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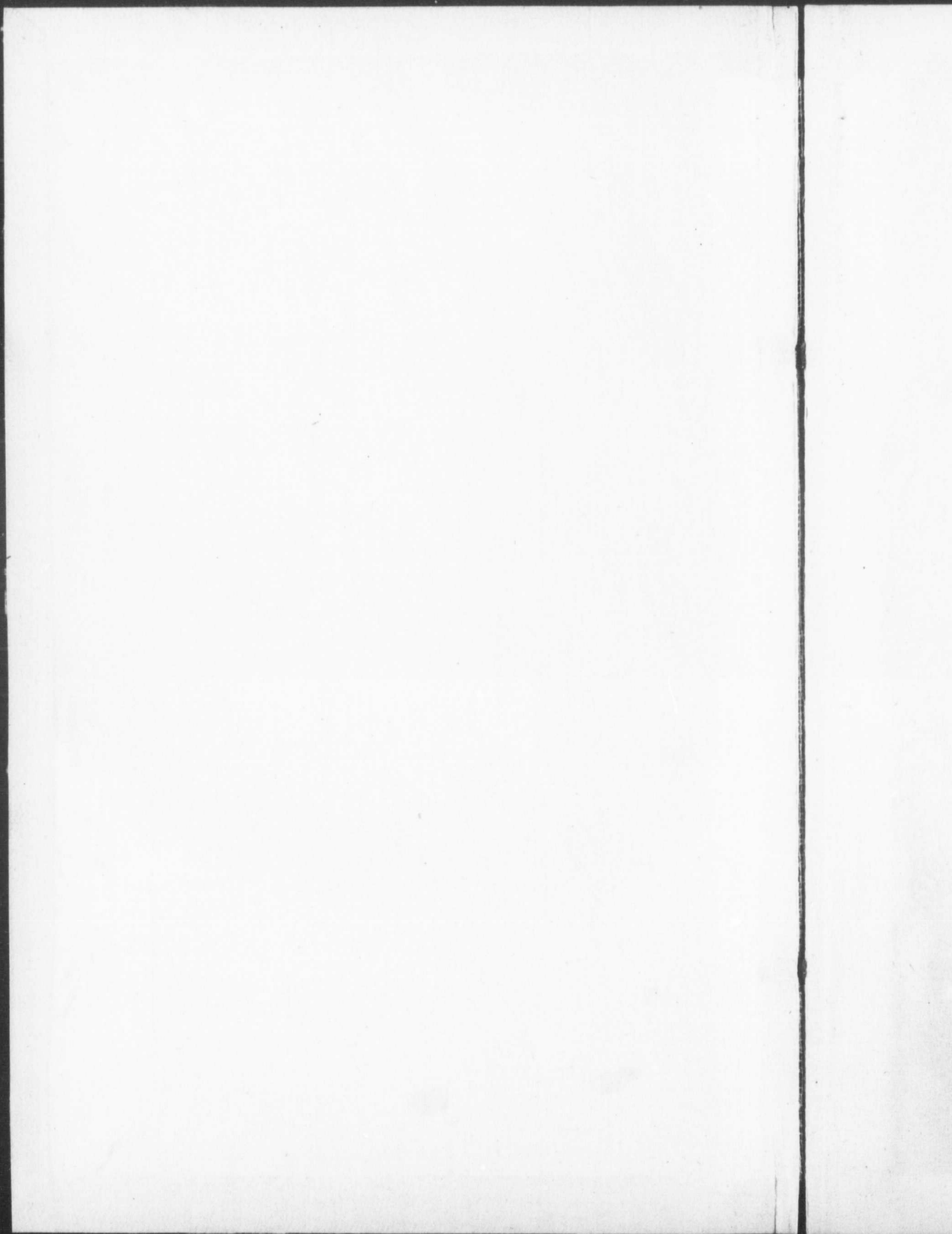
—OF OUR—

FRUIT GROWERS' ASSOCIATION

OF ONTARIO.

1886.

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REPORT
OF THE
FRUIT GROWERS' ASSOCIATION
OF ONTARIO,
FOR THE YEAR 1886.

Printed by Order of the Legislative Assembly.



Toronto :
PRINTED BY WARWICK & SONS, 26 AND 28 FRONT STREET WEST.
1887.

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Annual Meeting.
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Aspect of Orchard

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Ben Davis.....
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Black Knot.....

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Curculio-proof Plum
Currants.....

Duchess.....
Duchess of Oldenbu

Early Richmond..
Elm.....
Evans, H. S., Resol
(F. G.)

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EIGHTEENTH ANNUAL REPORT
OF THE
FRUIT GROWERS' ASSOCIATION
OF ONTARIO.

To the Honourable A. M. Loss, Commissioner of Agriculture :

SIR,—I have the honour to submit herewith the eighteenth Annual Report of the Fruit Growers' Association of Ontario.

I am, Sir,

Your obedient servant,

L. WOOLVERTON,
Secretary.

GRIMSBY, October 15th, 1886.

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THE ANNUAL MEETING.

The Annual Meeting of the Fruit Growers' Association of Ontario, was held at Toronto, on the evening of Tuesday, 14th September, 1885, at St. Lawrence Hall. The President, Wm. Saunders Esq., occupied the chair.

The Secretary read the Minutes of the last Annual Meeting, and they were approved. The Director's Report was read and adopted.

The President delivered his Annual address, which was received with the thanks of the Association; and afterward the following resolution was passed viz:—

Resolved,—That this Association desires to place upon record its deep appreciation of the many and valuable services of our retiring President, Mr. Wm. Saunders, in the interests of fruit growing and of Horticulture in general; and, more particularly at the present time, his untiring and invaluable researches into the modes and appliances for preserving and conveying fruit, which have so materially contributed to Canada's success at the Colonial and Indian Exhibition.

A Committee on Nominations was then appointed, and, this Committee having retired,

Mr. Morton drew attention to a seeding plum, which originated with Mr. Wilson, of Wingham. It was described as large, dark purple and productive. It bore its first crop in 1884, had no crop in 1885, but in 1886 it yielded two bushels. It has a pleasant sub-acid flavour; it clings a little to the stone, and is fine for preserving. Messrs. Morton, Allan and Smith were appointed a Committee to suggest a name. This Committee suggested that it be named "Wilson."

The Report of the Nomination Committee was then read, which was as follows:—

OFFICERS OF THE ASSOCIATION.

President.—Alexander McD. Allan, Esq., Goderich, Ont.

Vice-President.—W. E. Wellington, Esq., Toronto, Ont.

Directors.—Agricultural Division No. 1, John Croil, Aultsville; No. 2, A. A. Wright, Renfrew; No. 3, R. J. Dunlop; No. 4, P. C. Dempsey, Trenton; No. 5, Thomas Beall, Lindsay; No. 6, Col. J. Magill, Oshawa; No. 7, Murray Pettit, Winona; No. 11, Wm. Saunders, London; No. 12, W. W. Hilborn, Arkona; No. 13, Charles Hickling, Barrie.

Auditors.—Charles Drury, Esq., Crown Hill; James Goldie Esq., Guelph.

Respectfully submitted,

P. C. DEMPSEY,

Chairman.

The names were taken up in succession, and all were duly elected, according to the Report of the Committee. The Association then adjourned.

At the meeting of the Board of Directors, held subsequent to the election of officers, Linus Woolverton, Grimsby, was appointed Secretary-Treasurer.

THE AGRICULTURAL DIVISIONS.

- No. 1. Stormont, Dundas, Glengarry, Prescott and Cornwall.
- " 2. Lanark, Renfrew, city of Ottawa, Carleton and Russell.
- " 3. Frontenac, city of Kingston, Leeds, Grenville and Brockville.
- " 4. Hastings, Prince Edward, Lennox and Addington.
- " 5. Durham, Northumberland, Peterborough and Victoria, including Haliburton.
- " 6. York, Ontario, Peel, Cardwell and city of Toronto.
- " 7. Wellington, Waterloo, Wentworth, Halton, Dufferin and city of Hamilton.
- " 8. Lincoln, Welland, Haldimand and Monck.
- " 9. Elgin, Brant, Oxford and Norfolk.
- " 10. Huron, Bruce and Grey.
- " 11. Perth, Middlesex and city of London.
- " 12. Essex, Kent and Lambton.
- " 13. Algoma, Simcoe, Muskoka and Parry Sound.

ANNUAL ADDRESS OF THE PRESIDENT.

GENTLEMEN,—Once more I have the honour to address you as your retiring President. On this occasion permit me to congratulate you on the results of the fruit harvest for the year. The crops of early small fruits have been abundant. Cherries and plums have given a much larger yield than usual; pear trees have in most instances borne well, and there is a plentiful harvest of grapes, while the apple crop, although light in some districts, may on the whole, taking fall and winter fruits together, be considered fair. The fruit-grower has thus shared in the general abundance which has characterized the season of 1886.

Having been absent from Canada during the early part of the summer, engaged in looking after the fruit interests of the country abroad, it is natural that I should take this opportunity of placing before you some of the methods employed, the results which have been reached, and indicate the probabilities of future benefits to result from the efforts which have been put forth.

One of the most important events which it has ever been my privilege to call your attention to, bearing on the present and future prospects of fruit-growing in Canada, is the exhibition of Canadian fruits at the Colonial and Indian Exhibition held during the present year in London, England. When the proposition was first made that we should endeavour to prepare a collection of fruits to be exhibited during the following year, from May to November, the undertaking seemed to be beset with almost insuperable difficulties. The preservation of the form and texture of ripe fruit for so long a period past its time of ripening—considering the rapid chemical changes which maturing fruit undergoes and the constant tendency to decomposition resulting from these changes—was in itself a matter of no small difficulty, especially in view of the multiform character of the texture and structure of the different fruits our favoured climate produces. But with this difficulty overcome, and a suitable antiseptic fluid found which would arrest the natural changes which occur during and following the ripening of fruit, a still greater difficulty presented itself in the preservation of the many delicate shades of colour which adorn the surface of our fruits, and impart to them a beauty unapproached by such as are ripened under less favourable conditions. There is an old adage that "where there's a will there's a way." In this instance the will was not wanting, and by an extended and long-continued series of experiments the way was found which led to almost entire success. I say almost, because in some instances, after immersion in preserving fluids for many months and subsequent exposure to light and sunshine, the bright shades of red, which add such a glory to some of our fruits, became gradually less brilliant, and eventually gave place to comparatively dull and pale colours. Notwithstanding these

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changes, which it seems scarcely possible to prevent, visitors, who are not familiar with the true colours of our fruits, look upon the exhibit as highly satisfactory and a brilliant success. Those fruits which have when ripe a white or yellow colour, have been very beautifully preserved, and maintain a brilliancy of hue somewhat exceeding nature, resulting from the bleaching influence of the chemicals used in the solutions, and the long exposure to light. The yellow and white apples, the pears, quinces, peaches, yellow plums, white cherries and currants, are all remarkably attractive and draw from visitors constant and merited admiration.

Another frequent source of failure lay in the exosmotic action which takes place when fruits are immersed for a long time in saline solutions. By this action the juices of the fruit pass out through the pores in the skin, and the specimens become contracted, shrivelled and unsightly. Efforts were made to remedy this by dipping the fruit in melted paraffine, so as to give it a thin coating of this substance; but following the use of this, more rapid changes occurred in the interior, gases were evolved and large unsightly blisters deformed the specimens so treated.

Valuable suggestions were received from Dr. Charles Mohr, the well-known botanist of Mobile, Ala., based on information obtained by him from Berlin, Prussia, as to the results of some experiments in preserving fruit there with sulphurous acid; also from Prof. R. Ramsay Wright, of Toronto University, suggested by the results he had obtained in the preservation of the natural colours of animal tissues by the use of hydrate of chloral, and from Prof. C. G. Hoffman, chemist to the Geological Survey of Ottawa, as to the use of boroglyceride, a mixture of boracic acid and glycerine. With those substances many experiments were tried, and eventually they were found to be the most useful of all the chemicals tested for this purpose.

I need not weary you with lengthy details as to how this success was finally reached; it was not without much thought and labour. No such exhibit on such a scale had ever been undertaken before, and there was very little to guide one further than indications as to the most promising lines of experiment to follow. The records of the patent office in the United States, as well as those covering English and French patents for the past ten or twenty years, were carefully perused with the hope of obtaining some useful hints. Enquiries were made at the various experimental stations in the United States, and of many of the leading chemists, physiologists and botanists of America, and with the aid of the information thus gained, added to personal experience and observation the various lines of experiment were mapped out. Many of the experiments resulted in absolute failure, some were partially successful, while others produced excellent results. Difficulties at first unthought of, presented themselves in a most forcible way as the experimental work progressed. The relative specific gravity of the fluid as compared with the fruit, was a serious obstacle in some cases, for where the fluid was dense so much constant pressure was required to keep the specimens under the surface that, after a time, they were forced out of shape and burst.

By the use of solutions of sulphurous acid, the yellow and light coloured fruits have been well preserved, and promise to remain unchanged for an indefinite period. With a solution of hydrate of chloral, varying in strength from two to four per cent. or of boroglyceride in the same proportion excellent results were obtained with green and russet fruits and fair results with those having different shades of red, while solutions of salicylic acid in proportion of one drachm to the quart has preserved the red and dark grapes, with but little change of colour. The fluids used in which to dissolve these chemicals consisted of water alone, or water mixed with from ten to twenty per cent. of alcohol.

The collection having been prepared, a suitable form of package was devised which provided a compartment for each glass jar, and by means of which the entire collection from Ontario was transported across the ocean without a single breakage, and that from Quebec with only a trifling loss.

The Nova Scotia fruits were sent in a fresh condition, and consisted largely of winter varieties of apples. These, together with fresh winter fruit sent from Ontario, were shown in their natural state as long as circumstances would permit, and then bottled in fluids, in which they still retain a large proportion of their natural beauty. While

Ontario, Nova Scotia and Quebec supplied the larger part of the exhibit, some fine samples were sent from New Brunswick, Prince Edward Island and British Columbia. The entire collection consisted of about 1,000 jars, about one-half of which were apples, the other half pears, grapes, plums, peaches, quinces, gooseberries, currants, raspberries, blackberries, strawberries, cranberries, wild fruits, nuts, etc. These formed a prominent and most attractive feature of the agricultural trophy—a structure which has elicited the continued admiration of visitors, and drawn from members of the press, from all parts of the world, the highest commendations.

It would be withholding praise where praise is due, were I to conceal the fact that more than one-half of the entire exhibit is from Ontario, and that the Ontario collection was mainly the result of the united efforts of the directors and members of this Association.

In addition to the large collection of preserved specimens, we had at the time of the opening of the exhibition in May a very good assortment of select winter apples in fresh condition, which were sent from Nova Scotia and Ontario. Some of these were displayed about the agricultural trophy on plates, and others were used to fill vacancies in the preserved collection. It is worthy of remark in this connection that specimens of the Fallawater apple, contributed by the County of Middlesex, which had been packed in oat-hulls, were shown by taking a few out of the packing at a time, in good condition as to appearance, up to the middle of July.

On the 10th of May a show of flowers and fruits was held in the hall of the Royal Horticultural Society, to which Australia and Canada were invited to contribute fresh fruits. Australia, whose apple harvest takes place in March, had received a few days previous a large quantity of fresh fruit gathered just before shipment and forwarded in cold storage, whereas all the Canadian specimens had been gathered from six to seven months. From the Canadian apples on hand the following fifteen varieties were selected, all being uniformly fine and in very fair condition:—Baldwin, Northern Spy, Canada Red, King, Wagener, Golden Russet, Roxbury Russet, English Nonpareil, Seek no Further, Mann, Vandevere, Swaar, Phoenix, Ben Davis and Limbertwig. The judges carefully compared this collection with that from Australia, and while the Australian fruits were in fresher condition and some of them of larger size than the Canadian, it was held that the fruit from Canada was better coloured and higher-flavoured, and the judges finally decided to award to each collection a silver medal and certificate of merit. Considering the disadvantages under which we were placed, the result was highly gratifying.

To my esteemed coadjutor and successor, Mr. C. R. H. Starr, secretary of the Fruit Growers' Association of Nova Scotia, I desire to express my deepest obligations. His assistance in every part of the work was invaluable and was ever rendered in the most prompt and cheerful manner.

The Canadian fruit has done much to dispel the erroneous ideas which have so long prevailed, both in Great Britain and on the Continent, regarding the character of the climate of Canada. The question most frequently asked was, "How is it possible that such fine fruits as these can be grown in so cold a country as Canada? The visitors were surprised to see so large a collection of varieties, and were particularly interested in the display of grapes, which filled about a hundred jars. So frequently was the remark heard "these must have been grown under glass" that it was deemed necessary to procure prominent signs with the words "Canadian fruits, all grown in the open air," painted on them and hang them at each corner of the trophy. By this arrangement every individual in the constant stream of visitors was confronted by this plain statement which offered convincing proof that the climate of Canada could not be so cold as was generally supposed.

