local Government Act should be so altered that all land should be valued irrespective of improvement. Where the State or land-holders expended money, and so increased the value of land, that land should pay a higher rate or tax than the land that received no benefit; or, in other words, differential rating should be encouraged on the basis of the unimproved value of the land, and when we have a tried and trusted friend like the Hon. W. T. Webb at the head of Agriculture, it is our duty, as fruit and vine growers, to put our grievances fairly before him, with the view of getting them redressed.

As an instance of how this rate affects the people of the Goulburn, all orchards and vineyards within the Rodney shire are rated at £1 per acre, while the land equally as good alongside is rated at 4s. 6d. per acre. Then the irrigation trust must take the shire valuation, which doubles the rate. In the Shepparton shire orchards and vineyards are rated at £5 per acre, and other lands quite as good at 5s. per acre. In the latter instance the owners appealed against the valuation, but got very little redress.

Another grievance is the railway charges on fruit and wine. We find from Mooropna to Melbourne, a distance of 110 miles, the freight for apricots, peaches, and nectarines is £1 0s. 10d. per ton, while grapes and apples are taken for 15s. 10d. To send one gallon of wine the same distance will cost 3s., and the wine is only worth 2s. 6d. Now, as every taxpayer is a

shareholder in the Government railways, we have all an equal interest in seeing them pay, but it is just a question whether increasing the freights and fares will have the desired effect. The wise kings of olden times spent large sums of money to make good roads, so that the produce of the soil could be got to the seaboard cheaply. While agriculturists throughout Victoria have to thank the Agricultural Department for assisting to develop the products of the land, we regret to say the Railway Department seems anxious to work in a contrary direction. What I would suggest is that all fruits should be carried at the same charge as wheat, and that the minimum charge for wine should be 1s. instead of 5s. This would increase the small parcels, and instead of the railways losing they would increase their revenue.

As the press has been suggesting the amalgamation of the Agricultural Department with the Lands Department, we, as agriculturists, should protest, on the grounds that the Agricultural Department has in the past done noble work to stimulate the higher products of the soil, and to open up markets in foreign lands, and never was there more need for its guiding hand and encouragement than at the present. It is now fast developing into an Industrial Department, in fact it is the department of the State, and the only one that can and will lift the colony out of its present depressed condition. We, as horticulturists, agriculturalists, and viticulturists, protest against loading the department with any more work.

Mr. SHAW and Mr. WILLIAMS thought that the subject of rating, though important, was not one that could be properly discussed by the Conference.

The CHAIRMAN said he thought that anything that affected the industry of the fruit-grower might be discussed. It appeared to be a very serious matter, if because a man planted and improved his place he was to be handicapped by being rated twice over.

Mr. DRAPER said he had brought the same matter before the Chamber of Rural Industries, and had stated that ordinary land in his district was rated at the capital value as £3 an acre, and the capital value of an orchard was £30 to £40 an acre. That was a real hardship. They were making the country by planting, and on every tree they planted they had to pay a tax. He thought that very hard indeed. He might inform them that there was an easy way of appealing through the local sessions, but last year it was held that if one wanted to get 10s. off one had to go to the County Court and that might cost £10. He asked all the members to try and get that remedied.

Mr. BOYCE thought it very hard on the orchardist that he should be taxed directly he put in his trees. He was of opinion that the rates should not be collected till the trees came into bearing.

Mr. STONE pointed out that the same principle was adopted with a man who built a shop on a piece of vacant ground.

Mr. ALLEN thought that the present method was a mistake altogether and was putting back the industry. He went into a district and made a garden, and on the other side of the road nothing was done. He was rated specially for his buildings and garden, and by his work the other side was considerably improved.

Mr. CRAIKE said that this was a very old question. When he came to Geelong twenty years ago it was a burning question with the Geelong Vine-growers' Association. He had attended conferences where it was discussed. He agreed with the Minister that it was a very serious question indeed, and one that Mr. Kavanagh was justified in bringing under the attention of the Conference.