The fact that Australia has in the past attracted a larger number of immigrants from the British Isles than Canada, is doubtless mainly due to the false notions which have so long prevailed as to the unfavourable conditions of our climate. There is every reason to believe that the great interest, which has now been awakened in our fruits, will result in a largely increased demand for them, and that new markets will be opened to our shippers; but were no advantages of this sort to result from this exhibition, the service rendered

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in correcting the erroneous opinions, from the effect of which Canada has suffered so long, will by the stimulus it will give to emigration during future years, amply justify any expense which may have been incurred in this connection.

Before I left the exhibition in England a meeting was held of the representatives of the different provinces and the question of securing further exhibits of fresh fruits, field roots and vegetables was fully discussed. The outline of a plan of procedure was prepared, which was submitted to the High Commissioner, Sir Charles Tupper, and received his cordial approval. I was charged with the duty of submitting the proposed plan on my return to Canada to the Minister of Agriculture, and urging its adoption. In discharging this pleasing office I found the Minister of Agriculture to be equally anxious with ourselves that nothing be left undone to make this part of the exhibition a complete success. Instructions were at once given me to proceed with the necessary arrangements, to the carrying out of which I have since devoted every hour I could command, and with the kind co-operation of fruit growers and farmers everywhere, which has been most cordially given, the success of the undertaking is assured.

In order to rivet the good impressions which Canadian fruits have made still more strongly, supplementary exhibits are now being prepared and will be forwarded during the next two weeks. The leading varieties of our autumn apples and pears have already been sent to London in considerable quantities, to be sold in the Canadian fruit markets, which will not only give the visitors to the exhibition the opportunity of purchasing samples of these fruits and thus judging of their quality, but when the returns are known and the condition in which the fruit reached England ascertained, I think it will be demonstrated that we can do a profitable business in that direction, and thus provide an outlet for our surplus autumn fruits, which it is difficult to dispose of at home at remunerative prices. As an indication of what we may expect, I received yesterday a telegram advising me that the first fifty boxes of Duchess of Oldenburgh apples, which were forwarded at the Belleville district, had reached London in excellent condition, and had all been sold at seven shillings per box. As these boxes contain just one bushel, and such select apples have been freely offering this season at from forty to fifty cents per bushel in many parts of the province, it will be seen that, after adding the cost of the box, twenty cents, there remains the difference between sixty and seventy cents here and \$1.75 there to pay cost of transportation and furnish profit to the shipper.

These fruits for market purposes have been forwarded weekly for several weeks past in quantities of fifty or sixty bushel boxes per week. Bushel boxes have been used instead of barrels for the reason that fruit carries so much better in that form of package and will, we believe, realize higher prices than the same fruit in barrels. The varieties which have furnished the bulk of the fruit sent are Duchess of Oldenburgh, Red Astrachan, Gravenstein, and St. Lawrence apples, and Bartlett, Clapp's Favourite and Flemish Beauty pears. A few bushels of plums have also been forwarded from the Goderich district as an experiment. As a fitting climax to the whole, arrangements have been made to make a grand display of fresh fruits, field roots and vegetables, during the last month of the exhibition. To accomplish this purpose and to secure representation from every district, the finest specimens obtainable will be selected from the more important agricultural exhibitions. The first consignment of this character will go forward by the mail steamer leaving Montreal next week and will contain a choice collection selected from the Industrial Exhibition at Toronto and the exhibition of the Montreal Horticultural Society. Following these will come selections from the Provincial Exhibition at Guelph, the Dominion Exhibition at Sherbrooke, also collections from the Hamilton, London and Belleville exhibitions. It is expected that collections will also be forwarded from Nova Scotia and the other Eastern provinces, as well as Manitoba and British Columbia, and when these are all brought together it is believed they will form the finest display of Canadian fruit, field roots and vegetables ever seen. With these later shipments there will be sent about two tons of grapes for the Canadian fruit market, obtained from vineyards in all parts of the grape-growing districts from Quebec to Niagara.

On the 12th to the 14th of October there is to be held in the hall of the Royal Horticultural Society an exhibition of English fruits, where Canadian fruits will have an opportunity of being placed in competition with those grown in England. We hope to be able

to place before the people of Great Britain on that occasion such a display of orchard and field products as will fairly astonish them. The earlier weekly shipments of fruit for market purposes have been made under ordinary shipping conditions, the boxes being placed in one of the cooler parts of the steamer, but for those selected products designed for exhibition, and also for the grapes which are to be forwarded at the same time, special refrigerating chambers are being fitted up on two of the mail steamers, where, by the use of ice, the fruit will be kept at an even low temperature, which will ensure its reaching its destination in good condition. Our vice-president for the past year, Mr. A. McD. Allan, will go in charge of the collection to be sent by the next mail steamer, and our esteemed ex-president, P. C. Dempsey, with the shipment to be made the week following. These gentlemen have been selected for this duty because they are intimately acquainted with Canadian fruits of all classes, and for the further reason that they have both had much experience in shipping fruit to Great Britain. With the aid of these special experts, associated with Mr. C. R. H. Starr, the Canadian representative now in charge of the fruit exhibit, I am sure that everything which can be done to promote the fruit interests of Canada abroad will be carefully attended to.

As soon as my duties in connection with the fruit exhibit were accomplished, I visited the southern counties of England, the north of England and Scotland, and spent a few days in Ireland and in Wales. I also visited France and portions of Italy and Switzerland, and embraced every opportunity which presented itself to ascertain the condition of agriculture and horticulture at every point in my route. In the cultivation of flowers and of ornamental trees and shrubs we are a long way behind these older countries and have many lessons to learn, the acquiring of which would add beauty to our surroundings and further charms and attractions to our homes, results which are exceedingly desirable, and which would be highly appreciated by a large proportion of the community. But in the more practical departments of farming and horticulture, in the rearing of stock, the production of grain, field roots and fruits, as well as dairy products, we are far to the front, and have now comparatively little to learn from Europe. In the use of labour-saving appliances for agricultural purposes, and in the excellence and variety of our grain, roots and fruits we are, on the whole, quite equal and in many respects in advance of the older countries referred to; while in general intelligence and skill in agriculture and horticultural pursuits and the readiness, yea, eagerness, shown by our farmers and fruit-growers to possess and to test everything likely to result to their advantage, entitles Canada to a position second to none. This intelligent and discriminating spirit augurs well for the future of our country, and will inevitably lead to the more extensive development of those departments of agricultural industry which are found to be most profitable and best suited to the conditions of our soil and climate. With such advantages secured, steady progress may be expected; although we have still very much to learn, and new problems will necessarily continue to present themselves for solution, as the settlement of the country, with its varied climate, proceeds. During the past year a measure has been introduced by the Minister of Agriculture for the Dominion and received the sanction of Parliament, providing for the establishment of experimental farms in different parts of Canada, where new varieties of agricultural and horticultural products may be tested, and where the many problems which present themselves in connection with the products of the soil will be investigated and reported on. In the infancy of this enterprise it would perhaps be premature to speak of its probable effects on fruit culture, but enough is known to justify the belief that when fairly established these institutions will undertake such work as will result in enlarging the area of fruit culture in the several provinces, and thus place within the reach of settlers and their families these health-giving luxuries, and at the same time increase the export trade in fruits.

I shall not trespass further on your patience. The president's term of office closes with each year, but it has been my pleasure to be re-elected to serve you in this position for several years past, during which term I have endeavoured to serve you to the best of my ability. I have always been opposed to anyone enjoying a monopoly of such honours as this Association has to bestow, and have for this reason accepted the office during the past two or three years under protest, and only at the urgent solicitation of friends. I know that there are many gentlemen connected with this Association who are well qualified

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to fill this position acceptably, and of late years other duties have devolved upon me to such a degree, that I am unable any longer to give that time and attention to this position which its duties demand. In view of these considerations, and the possibility of someone re-nominating me, I beg to state plainly and frankly that I cannot longer continue to serve you in this capacity. Thanking you all for the kind and prompt manner in which you have endeavoured to further my wishes and the interests of the Association, which I trust have ever been in harmony, I sincerely hope that the future career of the Fruit Grower Association of Ontario will be one of increasing usefulness.

REPORT OF THE DIRECTORS.

To the Members of the Fruit Growers' Association of Ontario:

GENTLEMEN,—In submitting our report at the close of our term of office we have the pleasure of being able to say that there has been some increase in our membership during the past year, the number now on our roll being 1,980, as against 1,652 last year. We have endeavoured to exercise the strictest economy in conducting the affairs of the Association, and believe that the expenditure of the past year has been as small as was possible, consistently with the efficient working of the Association.

The publication of the *Canadian Horticulturist* has been continued monthly, as heretofore, although we have deemed it advisable to omit the coloured plate in some of the numbers, and to substitute therefor the less expensive plain engraving.

We suggest to our successors the importance of continued exertions to increase the number of our membership, and a careful consideration of the possibility of increasing the attractiveness and popularity of our monthly publication.

Since our last annual meeting the Secretary-treasurer of the Association has been compelled, by financial reverses, to make an assignment for the benefit of creditors. He is indebted to the Association to some extent, but we are unable at present to ascertain whether there will be ultimate loss or not to the Society. The assets of the estate are stated as sufficient to cover all liabilities, but in the opinion of the Directors it is probable there will be a deficiency, not, however, to any large amount.

All of which is respectively submitted,

WM. SAUNDERS,
President.

TREASURER'S REPORT.

RECEIPTS.

From 1,950 members, less commissions	\$1,833 30
“ advertisements	116 39
“ Government Grant	1,800 00
“ balance last audit	553 59
Total	\$4,303 28

DISBURSEMENTS.

Audit, 1885	\$20 00
Reporting, three meetings	179 85
Officers' expenses	286 15
Freight and express	22 28
Postage	59 79
Wrapping, reports and wrappers	15 00
<i>Canadian Horticulturist</i>	1,104 96
Plants and seed distribution	254 20
Advertising	10 25
Customs	3 70
Stationery	5 20
Notes and discounts	819 95
Guarantee premium	20 00
Printing	60 75
Sundries	1 20
Clerk	100 00
Secretary	200 00
Editor	400 00
Balance	740 00
	\$4,303 28

TORONTO, Sept. 14th, 1886.

We the undersigned Auditors have duly examined the accounts of the Treasurer of the Fruit Growers' Association of Ontario and find them correct, shewing a balance of \$740 at this date.

CHARLES DRURY, }
JAS. GOLDIE, } Auditors.

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WINTER MEETING.

The Winter Meeting of the Fruit Growers' Association was held in the council chamber of the city of Stratford, on Wednesday and Thursday, the 10th and 11th of February, 1886.

The meeting was called to order by the Vice-President, Mr. Alex. McD. Allan, of Goderich, in the absence of the President, and the minutes of the last meeting were read by the Secretary, Mr. D. W. Beadle.

FENCES.

The first topic discussed was "Fences, the best and cheapest of the future, or should they be abolished?"

Mr. BEADLE.—According to my notion fences are an abomination. I do not think we are under any inconvenience at all without them, and the quicker we get rid of them the better. In the first place they are an expensive institution. I wonder if any farmer ever counted the expense of his fence for twenty-five years, or multiplied to find out what it costs the towns in the counties, for the maintenance of the fences. You are taxed to keep up fences, and to keep out other people's cattle. The innumerable cross-fences, that are to be seen on some farms throughout the country are wholly unnecessary.

There is a plan of a movable fence, that will fence in your stock, which can be built on any farm and which can be put on any portion of it for pasture purposes. You can move the fence to any part. I think it is far less expensive than the present system. Mr. Beall took an excellent view of this question, and once made a careful estimate of the costs. I think it was put in one of our reports; perhaps Mr. Beall, will be able to tell us what he made out the cost to be. It is perfectly astonishing that we submit to it. We must let every man know that he must take care of his own cattle. That this thing can be done has been demonstrated by our neighbors in the United States. The first move was to allow each municipality to have cattle run at large. They tried that for a while and found no municipality mean enough to order the fence to be kept up. Some years ago I happened to be in Chatauqua and noticed there were no fences on the road alongside of wheat fields and vineyards for miles. No fences, and the people wanted to see no fences. I asked them did they find it to work well; they said yes, with all but a few cantankerous people. Get rid of these unsightly fences.

Mr. BEALL.—The secretary taxes my memory too much, I can't remember the figures. I remember that I was surprised very much at the figures I first obtained. I went to work and whittled them down, and in spite of all I could do, I found the figures something enormous. I found that any farmer with an ordinary number of fences, on a hundred acres of land, could better maintain a man to look after his cattle, than maintain the fences. There is no doubt that the fences are a great nuisance in Ontario. Any man has a right to keep cattle, horses and pigs, but he should take care of them. Another great evil, of fences, especially rail fences, is the immense snow drifts collected by them in winter time. With proper management you could secure with little cost a properly constructed wind-break, instead of a fence. I have found that if the money spent on fences, merely for keeping fences not really necessary, were expended on wind-breaks, there might be a surplus left. It might have amounted to hundreds of dollars. Fences cost too much for one thing.

Mr. WILSON (of Seaforth).—There is another point on this fence question that has not been touched on—the amount of land that is not used that could be used. The fence around a farm occupies a large area. Another point strikes me, viz:—They are the greatest breeders of weeds. (Hear hear). Weeds grow enormously around these fences. Taking everything into consideration in connection with fences and the amount of ground

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they occupy, there is a great loss. Another evil is the blocking of our roads with snow in winter. If we face this question carefully and agitate it, that would be a step in the right direction, and the abolition of our fences would follow. It would pay even supposing every farmer kept a man to look after his stock.

Mr. SCOTT (of Michigan, United States).—I would add that, in our town, I think in five years the fence will be an exception on the roadside.

CHAIRMAN.—What do they do in regard to live stock?

Mr. SCOTT.—They have moveable fences, to a considerable extent.

Mr. A. M. SMITH (of St. Catharines).—The fence is a great harbour for mice, and they destroy a large amount of fruit trees, and it takes a considerable amount of money out of the pockets of nurserymen.

Mr. WRIGHT (of Renfrew).—We have a great many difficulties. These fences, I have always thought expensive and entirely useless on a farm. I have noticed in the Province of Quebec, where the people are supposed to be poor, what an amount of fence they have. If we went to work and put cost on one side, and the argument of the fence on the other, we should find the balance tremendously against the fence. There is interest, there is money invested, and there is labour to keep these fences clean and in repair. I have no doubt if we put it in that way there would soon not be any fence at all.

Mr. JARVIS (of Stratford).—There is what they call a hard law in our own country. That is to protect parties who keep cattle to make their own fences, and keep their cattle within bounds. I consider every man should have wire fences, and if he wants to keep cattle, let him fence them in. Now, if any of you have travelled in other countries and noticed the beautiful landscape, the lovely farms and the beautiful crossings, with nothing to mar or depreciate the beauty, you do not see these miserable snake fences, all for the old feudal idea of fencing out other people's stock. It certainly seems to be about time that we took this matter in hand and tried to abolish fences. In doing this we should be abolishing weeds; we should make the country more beautiful by throwing open to the view of strangers, our attractive fields.

THE VICE-PRESIDENT.—Can you suggest anything to bring that about?

Mr. JARVIS.—Since the matter has been discussed a great many people have changed their minds, and are in favour of no fence. Last year we became a city, and we have a cow by-law. The city has also a goose by-law. Some old ladies appeared the next session after this by-law had been passed, and the members of the corporation caved in, and the goose by-law was not made imperative. I am glad for friends interested that I do not belong to the City Council. However, after the next election they had the courage to put that by-law in force. Now, if we keep geese we should take care of them. I think if we keep up the agitation before the farmers, in three years in the County of Perth there will be very few fences. I am just going to remark that, in the town of Stratford, the moment this by-law was passed, and the City Corporation had the firmness to stand to it, a great many old fences went down on our streets, and if we took a stand in the country a great many old fences on our roads would be obliterated. A great many people would have their gardens and lawns entirely free from old fences, and put a single bar up for protection, and the beauty of this would have such an effect that the next year one half of our city would be protected merely by an iron bar. I trust it won't be long before we shall throw our lawns open to our streets.

Mr. BEADLE.—I am going to take the part of the poor man. Just look at it for a moment. There are some poor people without pasture land, and they have a cow, and the cow destroys the trees of other people, because they have no fence.

A MEMBER.—That would be good for the Nurseryman!

Mr. BEADLE.—That is the argument. I have made out of it. It is the misfortune of the township in which I live. We passed a by-law that everybody must take care of his own cattle and need not keep fences. We were besieged with the argument in favour of the poor man's pig. The Council rescinded the by-law and in bringing this matter up we looked on both sides of it. It would not be right for a municipal council to pass a by-law allowing cattle to run over the streets. We should, I think, get the legislature enlightened

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upon the serious detriment of keeping up these fences. If lot owners in towns and villages would keep up the pressure upon the representatives to get such a law passed, as I have suggested, it would make country life more enjoyable.

Mr. A. A. WRIGHT.—I would just say the same argument arose in our town, respecting the poor woman's pig and rich man's pig, also. The rich man made a great plea for the poor man's pig. It was for his own pigs (laughter) running over the streets. The rich man came up to the council and said that these poor people were not able to take care of their pigs by having a place for them. The Mayor got up and said. "We are not going to tumble to the racket," and the by-law was enforced. The High School Board (it is a union Board) offered the school boys for every pig they succeeded in catching fifty cents in money. Every pig in town was impounded. There was a general "how-do-you-do," over it, but there were very few pigs to be seen after that. The Board of Health had no trouble from pigsties either,

Mr. BEALL.—Since leaving home a friend said to me, when I was talking about cattle, that he had information a short time ago from a very clever lawyer with regard to passing by-laws respecting cows in incorporated towns through which railroads run. The law already provides that no cattle can run at large. I think we have a lawyer with us. Is it a fact or not?

Mr. MORTON (of Wingham).—I am very sorry I was not in at the beginning of this discussion, in order to hear what points were submitted. I can go no further than the one point I mentioned at the Woodstock meeting. At that time I cited a case that would decide the point brought up then. The matter, however, was sprung upon me at that time. A misapprehension may exist in this Province, and more wide-spread, perhaps, as to the position of people keeping cows, and allowing them to run upon the highways. There is no law preventing any other animals than those mentioned in the Municipal Act from running on the highway. If there is no by-law passed they can run. A great many people presume that they are prohibited. There is no such law and they can run upon the highway, but they must keep them there. I may leave my fence down and any animal allowed to run by permission, if trespassing upon my place, by the present by-law, I can impound; just the same as in the case of the by-law prohibiting. There is a case, *Crow vs. Steepes et al*, which I will read:—

CROWE VS. STEEPES, *et al* 46 Q. B. 87.

A municipal council by by-law, passed pursuant to the Municipal Act, enacted that certain descriptions of animals (naming them) and all four footed animals known to be breachy should not be allowed to run at large in the Township, and provided for fixing the height of fences. The plaintiff's cattle strayed from the highway into the lands of defendant, Williams, whose fences were not of the height required by the by-law. He distained them, and they were impounded.

Held, that as the by-law did not affirmatively authorize these cattle to run at large by negatively providing that certain other classes of animals should not be allowed to do so, the plaintiff was liable at common law and under R.S.O. Chapter 195, for damage done irrespective of any question as to the height of the defendant's fences.

I have examined the by-laws of the Municipal Act in the Province of Ontario, and out of these there are only two that allow the animals to run; the others are purely prohibitory. They simply say "shall not run." A by-law must be passed, otherwise they cannot travel on the highway. Our respective Secretary is one I really find taking the poor woman's part. If I own any property, what right has anyone, simply because of poverty, to allow his or her animals to trespass and interfere with that property? I don't think the poor man has any such right. As far as our town is concerned, I may say this: I left my gates open when the by-law was enforced, and one day when I hadn't much to do and I hadn't much to lose in the garden, some cows got in and I walked them to pound. I wanted to make a test case. I heard that the owner consulted a well known solicitor, but there was nothing said about it. I would like for this Association to disseminate as fully as possible the intentions and the ideas we entertain in this matter. I may say you could not distrain the animals. The animals come in the gateway, and unless damage is done, you

cannot distract. The cows in my vicinity are of that kind which have sense enough to come in late at night and leave before daybreak. If a prohibitory law were passed, such as I know is in force in the State of New York, I think it would be a step in the right direction. The fruit growers' should ask our representatives to get further legislation in that direction. While upon this point, I might mention one thing: the law requires land owners to maintain line fences between themselves and their neighbours.

A MEMBER.—Can a municipality pass a by-law in regard to that?

Mr. MORTON.—I think not, speaking from recollection. The general law provides there shall be a line fence.

Mr. DOWNS (of Stratford).—There was a thought came into my mind with reference to the sparrows. I am not an enemy of the sparrows. There are a good many gentlemen present, who have been in the old country and have seen them around the fields.

VICE-PRESIDENT.—That is wandering from the question.

Mr. DOWNS.—I have reference to the fence around the wheat field. We find about two rods from the fence that every head of grain is stripped clean by the sparrows. The sparrows very seldom light in the middle of a field. Sparrows are short in flight, and I hold the fence is a great harbour for them. In the old country, for two rods around the fence, the grain is destroyed. I think in the city of Stratford it would be a great benefit to have the fences permanently done away with. There is supposed to be about fifty miles of streets, I should judge, and I have a pretty good knowledge of what fences there are in fifty miles. I would say, if I am not mistaken, that there would be 528,000 feet of fence. Put down that fence at fifty cents per foot, a low estimate for a fence. I find, at fifty cents, that it would cost \$264,000 to put it up. Average this for fifteen years or, say, three or four years, and see what it would amount to. It is said that the cows would come in and destroy the trees; I rather doubt it. I think if the fences were down some would beautify their places, and it would certainly tend to stimulate action in that direction and increase the planting of trees. I hold that a person beautifying his place is a great stimulus to his neighbour to do the same, and therefore I think it would have an effect to increase sales.

Mr. WOOD (of Stratford).—I could say I perfectly agree with Mr. Downs. It would be much better for the nurserymen and other men.

Mr. GOVENLOCK.—I would like to say that the boys are very fond of beautiful grapes, and the fences being down would tempt them to take some.

A MEMBER.—The boys would go where there are fences.

Mr. MORTON.—Yes; the boys like to climb over the fences.

ORNAMENTAL TREES AND SHRUBS.

The second topic taken up was, "Ornamental Trees and Shrubs Forest, Trees and Hedges, for protection and shade."

A. M. SMITH (of St. Catharines).—I like ornamental trees and shrubs, and especially hedges. A good many fence in their places with trees which act as wind-breaks. This stops the snow and protects our plants. In the Niagara district, especially during the last two or three winters, there have been thousands of dollars of grape vines lost, as well as other varieties of fruit, through the want of protection to their roots. The roots have been frozen and killed. This was especially true in regard to the grape-vines. I think the Quince, Red and Norway Spruce are about as good as any hedge or wind-break. Then there is the White Cedar. We have noticed that snow has been a protection to currant bushes from the frost. One particular instance I noticed last season in the graperly; a row of grape bushes had retained snow on the vines, and in that portion of the vineyard I did not suffer from the loss of a vine last winter. Where these currant bushes had been met by a full sweep, they were very much injured. Anything in the line of hedges or evergreens is the best thing I know of to gather snow.

The VICE-PRESIDENT.—You recommend Norway Spruce and White Cedar?

Mr. SMITH.—I recommend Norway Spruce; I have not used any White Cedar.

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Mr. DENTON (of London)—I like beautiful hedges. If we had nice close hedges we could do away with the fences altogether. It would be nice to have hedges between farm and farm. I agree with my friend, Mr. Smith, in the matter of hedges as a wind-break, I understand from a hedge it is a cover. We have hedges as fences. I have seen Osage Orange and White Thorn used. Then there are ornamental trees of which the Spruce is to my mind the most useful. There is, however, nothing more beautiful for ornamental purposes than the Maple. In London the shade trees are nearly all maples. The Soft Maple I think is beautiful. I also like the Mountain Ash. It is an elegant tree when it is grown and branched out. Evergreens, to my mind, are always beautiful; I love to see them in winter.

The VICE-PRESIDENT.—We want to find out the capability of this section, with regard to ornamental trees and shrub hedges. We would like to know what kind you find hardy?

Mr. JARVIS.—We have had plenty of locusts, but after some years they were riddled with worms. The Maple should not be interspersed with other trees. I find the Oak is a very hard grower, although it requires a little more care. A few Oaks, a few Hickories and Basswoods, are really beautiful. The European Linden looks very nice. Some 25 years ago I planted a great many Walnut trees, and these trees are now very large trees, and in a short time will be fit to make into lumber. In the meantime they are bearing very luxuriantly. A great many Butternuts existed some years ago, but many of the trees are dead. The butternuts throughout the town bore pretty good crops until seven years ago. Black Walnut trees bear abundantly in this part of the country.

The VICE-PRESIDENT.—Have you planted the Horse Chestnut?

Mr. JARVIS.—Yes; we have some magnificent trees in this part of the country. There is another tree I should mention, the native Elm and European Elm—trees that are generally overlooked.

Mr. LAWRENCE.—Insects destroy the leaves of the English Thorn and it does not stand the spring frost.

Mr. BEALL.—I find these ornamental trees first rate for shade. For fields or for farm use there is nothing like trees. We want something which prevents the winds from circulating too freely; you want the farm somewhat screened from the wind, and if you have a cluster of trees, or a long avenue, the snow will be more evenly distributed, and you will have better protection for your cattle. There is nothing equal to the Norway and the Native Spruce for this purpose.

The VICE-PRESIDENT.—Hedges of small shrubs get heavy with snow and droop and the snow drifts with the wind.

Mr. BEALL.—I believe above all other trees, the Black Walnut stands prominent. It bears a large quantity of nuts, and makes a beautiful tree. Any man that has ever had a Butternut or Walnut tree will never be without them. The Walnut will grow anywhere in Ontario—I believe in any part of Canada; it will grow in a much colder climate; it will grow in Norway and in the Highlands of Scotland.

Mr. HILBORN (of Arkona)—I think a great deal of the Scotch Pine for a wind-break. There are two or three hundred on our place, and they grow to be a tree in half the time of a Spruce. I don't know how they will succeed after they get old.

Mr. DENTON.—One tree mentioned is a perfect failure, as it is a breeder of insects; that is the Locust. I do not advocate it on account of the borers, which tend to bring about the destruction of the other trees.

Mr. JARVIS.—Ours have been destroyed here. There is one tree not mentioned, that is the Purple Leaved Beech. It is a very pretty tree, and is well adapted for the lawn. Two or three varieties of trees set off a lawn effectively.

Mr. JARVIS.—Do you grow it in London, Mr. Denton?

Mr. DENTON.—It grows in our cemetery. Cut Leaved Birch is also a lovely tree.

Mr. MORTON, at this stage, explained the legal points on the previous question "The Fence, etc.," by quoting the case of *Dantes vs. G. T. R.*, and reading from the Ontario Report of Appeals, page 476.

The convention adjourned at 12.30 for dinner.

THE QUESTION BOX.

The afternoon session was begun at 2 o'clock. The following questions were put in and answered as follows:—

QUESTION.—Suppose you graft a scion of a tender tree on a hardy tree, will it make the graft hardy?

Mr. BEADLE.—The answer to that question, is no. It does not change the nature of the scion, if it is tender.

QUESTION.—What is the cause of the plum blight?

Mr. BEADLE.—If I understand it right you refer to the plums falling. So far as I have observed it is caused by the growth of fungus upon the leaf. I should say that the roots of the fungus feeds upon the leaves and therefore destroys their vitality.

TREE PLANTING, ETC.

The next topic taken up was the topic of "Tree Planting on streets, road sides and school grounds, and Nut-bearing Trees suitable for this section."

Mr. WOODS—We have several agricultural societies, etc., and through their influence we have an Arbor Day. We have a great many trees planted. It is remarkable the advance that has taken place, in tree planting in six or seven years. It is barely forty years ago since this place was covered with the original forest. We have some fifteen walnut trees of the variety generally grown in this place, which I think were planted in 1850 or 1851, and several of the trees are from fifteen to eighteen inches in diameter. We all agree that monotony should be avoided, and I have myself tried the experiment of planting the Sweet Chestnut, as well as the Walnut. I have had two planted for six or seven years, and they are perfectly hardy.

Mr. WOODS.—I think we ought to urge in this country and the United States, the desirability and feasibility of planting trees, and we should plant as far as possible the ordinary trees of the country.

Mr. BURRIT (of Stratford).—This place is small and we can't boast of a large amount of land set apart for park purposes. We have a park of four or five acres. I am sorry, however, to see so little interest taken in this matter.

The VICE-PRESIDENT.—What varieties have you planted in your park?

Mr. BURRIT.—We tried the Horse Chestnut for one, but every one died.

The VICE-PRESIDENT.—Have you a good many trees through the cemetery?

Mr. BURRIT.—We have a good many soft maples. The difficulty here is the trees are not properly set. The people have planted them so close together that they will have to cut them out, and that cannot be done with uniformity.

Mr. BEADLE.—I would make one suggestion. A word was said not to confine ourselves to one variety. I quite agree with that idea. My idea of beauty, and also taste in the matter, is the proper development of each kind, and plant the kinds to themselves. Take an avenue and plant it with Horse Chestnut. If you have an avenue for maples, plant all maples. If you plant the trees a proper distance apart, you will have avenues beautiful in symmetry. I wish Mr. Goldie would speak on this matter, he has had so much experience.

The VICE-PRESIDENT.—I think that point cannot be too much considered in planting our streets. Whatever you are going to plant in one street, plant all of the same kind of trees. I have illustrated that very well around my own ground. I planted a large number of varieties of our native trees around my own grounds and they don't look anything like as well as if I had planted one variety.

Mr. DOWNS.—Do all the trees require uniformity of depth?

The VICE-PRESIDENT.—I think they do.

Mr. GOLDIE.—I think there should be a by-law to regulate the planting of trees a proper distance apart. They should be separated by about twenty to thirty feet. You

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can in almost every city or town find trees from eight, ten, or twelve feet apart. You look into the future and see what they will grow to. If you do not keep pruning them up, some will be sure to be killed out. The great aim in tree planting on the streets is to plant all of one kind and at the same distance apart, with the same distance from the line or the sidewalk. That will make a beautiful street. The best tree for the street, where there is plenty of room, is the Elm. I was in the city of Utica last summer and some of the streets were planted with elms. One of the streets was like a grand dome, a regular arch; but unfortunately, as everywhere else, they had planted them too close. The next tree is some variety of the Soft Maple; I think there is nothing grander in foliage. In the fall they colour up so beautiful'y. I have always looked upon the Sugar Maple as a fine tree. You don't want a tree on the street to be too thick; if it is spreading and thin, it gives a much better shade. You notice in Toronto that the Horse Chestnut has been planted; but it is not a tree suitable for the street. I should recommend smaller shrub trees and give them plenty of room. I do not like to see natural beauty deformed or stunted. There is nothing gives a better impression than to have suitable trees and shrubs planted, and allow them plenty of room. To grow in small grounds, I can recommend some of the varieties of Cedar. The White Cedar, for instance, is very beautiful. Shrubs of all varieties and grown in all situations, are very beautiful. In a climate like ours in this part of Ontario all hardy things will grow, but do not crowd them together.

The VICE-PRESIDENT.—What about nut-bearing trees?

Mr. GOLDIE.—Hickory doesn't grow.

The VICE-PRESIDENT.—Have you tried Black Walnut?

Mr. GOLDIE.—They are grown in the College ground.

Mr. WOODS.—The only way I can understand that the Black Walnut does not grow is because of the rock so near the surface.

Mr. GOLDIE.—There has been none planted except in the College grounds.

Mr. JARVIS.—Some thirty years ago, when I was planting trees around my first residence, we got walnuts somewhere about London. They were not grown from the nuts; they were shoots from other trees. The trees are growing splendidly, and they will soon be fit for timber. I planted several dozen, and they are all living. When I planted my new garden I got some trees from St. Catharines. I planted them and, after being planted some time, I came and took one up and replanted it. It has borne over a half bushel of walnuts. As far as my experience goes there is no trouble with trees, either from the nursery or from the nuts. The Butternut in this country grows without any trouble, but it is not quite as pretty a tree as the Walnut. With regard to Mr. Goldie's opinion of the elms, I think they are exceedingly fine trees.

The VICE-PRESIDENT.—Which Elm would you plant—the native Elm?

Mr. JARVIS.—I have some European Elms, but I really like the native Elm far better. I think the natural growth is more beautiful. In connection with my own planting, there is one tree which has been overlooked, that is, the native Wild Cherry. It is very nice. I have one, and we get enough cherries to make lots of cherry cordial. The Wild Cherry makes a very pretty tree. I have also planted native White Ash, and as I have said before, I have planted Basswood. I hear that near Woodstock there is a grove of that kind of tree; at any rate, we have Basswood honey. If a bee gets one suck of Basswood it is delighted. (Laughter.) When the Basswood is in blossom it has a beautiful scent. If I were asked to name the trees I liked best, I should say, the Elm, Black Cherry, Wild Cherry and White Ash. On Arbor Day it was amusing to see people running along in squads. Holes were dug three or four inches deep, and a man came along and put the trees in. There is no use of having an Arbor Day unless the trees are selected, nicely planted and taken care of.