The CHAIRMAN thought that it was a question that deserved consideration not only on the part of those interested in fruit-growing but of all thinking men. There was the principle involved of whether a man who spent his money in making improvements, thereby increasing the value of his property and employing labour, should pay an additional tax.

Mr. WILLIAMS, on behalf of the association he represented, thanked the Minister for having called the Conference together, and having in the circular issued asked for attention to any matter other than horticultural. This had led him to prepare a short paper on—

The present requirements of our Experimental Farms and Agricultural Colleges.

The consideration you have given agricultural and horticultural matters evinced by calling this Conference together, and the financial condition of the agriculturalists of Victoria, have induced me to state very briefly what I consider is required from our experimental farms and agricultural colleges.

I believe, in the past, experimental farms like the one at Dookie have been expected to keep expenditure on a level with receipts, or even less, if possible, and in the past our agriculturalists might have stood by quietly and looked on without passing any comment, but now things have changed, I regret to say, very much for the worse. Wheat, our main produce, has fallen to a ruinously low price, and that, coupled with the excessive rates charged by our railways for its transit to the seaboard, and the still heavier rates charged for carriage inland on farmers' requirements, has caused

us to look around to see if we can produce anything to improve our situation and to ameliorate the condition of our producers.

In this respect I think our experimental farms have not kept sufficiently ahead of the times.

The industry to which I think we must look to help us out of our difficulties, viz., the wine industry has, up to the present time, not received the attention it deserves. It is true a block of land for viticultural purposes was reserved at Rutherglen, and planted under expert supervision with the best kinds of vines for wine-making purposes, but the accommodation, appliances, and the grant to thoroughly make, blend, and mature its produce properly on scientific lines, has been withheld from those in charge of it. In this respect I regret to say the wine industry has not been given the attention and consideration it is so justly entitled to according to my idea.

The art of propagation and cultivation of the very best-known fibre plants, and the manipulation of the same, is one that should have been mastered ere this, especially when we consider the large amounts expended year after year in importing woolpacks, cornsacks, and bran-bags, the raw material for ropes, reaper and binder and other twines, cordage of all descriptions, and the matting required for the various industries already established here. Various parts of our colony are well adapted for growing fibre plants, as was shown in a paper read recently by the Curator of the Botanical Gardens, Mr. Guilfoyle, before the Chamber of Rural Industries, on this matter.

The cultivation of the best-known sugar beet should have been well advanced now that you, Sir, have given such a stimulus to the manufacture of sugar from beet.

The cultivation of trees and plants as well as the olive for the manufacture and production of the various oils used largely every day should have been tested long since.

The cultivation of cereals suitable for distribution for seed purposes has not reached the standard it should have—the production of the best kinds of barley for malting and other purposes—experimenting with various rust-resisting wheats should be gone on with, especially when we consider that through the ravages of the rust in the year 1889 the loss to the colony was very little short of £250,000.

The growing of the most suitable kinds of fruit for export, either as green, dried, or canned; assistance towards establishing canning and drying works in large centres; the proper stock to bud or graft on to; the best insect-proof and blight-resisting kind should also have been thoroughly tested.

The raising of live stock most suitable for the frozen meat export trade should have received more attention, now that such progress is being made in that department.

Our colony is so geographically situated and subject to such favorable climatic influences, that encouragement to all the matters above referred to could be (in my opinion) given with the best results.

In a number of the above subjects I think our experimental farms have come short of requirements; but, in view of the strides the dairying industry has taken, I hope, Sir, that during your term as Minister of Agriculture you will cause such improvements to be made, and such a stimulus to be given to our channels of production, that the producers of Victoria may look back with pleasure and satisfaction on your term of office.

Mr. CRAIKE agreed very much with Mr. Williams. He had noticed recently that the Department of Agriculture had not been supported in the way it should be by the Council of Agriculture. He thought the method of electing that body was faulty, and the interest taken by the members very meagre. Those gentlemen seemed to have been elected for ever, and he could not see what they were doing. They seemed to have very little idea of starting out new lines. The department was not to blame. As to the experimental farms, he had been several times to Dookie and could see there no steps being taken with a view to testing the adaptability of that part of the colony to fibrous plants and other things that Mr. Williams spoke of. In the past the main object at Dookie seemed to have been to raise wheat. The land was worn out, and, unless heavily manured, the wheat could be grown only at a great expense. He would suggest that the land should be laid down to lucerne and various grasses to prove their adaptability to that part of the country. Malting barley should also be experimented on. He thought it was high time that the Council of Agriculture bestirred itself, and that the best way would be to reconsider the method of electing that body.