Mr. WRIGHT.—The varieties that we grow in our section of the country so far north are not exactly the same as those you grow here. The principal varieties there are the different kinds of maples—Hard Maples—which, of course, you have here; Soft Maples, which you have in abundance, and the Red River Maple, which is a very beautiful tree and a very rapid grower. We have more difficulty in getting the Hard Maple to grow than any other tree. The Soft Maple is very beautiful when the frost touches its foliage;

it changes into such varieties of colour. The Red River variety, especially, is a rapid grower. I quite agree with my friend the Secretary this time that we should confine ourselves to a variety; and with respect to space I quite agree with my friend, Mr. Goldie, that twenty-five to thirty feet is a proper distance to plant trees apart. Another tree is the Elm; I thought so much of it, and I planted so many around my grounds, that I have named it "Elmhurst." I received favourable impressions from the Lower Lachine Road from Montreal, near the old Fraser estate, where you see the branches interlock. It is the finest drive I ever saw. The tree is perfectly hardy and you get it anywhere, but it is not a very rapid grower. Another tree, the Basswood, is really beautiful. There are some beautiful specimens growing around the English Church in the City of Quebec. So far as Black Walnut is concerned, I know nothing about it; we have never attempted to grow them in our section. Butternut is a native of our section. There is what we call the Bitter Walnut, which produces an ordinary bitter nut. The Hickory tree, which we sometimes call the bitter walnut, is magnificent looking in its second growth. For an ornamental tree it is really beautiful.

Mr. SCOTT.—Have you got the Round Elm? It is the tree above all others. My farm is the Elm Fruit Farm. I have half a mile of Elm trees planted, and the rows of Elms in front of my place have doubled the value of my place. I had a man from Chicago offer me double what it cost me.

The VICE-PRESIDENT.—What other trees have you?

Mr. SCOTT.—On one side I have ornamental trees, and the Black Walnut grows wild.

Mr. DENTON.—What is your soil. I should understand it to be a strong soil?

Mr. SCOTT.—It is.

Mr. DOWNS.—Is the Russian Mulberry a suitable ornamental tree?

Mr. BEADLE.—Some gentleman in London fruited it, and it was very beautiful, and the fruit valuable. The trees we have in this country are all from the trees brought us. There is a great variety of Russian Mulberries.

Mr. WOODS.—Mr. Jarvis has one he fruited here.

Mr. BEADLE.—I look forward to the time when we shall get hold of a good variety, and by protecting it as we do our apples and pears, we may succeed, and get mulberries as good as the English Mulberry. Englishmen have seen it at home and know that it is very valuable. I trust we will succeed in having the Russian Mulberry grow farther north. It is a pretty looking tree. Meanwhile we must have patience.

Mr. BEAL.—For tree planting on the roadside, I should say plant Walnuts.

The VICE-PRESIDENT.—How far apart?

Mr. BEAL.—The statute says thirty feet, and all trees can safely be planted at that distance. Some of my friends are not satisfied to put them thirty feet apart, but put two in that space and afterward they will cut the middle one down. I would advise you to plant this tree, not because it is the most beautiful tree, but because it grows very rapidly. It will make in ten years a larger and more handsome tree than the Maple in thirty years.

The VICE-PRESIDENT.—I hear complaints frequently made against roadside planting, that the roads do not get a chance to dry up after a heavy rain.

Mr. BEAL.—I think the trees planted will do the very opposite; they help to dry the road by absorption. The trees take up a large amount of moisture. If you have a row of trees on each side of a road, it will help to dry that road; there is no doubt about that. I know there is a place in the Township of Whitby, four miles in length, where there is one of the driest roads I know of, and it is planted with trees.

The VICE-PRESIDENT.—The evaporation from the trees comes from the soil.

Mr. BEADLE.—I wish I were big enough to hold all the knowledge and I would be a living cyclopædia. I fully corroborate what Mr. Beal has said in regard to the trees. There are a large number of leaves growing and each one requires moisture, and the moisture comes from the roots. Gallons and gallons of water are required for this purpose. The water a tree consumes is something astonishing. I cannot speak accurately just now how many gallons is required, but it is very many that a tree evaporates in a course of a day. Suppose it is only a few gallons: in a short time a tree will have taken up so much water from the soil by pumping up steadily that the roadside will be dry.

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Trees planted on the roadside are a benefit on a warm summer day for the shade they afford, and people will not mind the little mud there may be after a shower. The sooner we wake up to the benefit of tree planting on the country roadsides the better will it be for us everywhere, for our own comfort, our taste and for the value of our property, if we wish to sell it.

GEORGE COPELAND (of Hespeler).—In regard to the question of trees on the roadside, I may say that I know where there was an avenue of trees and the road was muddy from the time the frost came out in the spring until the frost entered it again, but after the cutting down of the trees the mud disappeared entirely. In regard to the planting of trees in school grounds, I may say that around our school-house we have one of the finest school grounds that any person can have the privilege to look upon, and there have been planted chiefly maple trees. There are, as well, one or two other trees that take my eye, and one is the ordinary Tamarack; it makes a beautiful tree, especially if the ground is somewhat inclined to be damp. Another one is the Ironwood tree; it makes a beautiful tree.

Mr. GILCHRIST.—Our cities devote \$200 or \$500 on tree planting and I am certain that 75 per cent. of that money is thrown away. If we had a commission of three gentlemen in this city, who were thoroughly acquainted with tree planting, and who should, for a series of years, continue that work, we would accomplish good results and get value for the money expended. As regards the distance of planting trees, the Walnut makes a beautiful shade tree for the street, but you cannot plant this to have any effect, unless you plant the trees a good distance apart. I passed through Esprey, four years ago and saw a Walnut tree, twenty-two years old, planted from the seed. It was six feet in circumference, a foot from the ground. We measured it. For nearly fifteen years the branches had been interlacing. The distance of planting, I think, should depend entirely on the variety, and we should get the distance to plant each tree. One gentleman mentioned the White Ash, but it has a fault. If the frost comes early in the fall, you have a poor tree for the rest of the season. There is no doubt that the streets should be well planted with trees and we should have a universal law. Trees were planted, for instance, in Guelph, eighteen feet apart. I would appoint a commission in all our cities to look after our streets. I like the roads about the City of Washington. I am told that the gentleman who laid them out had taste and ability to do it properly. These streets from end to end are planted with such varieties as are suited to grow in the soil. A commissioner is appointed to look after the streets and parks.

Mr. SMITH.—I object to the Black Walnut for a street tree, particularly where it is planted near the sidewalk. If Mr. Gilchrist owned a small lot adjoining he wouldn't get much good out of his garden. I never saw anything that grows and flourishes so well as the Black Walnut.

Mr. MORTON.—The proper method of planting trees is an important question.

FRUIT COMMITTEE.

Messrs. Jarvis, Gilchrist and Smith were appointed as a Committee to examine the fruits on exhibition.

THE BLACK KNOT.

The subject next discussed was "Black knot on Plum and Cherry trees, its cause, prevention and cure."

Mr. BEADLE.—(Exhibiting a specimen of black-knot). The gentleman who sent this here is Mr. Hamilton. He has sent you that black-knot, which was found on one of our ornamentals called *Prunus Triloba*. It is a very pretty ornamental shrub, loaded with double flowers early in the spring time, and I am sorry to see it is troubled with the black-knot.

Mr. GILCHRIST.—With regard to the black-knot, I understand that if we cut it off before midsummer, no doubt we should get rid of it. I think we should look to the appointment of an inspector.

The VICE-PRESIDENT.—Do you not find the law respected

Mr. GILCHRIST.—No; farmers don't take any notice of it.

Mr. DOWNS.—About fifteen years ago, I had some fine plum trees in my garden. I noticed the black-knot first on the Purple Gage. I cut the branches off, and I went on doing this for several years till I got part of the tops of the trees cut off. The result was that the trees died out.

The VICE-PRESIDENT.—What varieties of plums had you?

Mr. DOWNS.—I had Green Gage, Washington, and Purple Gage.

Mr. STREET (of Stratford).—A few years ago, this was the finest section in the country for plums, but the black-knot has destroyed a good many of the trees. I find it spreads very quickly.

The VICE-PRESIDENT.—There is no doubt that some varieties are much more exempt than others.

Mr. DENTON.—General Hand is a tree that always flourishes.

The VICE-PRESIDENT.—It gets a good crop. I am very sorry that we have got so far discouraged that we would make up our minds not to plant any more plum trees. In the first place, we have varieties not subject to black-knot, such as I think the Yellow Egg, Washington, and Coe's Golden Drop. If we would use some care in the matter when we have young trees, and early in the season when the knot is forming, cut it out with a good sharp knife, scrape out all the excrescence and use a little salt, we might prevent the black-knot from gaining ground. By watching young trees you will find you will get over the difficulty. The curculio is not a formidable pest. We use Paris green, and it is very successful. Throughout the United States, our friend from Michigan says, it is used a great deal by the plum growers. I use it a couple of times in the season.

MEMBER.—How is it applied?

The VICE-PRESIDENT.—I usually put a teaspoonful in a pail and fill it half-full of water, and apply at once through a very fine rose. A pailful will spray, say ten full grown trees. I use it just as the young plums are formed. If we have a heavy rain, I apply it again. Our experience is, that after these precautions, we have a full stock of plums.

ADDRESS OF WELCOME.

The Mayor and a deputation from the City Council of Stratford waited upon the Association. The Mayor welcomed the members of the Association in these words:—

Mr. VICE-PRESIDENT.—I appear at the suggestion of our Council, to extend to you a hearty welcome to the City of Stratford. As soon as we heard of your intention of having the winter meeting here, I determined that the council should meet and extend to you a welcome. I may say, we have at least a number of gentlemen who entertain lively recollections of your former meeting some years ago in Stratford. Although at that time tree planting was not carried on to any great extent, I have no doubt that your meeting gave it an impetus, and that we have not been the losers. I need not refer to the antiquity of the process of tree planting. It is mentioned early in history, not only in profane history, but in the Bible; it is mentioned at the beginning of Genesis. Our first parents were placed in a garden of trees, from which they were to get their food. We find the Association, aided by individual efforts, exerting an influence in this important direction. The plan of coming together to exchange notes is a good one. Formerly individuals could not come together in this way. It was almost impossible in former times to get an association together in order to discuss these important subjects. We hope the meeting will be profitable to you all; we have no doubt it will be profitable to us. We intend to do all we can as representatives of the people of Stratford to make you as comfortable as possible. I might, before concluding, refer to what has been done in this city. The council established an Arbor day two years ago, which I hope will become an annual

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institution. The first year we planted 1,500 trees, and last year we planted 800 or 900 more. If you walk or drive through the streets of Stratford you will find a great number of the avenues lined with trees, in a thrifty and in a healthy condition. I do not know anything further to say, except that I wish to make a personal remark. I see in your chair a gentleman whom I have known since boyhood, and I rejoice to see he is such an authority in this branch that you have esteemed it advisable to make him your Vice-President. Again, on behalf of the City Council and citizens of Stratford, I welcome you to our city, and hope this meeting will be profitable to all.

The VICE-PRESIDENT made a suitable address in reply, expressing his appreciation of the cordial welcome extended by the city of Stratford to the Fruit Growers' Association of Ontario.

PEACHES AND CHERRIES.

Subject—"Peaches and Cherries, earliest and best varieties for cultivation in this section."

Mr. ESSENCE.—I have not been successful with cherries, although I have always tried to get the best quality.

The VICE-PRESIDENT.—What cherries have you cultivated?

Mr. ESSENCE.—I have cultivated the ordinary red varieties.

Mr. STEET.—In 1877 I ordered some peach trees from my worthy friend, Mr. Beadle, and procured three, Early Beatrice, Foster, and Early Crawford. In 1879 the first tree fruited very fine peaches. In the winter of 1881—it was a very severe winter—and the poor tree got its death. The Foster fruited very well, but it died the same winter. The Early Crawford is not yet dead, but has never fruited.

Mr. JARVIS.—I have gone through the mill thoroughly, in regard to peaches. I have tried for the last thirty years to grow them, but I am throwing away time and money. I plant them, and the next year, or the following, they are sure to be killed. I planted some from seed. I had one fine crop of peaches last year, but last winter they were killed to the ground. In regard to cherries, I have grown successfully a large English cherry. I planted these trees on the north side, and they have grown to an immense size. The fruit almost hangs like grapes. In regard to the Early Richmond, one tree last year was partly killed by the frost, but it looks very well this year. The Kentish, if they remain on the tree long enough, are a very good substitute for the English Cherry. In regard to the portion of Manitoba I was in, viz., the Poplar Bluffs, the Little Wild Cherry was infested with black-knot. I was astonished. I went into the woods and examined the fungus, and found that it exists worse there than here. With plum trees I have been very unfortunate. The black-knot is not on the Lombard, or McLaughlin. They are growing to be large trees, and I trust they will be free from the black-knot.

Mr. BEALL.—Have you robins here?

Mr. JARVIS.—We have robins here that rob us all. (Laughter). I wish the Fruit Growers' Association would get the law changed regarding the killing of robins. We really cannot preserve our trees on account of the numerous birds. Last year was a poor year for cherries; there were not enough cherries to make it worth while fighting the robins. Something will have to be done if we want a large crop of cherries. We should allow the boys to shoot them.

Mr. DOWNS.—I would like to ask if there is any advantage in planting cherry trees near a fence; any advantage to be gained regarding protection against robins. I have seen them in the old country grown very successful, trained up similar to the way you train grape vines.

The VICE-PRESIDENT.—That is a point I cannot answer, and there is no authority on it. It has not been tested.

Mr. BEADLE.—Mr. Budd and Mr. Gibb speak of some cherries found in the Vladimir district, Russia. They grow about the height of a good size currant bush in that climate. They are loaded with fruit. It is a cold climate, the thermometer falling to forty-five

degrees below zero. In the summer time the hot, dry winds are a very severe test. If the Fruit Growers' Association would get some and propagate a few, or say some ten members, with ten dollars each, would send and get some of these Vladimir cherries to try. Mr. Budd says: "It is far better than any of the cherries we have."

About the birds, now; if we throw netting over our trees it keeps the birds away. I have thrown netting over my own cherries, otherwise it is hard to keep the birds away.

I want to throw out one thought about the peach tree, that may be of some use to you. If a peach tree succeeds in bearing fruit, and it is a success, plant from that tree and grow other trees. Let them fruit; you may get some pretty good peaches. You would likely get some a little more hardy. Keep on propagating, and you may succeed in getting a variety of peach sufficiently hardy to endure our climate. There is a limit to peach culture. It may be that you get the winter so cold that the peaches fail to survive. If the trees are healthy, grown well and trained so that the roots are protected, the winter does not often kill the wood of the tree. Last winter the least proportion of any year was killed. We live in hopes that we will get peach trees that will not winter kill. Taking succeeding generations from trees in your locality, you may succeed.

Mr. ESSENCE.—It is very gratifying indeed to hear that, in Mr. Beadle's experience in propagating and getting a hardy class of fruit, he has been successful. I hope the few remarks dropped will encourage others to make an effort in a similar direction. The little I have tested in that way was the only success I had in peach growing. It was suggested by a gentleman that, in order to grow peaches, you should cover them up and protect the roots by tramping snow or ashes, or anything, about them. He was known to have peaches in this way for many years in succession. I was very much pleased to learn that they fruited well. Everything of this kind is encouraging, as a test to show the possibility of growing peaches.

Mr. BEALL.—What kind of soil would be suitable for peaches?

The VICE-PRESIDENT.—Light sandy loam soil.

Mr. WRIGHT (Renfrew).—Of course we can't attempt to grow a great deal. The hardiest cherry in Renfrew is the early Richmond. We have three other cherries; one is a seedling sent from the State of Minnesota last year. It stands three feet high; not a single twig was injured and the thermometer went 40 degrees below zero. I have the French cherry; it is a seedling from the coast of Labrador. It was brought by a priest, and it was propagated, and they gave me one of the trees to try. Then I have the Vladimir cherry, but it has not been in my possession long. I grow ordinary cherries by covering the roots with pea straw or manure.

PEARS.

Mr. BEADLE.—I call your attention, by the way, to the collection of pears sent here, at my request, by Messrs. Ellwanger and Barry, of Rochester, N. Y. I thought it would interest our people to see the pears, and to notice how they keep. Mr. Beadle explained that the varieties were:—The Lawrence, Josephine D'Malines, Clapp's No. 64, the Beurre Anjou, Winter Beurre Gris, Dana's Hovey, Columbia and Easter Beurre. The difficulty in keeping pears may be avoided by keeping them warm. If they are exposed to the air they shrivel and get tough as a piece of leather. Shut them up tight and do not expose them to the air. There is the Summer Doyenne; I have a good many of those. There is another one, Manning's Elizabeth. For home use there is the Tyson; I like it very much. There is the Bartlett and the Clapp's Favourite. There is an endless variety of pears, and it is a matter of taste which you choose. The Flemish Beauty is a hardy pear and does well. I suppose the most money is made out of the Bartlett. There are localities where the Flemish Beauty has been profitable. The Beurre Clairgeau is a very nice pear.

Mr. SMITH.—There is the Doyenne Boussock; it is a good pear.

Mr. BEADLE.—Yes; and there are some fine Beurre D'Anjou.

Mr. SCOTT (of Michigan).—Now, the Bartlett keeps for about two weeks. People find they can't keep it longer. Prices in Chicago and New York markets ranged from

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\$12.00 to \$4.00 in two weeks. For home use the Mount Vernon is a pretty good pear, a very early bearer and about the size of the Lawrence. Does the Flemish Beauty crack here at all?

Mr. HORN.—No sir.

Mr. ESSENCE.—My Flemish Beauty trees, for the last two years, have been loaded down very heavily, but there is no colour to the fruit. I apprehend the reason is too much foliage. I think they are kept from the sun. I have the Vicar of Wakefield, and have taken many prizes with it, although I have only one tree of that variety. I have had it thirty years. There is never a year I have not fruit on it.

Mr. STEET.—My place has a very stiff clay soil. Last autumn my Flemish Beauty for the first time cracked. I attributed that to the wet weather.

The Association adjourned at 6 o'clock to meet at 8 o'clock

The evening meeting was called to order by the President, Mr. Saunders, after which the question drawer was dealt with.

SPREADING MANURE.

QUESTION.—The best method for spreading manure between rows of raspberries?

Mr. HILBORN.—That is to avoid injuring them. The last plantation, I put the plants far apart so that I could drive through with one horse between the rows.

Mr. SCOTT.—When the snow is on the ground, I take a sleigh, a narrow one, to draw out the manure. In the spring, I take my spading fork and spade it in, thus killing all the little weeds.

MILDEW ON GRAPES.

QUESTION.—What remedies would this Association recommend for the mildew on grape-vines?

Mr. BEADLE.—The best remedy I know of is sulphur. The best way to apply it is to blow it upon the leaves or upon the fruit, just as early as you see the slightest appearance of mildew. One of my neighbours says before mildew comes.

Mr. MORTON.—I saw an extract taken from a French periodical, and in that article it was claimed that sulphur had been satisfactory in all cases. There is also the kerosene emulsion sprayed on the inside of the leaves, which came into public notice in 1885. I notice a French preparation made up of lime water, mixed with a solution of sulphate of copper in water, forming a bluish paste, which is found a good preventive as well as remedial agent. One application has been found sufficient.

Mr. MACD. ALLAN.—I have made a practice of using sulphur very early in the season, just as the blossoms are on the grape-vines. I have my grapes training on trellises. I work the soil up, well and sprinkle it quite thickly with sulphur. A few pounds of it goes a great way. I use it again in a small quantity some weeks after, when the grapes are fully formed. I was astonished with the Prentiss grape, that seems to mildew in spite of anything. I have noticed in going through the vineyards of some of the successful grape growers, that their soil was impregnated with sulphur. I have been very successful the last three or four years and have not the slightest sign of mildew.

Mr. MORTON.—This is the receipt I spoke about: Eighteen lbs. sulphate of copper mixed with twenty-two gallons of water, also six and a-half gallons of water mixed with thirty-four lbs. lime. Mingle these two mixtures together and they form a bluish mixture. Apply to the leaves with a small broom, taking care not to let it get on the grapes.

The PRESIDENT.—Throw it on in a semi-liquid state.

Mr. MORTON.—It is in French, but I saw the translation in 1885. They say put it on early, about June. They say it sticks well on the leaves. Frequent showers will not remove it.

The PRESIDENT.—What about the fruit; will it stick on the fruit?

Mr. MORTON.—They don't say that it will be injurious. I would recommend caution and not trust too much to new fangled ideas.

The PRESIDENT.—There is another form of pest I think could be referred to in this question, the *Pulvinaria Innumerabilis*. Within this white substance is the egg mass of a family of lice. It is hardy in the winter, and sticks on the grape-vine until spring, when they gradually obtain their matured form. The best measure to adopt is to brush them off in the winter. A person going along with a whisk can destroy nineteen-twentieths of these egg-masses. A solution of whale oil, scap, and soda kills the lice as they come out of the egg. They infest Basswood and Maple also.

GARDENS AND LAWNS.

The next topic discussed was, "Gardens and Lawns in city and country."

Mr. JARVIS.—If there is anything pleasing to the eye and pleasant to the family it is a beautiful lawn and garden, well stocked. In all these cases, the first thing to accomplish is to have your ground in proper shape, under-drained well and the soil level. I always like to see my sods level. I find that along with grass seeds, you get over-stocked with weeds and among others dandelions. I find it much better to get sod and have the plot properly sodded. After that is done, have it well watered and rolled directly after a heavy rain.

Mr. GOLDIE.—Beginning with ornamental trees and shrubs, there are the fine Japans, which are being generally introduced in the country. Among the ordinary flowering shrubs in cultivation are the different varieties of Lilac, which are very beautiful. For small lawns and shrubberies there is the Cedar, of which there are a good many varieties. They are very beautiful, easily grown and hardy. Mr. Jarvis mentions about sodding and, I think, it would be best for a small piece. For a large piece, say as large as this room, it would cost a good deal to cover it with sod. If you want to make a lawn, begin early in the autumn by raking it up and scraping it level in time to sow it in the month of September. The best grass is the Kentucky blue grass. There is another variety called the Rhode Island grass. I would never manure very heavily. To make a good lawn requires a good deal of labour.

The PRESIDENT.—When you are top-dressing, what kind of manure do you prefer?

Mr. GOLDIE.—Stable manure.

Mr. BEALL.—What time do you prefer to sow grass seed?

Mr. GOLDIE.—I prefer to sow it in August or the beginning of September. The next spring the grass is ready to start.

The PRESIDENT.—Do you recommend sowing anything with the grass?

Mr. GOLDIE.—Oats and sometimes barley in sowing it in the spring, but spring sowing with barley is very apt to kill half the grass. If you sow in summer you do not need to sow anything with it.

Mr. GILCHRIST (Guelph).—There is the Geranium, the new double, which has become very popular, but it generally loses its petals. Another very good plant is the Verbena; it stands a good deal of frost.

Mr. BEADLE.—Do you use Phlox Drummondii?

Mr. GILCHRIST.—Yes, a large quantity.

Mr. BEALL.—Portulacca?

Mr. GILCHRIST.—Yes.

Mr. MITCHELL (Innerkip).—There are certain plants we consider very useful for the masses of our people. There is the Geranium and others already mentioned, but of course I place the rose ahead of anything else. Going over the varieties, I will tell you what I consider the best. If you want a brilliant display in spring or in the early summer months,

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take General Jacqueminot, Alfred Calomb and that hybrid perpetual rose, the Marshall P. Wilder. I believe it is not very well known in Canada. You cannot go astray in Marshall P. Wilder. It is equally as good as Alfred Colomb. The Victor Verdier is another perpetual. La France is a capital bed rose and also a perpetual bloomer. It never kills out. For the general masses, as I said before, the Geranium is a valuable plant and very popular. Then there are Gladioli, of which there are so many varieties. You do not get tired of them and they will bear a great amount of abuse.

A MEMBER.—Is there such a thing as a White Perpetual Moss rose ?

Mr. MITCHELL.—Yes; there is a White Moss, the Countess of Murinais.

The PRESIDENT.—Explain the term "perpetual."

Mr. MITCHELL.—We use the word "perpetual," but it should be Hybrid Perpetual. It means a rose that is crossed with a perpetual.

The PRESIDENT.—Some would fancy it meant blooming all the time and, looking at the English of it, I am not surprised at such a conclusion, but the fact is they bloom only once early in summer.

Mr. GILCHRIST.—Have you any remedy for the mildew ?

Mr. MITCHELL.—I use for the mildew nothing but sulphur. It has already been discussed. There is nothing like beginning in time, and do not get discouraged; I have been sometimes at the thought of losing my roses. I think the main secret is vigilance, and real love for roses.

Mr. JARVIS.—What do you use for the thrip ?

Mr. MITCHELL.—Solution of whale oil and soap suds. I put it on twice, and that is all I have done to out-door roses; I have, perhaps, sixty kinds altogether. There is also something like the Saw Fly, a green worm; I think they roll the leaf up.

The PRESIDENT.—That is called a leaf-roller.

Mr. MITCHELL.—I have always been able to fight these things; I have had several writing for information on the matter. If you have any trouble, only write to me and, if possible, I will answer the question.

Mr. BEADLE.—I will ask Mr. Mitchell to write a paper on the subject for the *Horticulturist*. I would say that our friend Mr. Mitchell has struck the key note on flowers. If you want to gain any distinction, you must have a genuine love for the thing in your heart. The Rev. Reynolds Hole says:—"To have a beautiful rose in your garden, you must have a beautiful rose in your heart." Enthusiasm must exist if you expect to succeed in growing fine roses only; with watchfulness and care you may succeed in doing anything well. With regard to some of these rose pests, there are many flies. We have the Aphis, which gathers on the young, tender roots, and with their little beaks, suck out the vitality. For that, I find tobacco water the best remedy. That other, which Mr. Mitchell referred to, the thrip, is a little, white fly; they have two periods of existence; at one period of their existence, they have no wings; whale oil is sure to be effectual if taken in time; soap water has been effectual in destroying them; if you allow them to get large, I find it almost impossible to hurt them with soap water.

Mr. ESSENCE.—I am very fond of roses. In passing my grounds, for seasons you would see it full of roses. One rose, fully ten feet high, was covered with bloom. The rose bushes are always thrifty. The only thing I have to fight against is the thrip. I notice them before they get winged, and capture them with whale oil soap. I have also used successfully, tobacco smoke. You place some sort of cover over the bush, and keep the smoke from escaping. It will kill every one.

Mr. MYERS.—At what time does the thrip come on the leaves ?

The PRESIDENT.—Sometime in June.

Mr. MORTON.—I have discovered a new variety of rose. The last two years my rose developed most wonderful foliage, perfectly white. I saw thrip on it, and I experimented to see what would kill it. I tried coal oil emulsion. The first dose, I killed something. I killed my rosebush. I found excellent success in Pyrethrum powder. You can get it for about eighty cents a pound. Dilute it in water, about two ounces to a gallon of water. With this I disposed of the aphis and the thrip.

GRAPES.

The next subject under discussion was,—“Grapes; earliest and best varieties for cultivation in this section.”

Mr. SCOTT.—My experience does not extend much beyond the Early Concord; I also like the Worden; I forgot to mention the Cottage, and also a white grape called the Lady.

Mr. JARVIS.—I have been growing grapes for many years. I made a great mistake. I first planted the Isabella, and then got the Clinton. It scarcely ripens before the frost comes, and kills all the fruit. It has acted this way for thirty-five years. About seven years ago the earliest grape known was the Jackman. I planted one of the Washington grapes and it covers all the side of my fence. It bore last year very well. The grapes are fine and large. I will say in regard to the Jackman, that it makes good preserves.

Mr. MILLS.—Moore's Early ripened before any other grape I had. The Salem and Delaware ripened about the same time. As far as manuring grapes is concerned, I use nothing but ashes.

Mr. YANDELL.—The William is my fancy grape.

The PRESIDENT.—It has a larger bunch than the Delaware.

Mr. MCCARTHY.—I have had experience with the Isabella, and I find it is a failure. Of the Fox grape, I have three vines, and one of them will very soon take in half the orchard. This season we made twenty gallons of wine off a single vine. The Fox is very closely allied to the Clinton, which I also have, and somewhat tender. It is a black grape; a little darker than the Clinton. The berries are about the same.

The PRESIDENT.—Are you sure it is not the Clinton? The Fox grape is a wild grape found more abundantly in eastern cities. The grapes drop before they are ripe. One berry would be enough for any person.

Mr. MCCARTHY.—I got it from Mr. Stephens under that name. I always considered it a well-named grape.

The PRESIDENT.—The colour of the Fox grape will vary from pink to purple. It is a grape used very little for food. It is, however, the parent from which Rogers got all his hybrids.

Mr. YANDELL.—Rogers' No. 4 ripens very well.

Mr. STEET.—I have been very successful with grapes. I have grown Rochester No. 1, and Salem. I have two fine vines; one on each side of the front verandah, very thickly set. I have planted vines, but have not fruited them. I have had the Burnet grape for some years; it has not fruited with me.

Mr. BUCKIM.—I grow a few varieties, chiefly the Concord, Clinton and Delaware. I do not give much attention to them, and do very little pruning.

Mr. MYERS.—I would like to hear if any person had any killed last fall. I have to say as far as growing grapes with profit is concerned, it has proved a failure with me. Except you lay them down and cover them up in the winter, you cannot grow grapes around here.

Mr. YANDELL.—I have tried several classes of trellisses. I left one vine above the snow and it was dead in the spring. I have covered up my grapes since.

The PRESIDENT.—My man and I have covered 200 grape vines in a day.

MEMBER.—Do you cover the whole vine or just the tips?

The PRESIDENT.—It is not necessary to cover every part of the vine with earth.

Mr. GOVENLOCK, of Seaforth, had on exhibition, a model of a movable trellis, in which the vines could be laid down and covered up in winter to protect them. He explained the mechanical bearing of the trellis.

Mr. GOVENLOCK.—I like pruning grapes after the leaves have thoroughly left. As far as my experience in grapes is concerned, it may be useful to you. About ten or fifteen years ago I got the Clinton, Isabella, Delaware and Hartford. I find the Clinton running over trees, but they have done very well. The Delaware is, however my favourite grape. I have taken prizes with them for ten years.

Mr. MYERS.—Supposing I was planting an acre and a-half of grapes, how would you prepare the soil?

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Mr. SMITH.—Dig a drain and use unleached ashes. Be sure to plant the grapes deep enough. In our section grapes were killed the first winter after they were planted, from not being planted deep enough. They were frozen out. The Early Victor, I have not fruited much yet. Moore's Early and Worden are the best blacks for the market.

Mr. SMITH.—For an early white grape, I don't know anything better than Jessica.

The PRESIDENT.—I suppose the varieties you mention ripen at St. Catharines early

Mr. SMITH.—Yes.

Mr. BEALL.—Moore's Early is the earliest I have. The Jessica does not fruit with me.

Mr. JARVIS.—What is the time for Moore's Early?

Mr. BEALL.—It ripens about 20th or 25th September. We had a heavy frost on the 17th October last. I didn't see a ripe grape last year; of the black grapes, none ripened. The Niagara grape ripens about the 25th September; the Delaware and Brighton about the same time. With regard to the laying down of grape vines, they should be pruned, so as to be laid down with the greatest facility.

SMALL FRUITS.

The next topic taken up and discussed was, "Gooseberries, Currants, Raspberries and Strawberries, earliest and best varieties for cultivation in this section."

Mr. LITTLE.—In berries I would mention the Duncan; it is a famous berry. Next to that, May King and the Crescent seedling.

The PRESIDENT.—Is it a good bearer?

Mr. LITTLE.—Yes; a good bearer. The Ironclad is another new variety, which has done very well with me. There are better berries than these, taking the size into account. Mount Vernon, Manchester and Cumberland are all good.

Mr. LITTLE.—The berries that sell best have no white tips.

The PRESIDENT.—Will you mention the best raspberries?

Mr. LITTLE.—The Taylor is a good black cap. The Souhegan is not so valuable as others, on the account of its liability to rust.

The PRESIDENT.—That is, the plants get affected with the rust?

Mr. HOPKINS.—There is another good variety—the Hilborn. I think it is just as large as any of the new varieties.

The PRESIDENT.—What about red ones?

Mr. HOPKINS.—I give the Cuthbert preference in the red berries.

The PRESIDENT.—How have you found the Marlboro' in regard to fruiting?

Mr. HOPKINS.—I have not fruited it.

The PRESIDENT.—Do you think much of the Turner?

Mr. HOPKINS.—It is not as well flavoured as others. It is a very good market berry.

Mr. LITTLE.—The Brandywine, like every new variety, has been lauded up to the sky.

A MEMBER.—I would like to ask Mr. Little what kind of soil he has?

Mr. LITTLE.—I raise my berries upon dark loam. I get good fruit also upon clayey loam.

Mr. MYERS.—The great trouble in growing strawberries is, just about the time a nice bloom is on, the frost in this section of the country cuts it off.

Mr. SMITH.—I grow Fay's Currants. Among the new varieties of fruit, there are but few that fulfil the originator's claims; but this currant is one among the few.