Mr. HARRIS said that Mr. Williams seemed to be full of fault finding, and it was a question whether some of the subjects referred to by him were pertinent to the present Conference. He had not much acquaintance with the work done at Dookie and Longerenong, but Mr. Williams referred to the fact of farmers and others taking students to teach them farming and viticulture. He did not think they should blame any one doing that. He thought rather it should be encouraged. He did not agree that there should be affiliated colleges. Then it was complained that at Dookie they were not growing a sufficient number of products, but in that hot climate it would be impossible to grow them. Very few fibres, hemp or flax, would grow there. What he would impress on the Minister of Agriculture was the desirability of starting another college in the cooler districts, say

in Gippsland. That was where nearly all those things could be grown. The matter had been mentioned in the House several times, and the Minister should give it his serious consideration. As to rust in wheat, he thought that the Department of Agriculture was doing all it could in that direction. He was present at a conference sitting in Brisbane, and Professor McAlpine was there, now representing Victoria. He thought the Minister was doing good work as to the cultivation of sugar beet. He (Mr. Harris) must take a little credit for starting that in the House and outside the House. The newspapers had now taken it up. He was sanguine about it, and believed that we could grow it as profitably as it was grown in Europe, because our soil and climate were eminently suited for it. Mr. Williams had evidently two years ago bought some cheap fruit trees which were now full of disease ; but he would point out that, except with the apple stock, no disease could be propagated by the stock, and the apples were now all propagated on blight-proof stock.

Mr. CRAIKE, in reply to Mr. Harris, said the climate was not dry at Dookie. They had the same rainfall as in Melbourne.

Mr. WILLIAMS said he believed the Goulburn valley would be suitable for growing all kinds of flax.

The CHAIRMAN congratulated the members on the practical character of the business done by the Conference. He thanked them for their commendatory references to himself as Minister. As to Mr. Williams' remarks about the agricultural colleges, he would say that he (the Chairman) had over and over again during the last few years condemned the Agricultural Council in almost the severest language. He felt that a large sum of money was being expended every year with very little result, and an irresponsible body paying little attention to their duties were endowed with 150,000 acres for the purpose of carrying on colleges to be an education to the horticulturists of this colony. In his opinion they had totally failed in that respect. There were many private individuals carrying on horticulture who afforded educational advantages for the young people wishing to learn, and were doing the work better than any of the colleges. He thought the Department of Agriculture was capable within itself of affording all the educational advantages in those directions that were possible. If they were not they failed in their duty. He approved of the existence of the colleges, but he condemned the management, and believed that if they were in the hands of the Department of Agriculture they would do all that could be expected of them. If the Minister of Education failed in that direction the country would condemn his administration. For the purposes of economy also it would be better for it to be managed under one head. Instead of increasing the colleges he thought the proper thing would