The PRESIDENT.—Did you find the Fay fruit as heavily last year as it did before?

Mr. SMITH.—Quite so; and it grew on one side of the garden in quite a neglected fashion.

Mr. SCOTT.—I haven't fruited it very long, but I think it is the best currant grown for the market.

The Association adjourned at 10.35 p.m.

The President took the chair at 10.45 Thursday, when the discussion of the previous evening on "Small Fruits" was resumed.

Mr. PETERS.—I grow a few of the Cuthbert, and next to it, I would take the Niagara; it is very hardy. I have the Clark; it is a nice berry. It has done well with me. The best fruiter is the Saunders.

The PRESIDENT.—I would like to say for the information of the members, that there were some five or six of these hybrids which had a great resemblance to each other, but there was a marked difference between the time of ripening, and some difference between the ripened fruit. They all have that characteristic of being heavy bearers.

Mr. PETERS.—This berry I have is a very heavy bearer. It bears an immense crop of fruit.

The PRESIDENT.—Have you tried propagating it yourself, and how do you propagate it?

Mr. PETERS.—Yes; I propagate from the tips.

The PRESIDENT.—That is singular. I never found them producing tips in my ground. These hybrids are pure crosses of the Philadelphia raspberry, and Doolittle black cap. The Philadelphia is the male.

The PRESIDENT.—What about strawberries?

Mr. PETERS.—The Sharpless and Glendale have succeeded very well with me. I also have the Colonel Cheney. I didn't succeed with the Manchester or Bidwell. The Crescent Seedling berries are very small.

The PRESIDENT.—Have you done anything in gooseberries?

Mr. PETERS.—My soil is heavy clay. I have large size White Smith. I have also grown the Downing, but it produced a very small crop.

The PRESIDENT.—How does the Downing compare in size with the White Smith?

Mr. PETERS.—It is not quite as large.

Mr. STEET.—I have imported a great many gooseberries from England and Scotland. Our Horticultural Society goes in for the largest. We show our fruit in the City Hall, and we go in to get as many prizes as we can.

The PRESIDENT.—You cultivate the biggest you can get?

Mr. STEET.—Yes; I don't stick to the names. If they mildew I spread coal ashes around them. I like the acid flavor of the gooseberry, and I think with me they do just as well as they do in England.

The PRESIDENT.—I would suggest, if that is the general experience, to plant all English gooseberries and ship them to all parts of Canada. In the London market they generally sell from fifteen to twenty cents a quart. If you can get them here without mildew, I would advise you all to grow them.

Mr. PETERS.—I have grown White Smith for fifteen years, and never had the least mildew on it.

Mr. DOWNS.—I would like to ask what is the best preventive for the mildew. In Downing's Seedling I have no trouble with the mildew, but in some of the larger sorts every one is affected.

The PRESIDENT.—What is the character of your soil?

Mr. DOWNS.—Heavy.

The PRESIDENT.—Is the Lawton Blackberry hardy here?

Mr. DOWNS.—I got one two or three years ago, and I planted it about eight feet from the fence. The next year I had some very large berries, but only a few straggling canes came up, and finally they seemed to die out.

Mr. JARVIS.—I wish to reply to Mr. Downs, on the Lawton. I am confident if he hadn't a good crop he didn't take good care of it. It is a neighbourly sort of blackberry. I imported the Lawton at the same time as I did the Highland Cranberry. The Cranberries were a failure, but the Lawton I have had ever since. Some years I have had magnificent crops. This last year I had a very nice crop of Lawtons, and they are a fine berry. They require to remain on the bush till they get thoroughly ripe. With regard to raspberries, I have a very old kind. It is the Brinckle's Orange. Year after year we have had splendid crops. They have the peculiarity of bearing a second crop.

Mr. SMITH.—Are the canes hardy?

Mr. JARVIS.—Yes, very hardy. With regard to gooseberries, I have had only one

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variety, and I don't know the name of it. I have had it a number of years; I got it from Mr. D. W. Harris, of England. It bears immense crops. For the mildew I use charcoal dust on all my gooseberry bushes. There were a few years I didn't use it and still there was no mildew. Last year, in one night, the mildew seemed to strike all my gooseberries, and I had a very large crop. I believe if I had still attended to the old system of covering them with charcoal dust, I would have had no mildew. I heard that my grandmother kept gooseberries free from mildew by planting them in old charcoal pits. That is the way they planted their gooseberries, and they grew them free from mildew. The last time the Association met here there were some very fine gooseberries shown. There were some immense ones and all free from mildew.

Mr. HILBORN.—There are many newer varieties, several of which I do not wish to say much about. I will give an opinion in one or two years. Many leading varieties have been tested for years, such as Crescent Seedling, which has proved most productive and profitable. The Daniel Boone, Manchester, Wilson and Crescent, I think, would be the best. One of the newer varieties, the Atlantic, is the most profitable I have seen, and I believe it is going to be a good market berry. It is about the size of the Wilson. It is fully firmer than the Wilson.

Mr. SMITH.—Have you grown Parry?

Mr. HILBORN.—I can't say much about it; but I have fruited Woodruff No. 1.

The PRESIDENT.—How is it for size?

Mr. HILBORN.—It is a good large size; not quite equal to Manchester.

The PRESIDENT.—You would recommend it for amateur culture, and not for market.

Mr. HILBORN.—Not for market.

The PRESIDENT.—Suppose you were restricted say to half dozen kinds for general cultivation and for market; what would you suggest?

Mr. HILBORN.—Crescent Seedling, Daniel Boone, Manchester, Wilson, Atlantic and Captain Jack. I have about eighty varieties, most of them have good points.

The PRESIDENT.—Does the Caroline raspberry fruit well with you?

Mr. HILBORN.—Yes; it is a little soft, but will carry well.

Mr. SMITH.—It is a cap?

Mr. HILBORN.—Yes; although a sucker. Tyler is the best early black cap. The Tyler and Souhegan are preferred, although I think the Tyler is a little ahead on my ground. The size of the fruit is just a shade larger. The Souhegan is liable to rust.

The PRESIDENT.—Mr. Little, you have raised some of the newer varieties. The Souhegan—have you ever found the winter to kill it?

Mr. LITTLE.—I have not found the winter to kill it.

The PRESIDENT.—You found this plant (Souhegan) on Mr. Hilborn's grounds last summer?

Mr. LITTLE.—Yes; I think it the best quality of black cap I have seen. It is medium early; not quite as early as Tyler. It is of good size, and is not so easily affected by cold as the Mammoth Cluster.

The PRESIDENT.—Have you any other variety?

Mr. LITTLE.—I have Mammoth Cluster and Gregg.

The PRESIDENT.—Is the Gregg perfectly hardy with you?

Mr. LITTLE.—No, it is not. I planted varieties to come in, however, at different times. There is the Shaffer's Colossal, the best of the many purples. There is none other more hardy and productive. Its colour is against it for a market berry, especially if it gets a little over-ripe. I think there is none better for canning or table use, according to my taste.

The PRESIDENT.—What varieties of red raspberries do you prefer?

Mr. LITTLE.—The Turner and Cuthbert.

The PRESIDENT.—Would you put the Turner before the Cuthbert?

Mr. LITTLE.—Yes; the Turner is ahead. It is the hardiest red raspberry I have seen. The Clark is too tender.

The PRESIDENT.—Have you tried the Marlboro?

Mr. LITTLE.—It has large berries; is of a medium quality, but not firm.

Mr. MORTON.—Have you the Ohio?

Mr. LITTLE.—I had the Ohio for several years; I found it a medium sized berry of very good quality.

The PRESIDENT.—What about gooseberries of the English varieties, the Whitesmith, for instance. How many years have you grown it?

Mr. LITTLE.—Two or three years. I had the Crown Bob, and planted it at the same time, but the mildew was bad on it. There is also the Industry, a very strong grower, and free from mildew.

Mr. HILBORN.—Among the market seedlings, I find Smith's Improved the best. The Downing was very good this year, but mildewed on sandy soil. It was all right on clayey loam. Among blackberries, I succeeded best with the Snyder.

The PRESIDENT.—What about currants?

Mr. HILBORN.—Raby Castle, Victoria, and Fay's Prolific, has fruited two years to a small extent.

The PRESIDENT.—Can you distinguish any difference between Raby Castle and Victoria?

Mr. HILBORN.—Raby Castle is a little stronger, and has a slightly larger bunch.

The PRESIDENT.—What is your opinion about Fay's Prolific?

Mr. HILBORN.—Fay's Prolific is not quite as long.

The PRESIDENT.—What do you think of the Cherry?

Mr. HILBORN.—It is not productive enough.

The PRESIDENT.—Have you fruited Moore's Ruby?

Mr. HILBORN.—Yes; this year.

The PRESIDENT.—What does it promise?

Mr. HILBORN.—It is the most promising of any of them.

A MEMBER.—What is the size?

Mr. HILBORN.—The size is about the same as the Victoria or Raby Castle.

Mr. DOWNS.—What is the best mode of pruning black caps that grow very long canes? I think last year the canes grew ten feet long. Is it best to let the canes grow so long?

Mr. HILBORN.—The best time to prune them, is when the bush gets two feet or two and a half feet high. It makes a stronger bush. It will stand up, grow more fruit and stand winter better. If the laterals get too long pinch them off. At the time of pruning, pinch off the undergrowth.

The PRESIDENT.—The advantages of that is the plant becomes more stocky and it is not so liable to break off, and will produce a much larger quantity of fruit.

Mr. HILBORN.—It brings about a great many more branches. It is reasonable, that the higher you get up the more liable they are to be killed with the winter. I have many black currants. I like the Black Naples; but Lee's Prolific which has been referred to has not done very well with me. The fruit has not grown large, and it has not been productive with me.

Mr. SMITH.—My experience is similar to Mr. Hilborn's. I regard the Atlantic and Mrs. Garfield as very good varieties, and with me they did fairly well last year. My experience would differ a little on black caps. I think the claim that the Tyler is a little earlier than the Souhegan is unfounded; for I had them side by side and could not see fifteen minutes difference in the time of ripening. The only difference I could notice was that I thought the Souhegan was a little the stronger grower. In regard to red berries for market, we have never had anything to beat Highland Hardy.

The PRESIDENT.—Do you find it a strong grower?

Mr. SMITH.—Not quite so strong as the Turner, but fully as productive.

The PRESIDENT.—Do you find it firm enough to ship?

Mr. SMITH.—Fully firmer than the Turner, but not quite as firm as the Cuthbert. There is the Reliance, which is a good bearer. There was a gentlemen spoke about Niagara being hardy; with me it is not hardy.

The PRESIDENT.—Do you think the Caroline worthy of a more extensive cultivation?

Mr. SMITH.—If there were a demand for yellow raspberries it might be, but I have never found any great profit in growing it. I have the Brinckle's Orange as well, and it is a better flavoured berry. In the matter of gooseberries, there has been some remarks

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made with respect to the Saunders. From what I have seen I think it is most promising.

Mr. SMITH.—It is about the size of the Downing.

Mr. COPELAND.—I can say something of the Hilborn black cap, which I have fruited myself. I have many other berries, and after making a comparison, I have concluded that the Hilborn raspberry is really the best in quality. It is not as large as some other berries, but it is hardy. Last winter didn't kill it in the least, while the Gregg was killed back by its side. We considered last winter pretty hard on the black caps.

Mr. SMITH.—What variety do you find the best in blacks?

Mr. SCOTT.—The Snyder is our main crop. I think there is more money in Snyder than any other berry. I can't grow Kittatinny.

The PRESIDENT.—Have you tested Wilson's Junior?

Mr. SCOTT.—Not sufficiently, but I find we have to cover the plants up.

Mr. SMITH.—How do you cover them?

Mr. SCOTT.—I run a furrow along one side of the row, bend the vines over and cover the tips; or I take a spade and go around and remove a little dirt.

Mr. BEALL.—Do you turn the berries from the furrow?

Mr. SCOTT.—I turn them into the furrow; cutting the roots will not affect the berries.

THE QUINCE.

The Quince varieties and cultivation was then taken under consideration, and the following discussion ensued:—

Mr. PETERS.—I have tried to grow them; but cannot succeed. I have never been able to get any fruit yet.

Mr. DOWNS.—I have tried them without success. The only quinces I ever saw were immediately opposite my place, grown by Mr. James. He had a very fine healthy tree.

Mr. SMITH.—We have tried several varieties in our locality; but I have seen nothing yet better than the old Orange. It is earlier than the Champion.

Mr. BEADLE.—The Orange quince is the best variety we can grow. The Champion quince is too late for us. Meech's Prolific was illustrated in the January number of the *Agriculturist* of this year. It comes into bearing quite late; later than most of our quinces. Apple and Orange are slow enough.

Mr. SCOTT.—The Champion has that peculiarity too. The Orange quince is the only variety we can grow. The Champion is too late; we can't ripen it.

Messrs. Jarvis, Gilchrist and Smith at this stage presented their report on the exhibition of fruits.

AN INVITATION.

Mr. SCOTT.—Gentlemen,—I want to say, as I am about to leave for home, that we intend to hold our June meeting in Lansing, Michigan, and shall be glad to extend a welcome to you all. The Agricultural College is located there and will be a point of interest. I have always deemed it a great pleasure to come to your meetings, feeling we are brothers. (Hear hear.) I know that the fruit growers' of Michigan will do all in their power to welcome you.

The PRESIDENT.—As members of the Canadian Association, we are all very glad indeed that Mr. Scott has been with us, from Michigan. We are geographically near them, and we are always glad to have any representatives from the States to favour us with their presence. I hope we shall have, as far as knowledge of fruit culture is concerned, complete reciprocity. I am very glad to see the spirit that has characterized these meetings. We have had a goodly attendance; not only last night but all through yesterday, which is in every way creditable to this district.

The Convention adjourned at 12.35, p.m. for dinner.

The President called the Association to order at 2.35, when the following topic was opened for discussion :

APPLES, BEST VARIETIES FOR EXPORT.

Mr. MACD. ALLAN.—I can speak for my own section only, and shall give the leading varieties that would suit. There is a great amount of money in the Baldwin, and in our western district it is an apple that does very well. It is a regular and very abundant bearer. It is tolerably heavy, and a good size, is a splendid shipper and packs well. The Northern Spy is a splendid apple for the market. The American Golden Russet comes next. The King of Tompkins County is very attractive, and an apple that commands a very high price in the markets of the Old Country. It ships very well; it is not a very heavy bearer, but does fairly well. It is an apple liable to be blown off by the wind. Wagner is an apple I think more of the more I see of it; I would prefer it to any other for my own use. It is just the size wanted in the Old Country for dessert, and is therefore an apple with a good deal of value in it for the export trade. There is the Rhode Island Greening, which I believe, for two or three years was cried down in the British markets, but it is coming up again. It stood higher in the British markets this last season. I believe that for general purposes, it is better than the Baldwin. The Baldwin loses its eatable flavour and becomes too woody to be a very good cooker. The Northern Spy, we make a good deal of money out of in the Old Country, although when you have planted out an orchard of trees you have to wait nearly a life time before they come into bearing. It bears very regularly, and crops that pay very well. The Mann is an apple spoken of a great deal, and this last season it brought a really high price. As a shipper, it keeps splendidly, in fact, the Mann is an apple for use towards the spring. This apple, I find, retains its high quality. If you pit it the same as potatoes, on opening the pit in the spring, you will find them good. It is as good in quality as the Rhode Island Greening. If you store them up and ship early in the spring to the Old Country, you will realize a good price. There is an apple not spoken much about; it is the Cabashea. It is an apple that holds its own in the Old Country markets. It has a good deal of the Baldwin quality; it is a large apple, fairly well coloured, and commands a very good price. There is an apple called Esopus Spitzenburgh, which is one of the finest apples we have, and of very high quality; it is not a very good cropper. The Roxbury Russet is a later cropper than the American Golden Russet; it fetches a good price, but not as high. We have another apple that holds its own, that is the Cranberry; it does very well in the English markets. Another very good variety is the Ribston Pippin. If you saw the difference between ours and those grown in the Old Country, you would hardly believe it was the same. On one occasion, a gardener near Glasgow, sent me out some grafts. He had received some of our Ribston apples which he said were of a different quality from the Ribston he had. It was different in appearance in every way. The man who sent out the grafts afterwards received some of the fruit from me, which showed the difference in quality was only a question of location between the Old Country and this. We can take trees from the Old Country, plant them here and show an entirely different and superior quality. So there is no question that we have the inside track of the entire world on apples. In foreign markets we have met the apples of Holland and the United States; but you see that the Canadian apples are quoted from one to two shillings and sixpence higher. The Wealthy is a good apple, and will keep a long time; it is an apple not inclined to spot; it is a good shipper. Swayzie Pomme Grise is a nice apple, but it is not one that at the present prices will ever pay the grower; it is on the small side; at the present rate, it fetches \$4.00. It would require to fetch about \$8.00 or \$9.00 in order to pay the grower. The Esopus Spitzenburgh is not a profitable apple for the grower; it is a very great pity, for it is an apple that would command a very nice price in any market.

Mr. WOODS.—With respect to this neighborhood, I may say that about thirty years ago we had some very fine Snow apples, but they started to spot some years ago. This year we got some magnificent crops of Snow apples. I think one thing about the Spitzenburgh is, that it is a very difficult tree to grow indeed; I have tried it three or four times and it has failed. A most remarkable thing occurred in 1881. In that year we had a severe winter. I had a row of trees, in which the Wagner was planted alternately, and

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they were the only ones I lost in the orchard. Three Wagners were grown on the side of a hill, and those very trees were the only ones killed. It was mentioned in the *Horticulturist*. In my experience, the Wagners are the worst trees in the orchard.

The PRESIDENT.—What other varieties have you?

Mr. WOODS.—In my neighbourhood, there are Maiden's Blush and American Golden Russet, chiefly.

Mr. FRAME.—I find the Spitzenburgh is a very tender tree. My trees are all dead, both young and old. They bore thin crops.

Mr. JOHN PARKER.—I have been growing a few, and make the most money out of the Golden Russet.

Mr. McKEOWN.—I have made the most money out of the Baldwin, King of Tompkins County, Northern Spy, and Golden Russet.

The PRESIDENT.—Which would you put first?

Mr. McKEOWN.—Baldwin and Northern Spy is my favourite.

Mr. SKINNER.—I find the best ones for market are the Baldwins and King of Tompkins County. I find this danger in the Baldwin, that it gets winter killed a great deal. I find the Russets stand very well. The Wagner and Mann apples are very good.

Mr. MONTEITH.—In the southern portion of this county, I think more parties are in favour of King of Tompkins than any other variety. They appear to command the very best local prices in Stratford, and in my own opinion it comes first, and the Spy next. As to the Baldwins, I don't like them.

Mr. O'LOANE.—The Golden Russet, Baldwin, Ribston Pippin, Northern Spy and Greening, seem well suited to this part of the country.

The PRESIDENT.—Is it your opinion that the fruit industry might be extended?

Mr. O'LOANE.—I think it might be extended with profit.

Mr. DEMPSEY.—I would like to ask Mr. Allan, what does he think of the Yellow Bell Flower?

Mr. MACD. ALLAN.—It is not a very good apple.

Mr. DEMPSEY.—Our experience is that it is a very good apple.

PLUMS.

The next topic taken up was "Plums, culture and the best variety for this section."

Mr. UHBELACKER.—I believe I am called a crank on plums. Be that as it may, I have grown a great many varieties. In 1881 most of the best varieties were killed. I grow some of Pond's Seedlings, Glass Seedlings, Yellow Egg, Washington, Lombard, Smith's Orleans, and Coe's Golden Drop. My plum orchard is getting very straggling, although the trees are growing without black knot.

The PRESIDENT.—What are the best plums?

Mr. UHBELACKER. Pond's Seedlings, Washington, Yellow Egg and Lombard.

The PRESIDENT.—Do you grow McLaughlin?

Mr. UHBELACKER.—Yes; we had a fine crop in 1884.

The PRESIDENT.—Does the Glass Seedling keep free from curculio?

Mr. UHBELACKER.—It is curculio proof.

The PRESIDENT.—Can you sell it well in the market?

Mr. UHBELACKER.—Yes, very well.

The PRESIDENT.—Have you found it a good bearer?

Mr. UHBELACKER.—Very good.

The PRESIDENT.—An early bearer?

Mr. UHBELACKER.—We have had three crops off it, after some nine or ten years.

The most profitable plum is the Lombard.

The PRESIDENT.—Have you tried Yellow Gage?

Mr. UHBELACKER.—Yes; but before the fruit gets ripe, it rots. The very best plums are the Pond's Seedlings.

Mr. HARRISON.—I grow the Yellow Egg, Washington and Blue Egg. I have kept the black knot off them.

The PRESIDENT.—Do your Washington trees bear heavy crops?

Mr. HARRISON.—No, Sir.

Mr. WOODS.—I had a good deal of black knot, and tried the well-known plan of the knife. I found cutting it out thoroughly, and applying shellac dissolved in alcohol, two or three times, to be a good remedy.

The PRESIDENT.—That would be a suitable remedy to prevent fungus from spreading.

Mr. WOODS.—I tried coal tar, but it did not affect the curculio. I have tried to catch the worm.

The PRESIDENT.—You would have to get up early. I have jarred the trees at midnight, and found them active.

Mr. STEET.—Do they work at night?

The PRESIDENT.—Yes, and in the day time too.

Mr. STEET.—I have grown plums a great deal and very successfully; I have grafted a number on wild plum stocks. I have grown all kinds, the Washington is a very prolific bearer here; it is a very fine plum, but its bears heavily only once in three or four years.

The PRESIDENT.—What has been your experience with the Bradshaw?

Mr. STEET.—It is a very good plum. We did very well until the black-knot came along; previous to that they were borne down every year with fruit.

The PRESIDENT.—Have you grown Glass Seedling?

Mr. STEET.—I have some Glass Seedlings that were sent out by the Society. I don't think a great deal of them; they are not very good bearers.

Mr. BUCHANAN.—I have the Washington, Glass Seedling and Imperial Gage.

The PRESIDENT.—You find these three varieties succeed well?

Mr. BUCHANAN.—Yes.

Mr. UHBLACKER.—Pond's Seedling or Smith's Orleans have never had the black knot, The Lombard is the worst with us in that regard.

Mr. JARVIS.—Pond's Seedling and Imperial Gage—I have these without black knot. The Lombard has the black-knot.

CRANBERRIES AND HUCKLEBERRIES.

“Cranberries and Huckleberries; would it pay to cultivate them?”

Mr. WOODS.—I don't think cranberries and huckleberries would pay. Five miles from here in the centre of a swamp, is what is known as the huckleberry patch all over this country. Hundreds visit it; indeed, so great is the rush, and the season is so long, that the Railway Company sends out a car and leaves it there on a side track; there is the station and tickets are issued to huckleberry pickers. People go out in hundreds from South Woodstock, and I don't know from how far. People come even from Waterloo County.

Mr. STEET.—I think the cranberry is a very good fruit; it is very nice for pies and puddings.

Mr. BEADLE.—In Ontario both the cranberry and huckleberry grows wild. I may state, that a gentleman in Michigan, named Staples, says huckleberries can be cultivated in gardens. The High Bush cranberry we use, is very different fruit from the cranberry of commerce. The cranberry you buy in the market grows in marshes. It is from a low trailing plant which creeps along in the marsh. The botanist, however, has come to the conclusion, that the High Bush cranberry is the Snow Ball.

Mr. BURRITT.—If the cranberry and huckleberry could be cultivated profitably, I have a swamp that might be turned to good advantage.

Mr. MACD. ALLAN.—You require first of all, a good piece of land. It would never pay to go and plant out bushes on marsh land. To ensure good large crops, it is necessary to have peat land. Take off the top peat early, put three inches of sand over it, and it should be so situated as to be kept free from weeds. You must have a piece of land for no other purpose but for the growth of cranberries.

Mr. WOODS.—Is the High Bush cranberry cultivated at all?

Mr. BEADLE.—Not to any extent; I have grown some, however, as ornamentals.

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VEGETABLES, Etc.

"Vegetables, the best and most profitable variety of cabbage, cauliflower, celery, peas, beans, corn, asparagus, turnips, potatoes, etc; how to grow them, and destroy the noxious insects, to which potatoes and the cabbage tribe are subject. Fertilizers etc."

Mr. TRANSM.—I grow several varieties of tomatoes. The best variety is Livingstone's Favourite. There is also Livingstone's Perfection; but Livingstone's Favourite is my choice.

The PRESIDENT.—What variety of cabbage do you grow?

Mr. TRANSM.—Henderson's Early.

Mr. PETERS.—In Cauliflower I like Dwarf Erfurt. In celery I like Red Celery, I also grow the White Plume.

Mr. BEADLE.—Do you find it hard to keep well?

Mr. PETERS.—It is just for summer use. In asparagus I have a very good plant. I take particular pains in laying the bed out; I clean off the rubbish and put on decomposed manure; I laid it out five years ago, and have had a splendid crop ever since.

A MEMBER.—How do you plant Asparagus?

Mr. PETERS.—About eight or ten inches in the rows.

The PRESIDENT.—In potatoes, what varieties do you grow?

Mr. PETERS.—The Beauty of Hebron principally; it is a fine early kind.

Mr. JARVIS.—Asparagus can be planted just as easy as potatoes. In the cutting of Asparagus some people are afraid of beginning the second year. I commenced cutting the second year, and I have cut ever since. With regard to cauliflower and cabbage, I have not grown any lately on account of the nasty worm. During my visit to the North-west, I saw a cabbage that weighed forty-two pounds. I suppose you will not believe it; but, it was put on the scales. It was at the Exhibition, in Brandon, two years ago, where I saw a White China Winter radish, weighing thirteen pounds. There were others there weighing from eleven to thirteen pounds.

At this stage of the meeting, the Committee that was appointed on the exhibition of fruits, reported on a seedling exhibited by Mr. Oliver, who wished the society to name it. They reported it as follows:—"Free open calyx, good quality, and well worthy of an extended trial. By far the best seedling on exhibition."

The Society by a unanimous vote named it the Oliver.

The discussion on Vegetables, etc., was then continued:—

Mr. WADE.—I raise Henderson's Early Summer cabbage, and the Drumhead Savoy. The only cauliflower I grow with success is the Extra Early Paris. In celery I have Henderson's Half Dwarf. I think this is the celery I prefer, as it keeps in the winter. On the cabbage I have used air-slacked lime; I dust it on. The only application that was a success, however, was one quarter pound of hellebore, and one quarter pound of slacked lime mixed in water thoroughly. I have kept the cabbages perfectly clean. I have tried numerous cures, and this is the best I have ever got yet.

Mr. HILBORN.—Did you ever try Paris green?

Mr. WADE.—I wouldn't try it on my cabbage. If you try it on cabbage, you try it on yourself.

The PRESIDENT.—A good dose of hellebore would be bad, too.

Mr. WADE.—Not one quarter pound to half gallon of lime on 1,500 cabbages. I have heard of people using Paris green on cabbages.

Mr. HILBORN.—I am acquainted with one grower who thought it was safe to use it, but, he said he wouldn't try it again.

Mr. DEMPSEY.—I have used Paris green on cabbages for over two years. I have used it with plaster of Paris.

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COMMERCIAL FERTILIZERS FOR CLAY SOILS.

Mr. W. A. MACDONALD (Agricultural Editor of the *Farmers' Advocate*, London, Ont.)—My attention has been directed to a circular relating to commercial fertilizers which was handed around amongst the members yesterday, and I wish to say a word about it in connection with this subject. I see that special fertilizers are manufactured to suit the requirements of all kinds of crops, including fruit trees. For example, on page 10 you see that the special fertilizers for potatoes and fruits contain large percentages of potash. It is true that potatoes and fruits are greedy potash feeders, but this does not always justify the use of potash fertilizers for this crop. Mine is a clayey soil, and I have tried different kinds of potash fertilizers for potatoes, and I find that it does not pay to apply them. For the purpose of ascertaining the reason why, I made a mechanical analysis of my soil, and found that the coarser portion, which is usually regarded as sand, had in it a large percentage of fragments of alkaline rocks, which yield large quantities of potash. This proves that special fertilizers manufactured for certain crops are of questionable value, unless the character of the soil is also taken into consideration. Of course, the manufacturers cannot ascertain the composition of every soil to which their fertilizers are applied, although they can easily find out the composition of the crop, and unless the farmer or the fruit grower can accurately describe the soil when ordering the fertilizers, there is little hope that they can be profitably used. Some manufacturers say that their fertilizers are good for all soils, but this is all nonsense. Some general fertilizers will produce good results on almost any poor soil, but the application will, in most instances, be a wasteful one; for most soils are deficient in only one or two constituents of plant food, so that the other constituents of the fertilizer are entirely wasted and often produce injurious results. Phosphates are the most deficient constituents in most soils, and you run very little risk in their application, but I would not, as a rule, recommend the use of potash or nitrogen in the commercial form; if the soil is deficient in these constituents, ashes should be used for the former and farmyard manure or clover plowed under for the latter. I have found by repeated experiments that ashes are useful, or at least not injurious, even when potash is abundant in the soil, while sulphate of potash is injurious to such soils.

A MEMBER.—About what yield of potatoes did you get?

W. A. MACDONALD.—My yield was 350 bushels per acre where I applied fertilizers to the best of my ability; where no fertilizers were applied, the yield was 265 bushels per acre, and where I applied several mixtures such as are usually found in the markets, of which I did not know the analysis, my average yield was 260 bushels per acre. I shall never again use a fertilizer without receiving an analysis with it, and I shall always order it more for special soils than for special crops. I am confident that fruit growers could make money out of fertilizers if they organized in some way for the purpose of experimenting and learning the results. I assure you I would most gladly co-operate, and you will also have the sympathy of the fertilizer men. It has been said that commercial fertilizers would prevent potato rot, but I have not found it so. I have had an average of about eighteen per cent. rotten where I used fertilizers, and about the same percentage where I used nothing; but where I applied barnyard manure, there was about forty per cent. rotten. I have over thirty varieties of potatoes, and my favourite variety is the White Star.

The PRESIDENT.—I think caution should be exercised, in the use of fertilizers, lest we arrive at rash conclusions. A few experiments should not be taken as an infallible guide. There are various other conditions, besides the character of the soil, which should be taken into consideration, such as the rainfall, light, heat, etc. We have also, to consider whether the constituents in the fertilizers are stable or not. A few weeks ago, I had occasion to visit the Experiment Station at New Haven, Conn., and I found to my surprise, that large quantities of Canadian ashes were used in the Eastern States, and high prices were paid for them. It occurred to me that if these people could afford to pay such high prices, our people should pay more attention to them, and use them at home. This is an interesting subject, and I think more experiments should be undertaken and reported at our meetings, for mutual information.

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Mr. W. A. MACDONALD.—I don't wish this meeting to understand that I have any particular confidence in the few experiments I have made, and I should not have mentioned them, if they did not corroborate thousands of experiments conducted in other parts of the world. In fact I knew what would be the result before I started my experiments, but I find that it is necessary to demonstrate truths to the farmers in this way; else they come to the conclusion that my teachings are theoretic. I use my experimental grounds as a sort of text-book or blackboard, as it were. It requires no further demonstration to prove that the fertilizers applied should correspond with the natural deficiencies in the soil, and as soon as farmers and fruit growers get this into their heads, they will profit by their investments. Of course your President is right when he says that there are many other conditions to be considered besides the character of the soil, but these are too complicated for discussion here; I was speaking of average conditions.

A MEMBER.—What is the value of ashes?

W. A. MACDONALD.—Unleached hardwood ashes contain four to eight per cent. of potash, and two to three per cent. of phosphoric acid, which, according to the present market prices of these constituents, give them a value of eight to twelve dollars per ton, and then you have thirty-five to thirty-eight per cent. of lime thrown in.

Mr. JARVIS.—With regard to ashes. For years all along East Toronto they gathered ashes for the purpose of making potash. Men came from the United States, and bought up these ashes, and took it over and distribute it through their country. We have lying around this town hundreds of tons. Ashes have great manurial value.

Mr. FRAME.—As a Canadian farmer I have been growing acres of potatoes for the last thirty years, and making money out of them. I take all sorts and try them for the markets. There is the White Star, which is a fine potato. The Buck Eye is a very good potato, and grows very well in heavy clay land. (The speaker here explained his method of planting potatoes, etc.) The Early Rose and Late Rose has taken the market in the meantime. We kill the beetles with Paris Green. We mix a pound of Paris Green to about sixty pounds of plaster, and take a perforated canister and run along the rows very quickly.

The PRESIDENT.—In planting potatoes how do you cut your seed? Do you prefer them in pieces or single eyes?

Mr. FRAME.—Single eyes.

A MEMBER.—Do you ever use manure?

Mr. FRAME.—Yes; I always use manure; I always work it well into my land. Nothing has been said with regard to turnips. I think, if you manure in the right time, you will get a splendid crop of turnips. During the summer months I clean my hen house to have it nice and dry. I put the manure aside and save it for my turnips. There are a great many agricultural papers which speak of this manure. I consider this hen manure the best of all manures. In regard to fertilizers, I am under the impression it is rather expensive paying \$30 to \$40 a ton. As to the buying up of the ashes by the States, I think they need it more than we do, as their land requires it more than ours.

Mr. BEADLE.—Have you an orchard?