be to abolish the Agricultural Council and place the existing colleges under the Agricultural Department. The Conference had said that the Department of Agriculture was an important department of the State. He admitted that it was important, because from out of the surroundings of that department must arise all the elements necessary to lift the colony out of the depression, for it was the agricultural, pastoral, and horticultural industries of this colony that they must depend upon. Of course there were other important industries, such as mining; mining was very important, but by comparison it meant nothing as compared with the agricultural industries. For instance, the return from the agricultural and horticultural industry amounted to about £20,000,000 a year, while mining had not in the last few years exceeded £2,500,000. Those figures therefore showed the importance that must necessarily be attached to agriculture in preference to any other industry carried on in this colony. They were different again in this respect, that mining and other industries were speculative. The department could encourage them by prospecting votes, but still the result was speculative. One could not tell, when he spent £100,000 whether there would be any result at all, but in agriculture whatever encouragement was given results must necessarily follow. When they cultivated a large area over the colony they knew what returns would come in year by year, consequently whatever assistance was given to agriculture, pasturage, or horticulture, results must and always would follow. It was admitted that the efforts of the Agricultural Department had induced a better industry and the production of more satisfactory results. It had been said that the wine industry had been neglected. He admitted that it had, and he looked on the wine industry of this colony as one that ought to develop in the same measure as the butter industry had done. It only needed encouragement. The department had offered bonuses for the establishment of wineries, not so much with a view to having places to mature wine in, but to encourage the distillation of wine. The export of brandy would grow to much larger proportions, he thought, than the export of wine. Efforts were being made also to encourage the meat industry. He felt that that was one of the most important they had to develop, and he might mention that the Government intended to erect freezing works at Port Melbourne, as near the ship's side as possible, and there to store not only meat but all other perishable products. The Government also meant to encourage the establishment of chilling places in the country. When these were obtained the facilities for export would be much greater than now, and the industry would develop into large proportions. Then there was the

sugar-beet industry. While it was true that we could not develop beyond our own consumption because of the facilities for producing sugar in other parts of the world where there was cheap labour, still so far as our consumption was concerned they must encourage it, and to supply our own wants should be the first consideration. From a State point of view it was of as much value to produce as to export; it was indeed, of even more advantage; and to that extent the industry would be developed by the assistance of the State. The pork and poultry industries were also important, and ought to be encouraged. He felt confident from the reports they had and the experiments in New Zealand, that the pork industry would be a success; and the same with the poultry. In fact a time had arrived when we had to compete with the world's market, and from many causes we were not so favorably situated as other parts of the world; consequently they must meet the times and produce everything on the farms. It was absolutely necessary that they should adapt themselves to the new situation that had arisen, that was the necessity for economy and for increased industry. He again thanked them for their kind references to himself, and hoped that whether he had the good fortune to administer the affairs of the Agricultural Department or not, it would succeed in giving satisfaction to the agriculturists and to the colony generally. He was only a bird of passage in the department. He was there to-day and might be gone to-morrow, but their worthy friend, Mr. Martin, the Secretary for Agriculture, would always be there, and in him the agriculturists of this colony had probably one of the best friends. He was a man who had given a great deal of study and thought to the various matters affecting the industries they had been discussing. He had no hesitation in saying that a more efficient officer, or one who gave more thought and attention to the duties of his office, was not to be found in the whole of the Government service. He would say that nearly the whole of the success in connexion with the administration of affairs in the Agricultural Department might be placed to the credit of Mr. Martin, rather than to the credit of any Minister. In fact, it was a department where the Minister might guide the policy for a time, but the success of the policy depended upon the administrative ability of the permanent officers. He thought the Conference ought not to separate without passing a vote of thanks to Mr. Martin for his efforts in the past in the cause of horticulture, agriculture, and other industries in connexion therewith.

Mr. WILLIAMS moved a resolution that the thanks of the Conference be given to the Minister and the Secretary for the consideration the industry had received at their hands.

Mr. HARRIS seconded the motion. He was sure that while Mr. Webb continued head of this important department, agriculturists and horticulturists would always have his sympathy, and they would look to him to continue his efforts in regard to those things from which the agriculturists were suffering, namely, the low prices of wheat, the high Tariff charges, and the high railway rates. They all knew Mr. Martin was a kind, genial, and intelligent man, always ready to give information to any one. He was one of the busiest men, and he hoped that the Minister, as a member of the Cabinet, would see that Mr. Martin retained his position, and that the two departments of Land and Agriculture were not amalgamated, because he was sure that if Mr. Martin were transferred to the Lands Department, and had charge of the Agricultural Department as well, the latter would suffer. It was impossible for one man to give proper attention to the two departments.

The motion was carried unanimously.

Mr. MARTIN, in responding, thanked the members of the Conference for the resolution just passed, and stated he felt a pleasure in assisting to develop the industries of the colony, the success of which is of paramount interest to the State.