Mr. FRAME.—Yes; a very good one. I may say there is no money in the orchard. I think there is more money in other crops. The great difficulty is the frost does so much mischief to the orchards.

Mr. BEADLE.—Do you fertilize your orchard?

Mr. FRAME.—No; we use all we get for the fields.

Mr. BEADLE.—Put 500 bushels of unleached ashes in your orchard.

Mr. FRAME.—A farmer must not have too many irons in the fire. If he has, he cannot attend to them all.

Mr. HAY.—I find the best results in cultivation follow if you have the ground nice and mellow. I spread loose straw over it in the spring, and then I plough it up. I had a fine crop of potatoes. There is great difficulty with the ordinary manure in scattering it. Loose straw can be scattered nice and even. The result of my experience was satisfactory.

The PRESIDENT.—Did you try it the second season?

Mr. HAY.—We tried it twice.

Mr. WOODS.—There is some value in growing fruit. Mr. Frame would lead one to

believe that we cannot grow fruit in this neighborhood, and that it does not pay. He gave as his reason why he thought it would not pay, that there would be too many irons in the fire. I think if he would pay even a little attention, his orchard would pay him.

Mr. TROW.—I think we pay too little attention to our orchards. I should fancy if we were more careful we would get more fruit. I shall have to pay more attention in future to my orchard. When I purchased my property I had a dozen different varieties of plums, but there is nothing left of them now.

Mr. McKEOWN.—I want to get some information on picking and packing apples?

Mr. MACD. ALLAN.—The method we always follow, is to pick our apples by hand and lay them in heaps upon the ground. The varieties the shipper wants should be sorted out and divided into separate heaps; one heap being for the apples that are good, clean, and free from spots, etc. Then they go through the sweating process. After this we send a man to pick them over carefully and see none are bruised. Then they pick out the different sizes and high coloured apples, after which we proceed to pack by taking the choice apples, packing with the stems down. The barrel is then pressed down and securely nailed. When the barrel is opened at Liverpool, London or Glasgow, they open the top of the barrel with stems all up, and they look nice. With regard to keeping apples; some prefer them upon shelves in a cellar. You should keep the temperature as near the freezing point as possible.

Leading citizens expressed their gratification they had felt in listening to the discussions, and votes of thanks of the customary nature were passed. The Association then adjourned to meet in Lindsay.

SUMMER MEETING.

The summer meeting of the Association was held in Lindsay and Bobcaygeon, on the 7th and 8th of June. The opening day at the former place was marked by a large attendance of prominent local fruit-growers and others from important sections of the Province. Mr. P. C. Dempsey presided, and, after routine, questions were asked and answered.

COAL ASHES.

QUESTION.—What are the fertilizing qualities of coal ashes?

Prof. PANTON said it was of very little use. A heavy, close soil might be opened by it, but it contained no plant food of any value.

Mr. MORTON (of Wingham) believed that barn-yard manure, if well taken care of, was better than any of the artificial fertilizers, but in the way much of it was kept, it was worth little more than straw.

Prof. PANTON had seen better results with barn-yard manure than any other kind.

Mr. JOHN CROIL (of Aultsville) said that the quality of commercial fertilizers varied just as much as barn-yard manure.

Mr. McDONALD (of London).—A great deal depends on the quality of fertilizers as well as manure. Manure from well fed cattle would be worth from two to three dollars a ton, but a large percentage of the soil in this country would be benefited in the greatest degree if commercial fertilizers were mixed with barn-yard manure. Some soils, however, such as those in the vicinity of Guelph, are more benefited by potash, and ashes would therefore be the cheapest and most effective fertilizer. In the vicinity of London and most other parts of the Province, phosphates could be most advantageously used in connection with barn-yard manure. The phosphate mines near Ottawa were the richest in the world, and if our farmers and fruit-growers were induced to use the product as extensively as they should, the price would be materially reduced and brought within the reach of all.

Mr. DEMPSEY (of Trenton).—Wood ashes have always produced good results with me.

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A SMALL GARDEN.

QUESTION.—How could I best lay out a half acre for fruit and vegetables?

Mr. W. W. WRIGHT (of Renfrew) suggested that everything be planted in rows, so as to permit of easy cultivation. Plant small fruits so that the snow would be likely to lodge and protect them.

Mr. GEO. COLVERT had noticed that if vegetables were planted within fifteen feet of trees they always suffered.

STRAWBERRIES.

A short discussion took place on strawberries and the time of planting. The spring was favoured as the best season for planting, and for varieties, high testimonies were given in favour of Crescent Seedling, Wilson, Capt. Jack, Manchester, Daniel Boone, Bidwell and Sharpless.

PEARS.

Mr. BEALL (of Lindsay).—I do not know that there are four varieties that would succeed in this neighbourhood. The Flemish Beauty and Clapp's Favourite are the only two we can hope to grow with any degree of success.

A MEMBER.—Have you tried Beurre d'Anjou?

Mr. BEALL.—Yes, but it will not live. The Flemish Beauty, however, does very well indeed. I have never had any trouble with it at all. I have one of Clapp's Favourite bearing this year for the first time, and the trees seem perfectly healthy.

Mr. WRIGHT.—Have you any of the Russian pears?

Mr. BEALL.—I have not.

Mr. A. M. SMITH (of St. Catharines).—Have you tried the Beurre Hardy?

Mr. BEALL.—Yes, I have also a Vicar of Wakefield tree. It has blossomed twice, but I have seen no fruit. When it does bear, however, perhaps it will do well.

Dr. CROSS (of St. Catharines).—I might say something about pears and how little I have made out of them. About twenty years ago I planted a great variety, and as fast as one tree died I planted another. Death was not caused by winter-killing, but by blight. Most of my trees I planted over the second time, and some of them the third time, but for the last ten years I have planted principally the Duchess and they are now doing very well, and have had very little blight; but of all the varieties I started out with, I have only some eight or ten now. The Bartlett and Duchess are the only ones I make anything out of for the market. I treat a pear tree as I would a strawberry. I keep the ground well manured, allow no weeds to grow, and apply coal ashes to keep the ground loose. The Bartlett trees that I have, give me from a barrel to two and a-half barrels per tree, which are worth five dollars a barrel. The Seckel is very hardy, but gives a good deal of trouble to thin, so as to keep few on; but they do not weigh much and it takes a great many to fill a basket. They make good pickles and keep pretty well. Of Clapp's Favourite I planted twelve trees about six years ago, and I believe I have one left; so that what little I make from my pear trees is off the Duchess and Bartlett. Still what I get from them satisfies me very well for the cultivation.

Dr. HERRIMAN (of Lindsay).—Down a little south of this, they have the Bartlett, Flemish Beauty and the Bonne de Jersey; these do very well on clay soil.

Mr. GLENDINNING (of Manilla).—I only find two varieties that seem to stand the test—Clapp's Favourite and Flemish Beauty. I have tried the Seckel, but the trees grow a few years and then die of blight. I also tried the Duchess, but it blighted badly. It died the second year. When I came on my farm there were a number of pear trees just coming into bearing; I do not know what variety they were, but at all events every one died. Clapp's Favourite and Flemish Beauty seem to stand the test all right; in fact I have not known a Flemish Beauty in this neighbourhood to die. Clapp's Favourite has been planted extensively. These two kinds are the only ones which seem

to be generally cultivated in this immediate locality. Sometimes we see a fine collection of pears, but on inquiry it is found they were grown south of the ridges, which divides our county into two sections for fruit growing. I cannot, therefore, name four varieties for this section; but the two I have mentioned, will, I think, grow almost any place where it is well drained and the locality at all favourable.

Mr. JOHN COLVERT (of Lindsay).—My experience in the cultivation of pears is this: Some ten years ago, a man came around with samples preserved in a bottle. I took four trees and paid him five dollars. After that I got another tree, which proved to be the Flemish Beauty. It is flourishing well. Blight killed the others. This Flemish Beauty does very well, and last fall I took first prize with the pears off that tree.

Mr. MORRIS (of Fonthill).—I understand the question is, four varieties for this neighbourhood. I cannot understand why Clapp's Favourite should do well, and Beurre D'Anjou fail. It is the hardiest we have at Fonthill. Several varieties were mentioned that are hardy and ought to do well here. The Seckel should succeed. The list of very hardy trees, however, is limited. We have a kind that originated at Oshawa, which has proved very hardy there. There are some trees there sixty years of age, which have not been injured, and we are in hopes that it will fill the bill for a very hardy tree. We are cultivating some varieties of Russian pears and should be glad to place some in the hands of somebody here to test.

Mr. BEALL (of Lindsay).—Something may have been wrong with the Beurre D'Anjou, at all events, after trying some forty varieties, I have only the two left that I mentioned.

Mr. BEADLE (of St. Catharines).—I do not know any pears we have been growing for any length of time that are more hardy than Clapp's Favourite and Flemish Beauty. We are, however, experimenting with trees from Russia, but it is too soon to say whether they will grow with us, or whether when grown if the fruit will be satisfactory. They have some jaw-breaking names. It will take four or five years to settle the questions involved. The two varieties named here are the only two that seem to do in very cold latitudes.

Mr. FRANK WANZER (of Hamilton).—I have a rich pear which seems to do well in the neighborhood of Hamilton. It is called Beurre Clairgeau.

Mr. MORRIS (of Fonthill).—My experience is that it is very tender and the fruit inferior.

Mr. P. C. DEMPSEY (of Trenton).—I have had a great deal of experience in growing pears. Some trees, by cutting off the blighted portion will grow again; but the Beurre Clairgeau all died with me. It is one of the tenderest we have ever tried to grow. There is the Urbaniste; any one who has nerve and patience enough to cultivate a tree twelve or fourteen years before seeing any fruit, will find it a superior pear. I have never seen one inch of the tree blighted, and I have never noticed any effect from the frost. I only cultivated two trees, and the reason I do not cultivate more is because I have not patience to wait for the fruit. It is perfectly hardy. Most of the early varieties are hardier than the later, for the reason that the exertion in maturing the crop is sooner relieved, and the tree resists the severity of the winter better. I do not know any winter variety it would be safe to try here except Josephine de Malines. Doyenne Boussock is as hardy as Flemish Beauty, and I think I can produce ten pears of that variety as easily as I can one of the Flemish Beauty.

Mr. SMITH (of St. Catharines).—How is it for blight?

Mr. DEMPSEY.—I have it on clay loam and light sand, but none of them have blighted. I do not eat them, as they are not to my taste, but no pear commands as high a price as Doyenne Boussock when we ship them. I have several Persian pears; but unfortunately paper labels were used, which the mildew rendered illegible. I have several varieties; I cannot tell you what they are; but they came from Belgium and are apparently hardy, and produce a crop annually of good fruit. I have one which has made regular growth every year and it has got to be quite a tree, producing four or five bushels of pears annually. It is superior to Flemish Beauty. To you people here, I would say try more varieties. Do not be satisfied with three or four, but write to some of the nurserymen and tell them to send you ten or twenty of the most hardy varieties. Let them make the selection. Do not depend wholly on the agent's colored plate. Nurserymen will gladly send you good stock, if you send directly to them.

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Mr. MORRIS (of Fonthill).—Mr. Pettit has handled one of the earliest varieties and a good pear too—the Beurre Giffard.

Mr. PETTIT (of Winona).—I have fruited this pear for the last fifteen years and it has never failed to give a very good crop, and there is no appearance of blight whatever. The pear ripens about the first of August, and coming into the market at that time, a sweet rich pear, commands a high price. I do not know how it would answer on pear stock; I grow mine on quince. It appears to be hardy in every way.

Mr. DEMPSEY.—I think it is called Giffard now.

Mr. F. WANZER (of Hamilton).—Has anything been said about Winter Doyenne and White Doyenne. They are excellent pears with me. For blight I have tried iron twinings or filings. I place them about two feet from the trunk, where they rest together and form an excellent protection from sudden changes of temperature. By this plan I have succeeded for the past two years in saving a tree from blight that was always so affected before. It is a Clapp's Favourite. One or two gardeners in Hamilton have tried the same experiment with good results.

The Association then adjourned for dinner.

There was a large attendance in the afternoon, and a quarter of an hour was spent in examining the specimens of fruit laid on the tables.

FRUIT PROGRESS.

Mr. J. L. PAYNE, of the Department of Agriculture at Ottawa, read a paper as follows:—

I propose, in a simple way, to give you such figures as I have been able to collect, relating to the foreign trade of Canada in fruit. I have to express a feeling of regret that the details of the trade are not available, but such as they are, they show very gratifying increases within the last fifteen years. Perhaps it would be better to preface the trade returns with a compilation of figures from the Census, showing how the cultivation and production of fruit has been developed within the past three decades. The figures are:—

PROVINCE.	YEAR.	GARDENS AND ORCHARDS.	FRUITS.		
			Bushels of Apples.	Pounds of Grapes.	Bushels of other Fruits.
		Acres.			
Ontario	1861	88,869			
Quebec	1861	33,417			
Nova Scotia.....	1861		186,484		4,335
Total		122,286	186,484		4,335
Ontario	1871	207,011	5,486,504	1,028,431	242,878
Quebec	1871	46,458	400,903	88,099	100,878
New Brunswick	1871	7,591	126,395	1,705	2,471
Nova Scotia	1871	13,614	342,513	8,167	12,736
Total		274,674	6,365,315	1,126,402	358,963
Ontario	1881	304,805	11,400,517	3,697,555	644,707
Quebec	1881	54,858	777,557	158,031	155,543
New Brunswick	1881	11,452	231,096	2,108	6,122
Nova Scotia	1881	21,624	908,519	35,015	18,485
P. E. Island.....	1881	2,585	31,501	795	2,547
Manitoba	1881	2,955	190	13	1,443
B. Columbia	1881	2,771	28,100	2,961	12,347
The Territories.....	1881	285	175	30	25
Total		401,235	13,377,655	3,896,508	841,219

Statistics, having special reference to Ontario, are only available in the reports of the Ontario Bureau of Industries, which show that while in 1882 there were 213,846 acres in garden and orchard, there were but 191,266 acres so used in 1885. This is clearly an error; but is explained to have arisen from the fact that the first estimate was merely approximated. It is not likely that a less acreage of fruit trees exists now than three years ago. The Census returns are, however, reliable.*

The following have been our foreign shipments of fruit since 1870:

YEAR.	QUANTITY.	VALUE.
	Barrels.	\$
1870.....	20,810	58,811
1871.....	45,920	98,857
1872.....	106,568	264,015
1873.....	61,243	183,348
1874.....	51,084	128,915
1875.....	63,397	176,295
1876.....	84,107	170,005
1877.....	77,888	194,942
1878.....	53,213	149,333
1879.....	87,101	157,618
1880.....	146,548	347,166
1881.....	334,538	645,658
1882.....	212,526	540,464
1883.....	158,018	499,185
1884.....	51,019	173,048
1885.....	228,936	635,240

This class of fruit exported was almost wholly apples. It will be seen that considerable fluctuations have occurred, which were consequent upon a falling off in the

* The acreage of orchard and garden given in the reports of the Bureau of Industries is for township municipalities only, and since 1882 it has been taken by the township assessors. Referring to the discrepancy between the census and the assessment returns the report of the Bureau for 1884 says: "The reduced area of orchard and garden is no doubt owing to the difficulty of obtaining uniform acreages from farmers in successive years, and this difficulty is increased where the aggregate is made up of a large number of parts. There are not many farmers who know the exact area of land they have in orchard and garden, and a difference of one-half or even one-quarter of an acre more or less in one year than another may make a decided change in the whole quantity. It very rarely occurs, indeed, that in the oldest and best settled townships the area of assessed land is the same one year after another, as recorded on the assessment rolls." As for the reliableness of the census returns, it is a question of degree. The census enumerator gathers the returns once every ten years, and the assessor once every year.

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supply. On the whole, however, we buy more fruit than we sell, and some of it of the classes grown in Canada. This will be seen from the statistics for 1886, of imports:—

KIND.	QUANTITY.	VALUE.
		\$
Apples, dried	556,551 lbs.	34,683
Currants, dried	5,019,862 lbs.	174,487
Dates, dried	849,807 lbs.	24,374
Figs, dried	1,089,146 lbs.	51,703
Prunes and plums, dried	1,755,862 lbs.	65,050
Raisins, dried	7,762,830 lbs.	353,124
All other, dried		12,687
Apples, green	27,507 bbls.	61,919
Berries, green	226,398 qts.	27,524
Cherries and currants, green	49,685 qts.	4,492
Cranberries, plums and quinces, green	7,611 bush.	26,301
Grapes, green	587,515 lbs.	46,159
Peaches, green	19,239 bush.	59,482
Oranges and lemons, green		334,492
All other, green		90,068
In cans	735,086 lbs.	42,075
Total value		1,408,620

If you ask who are our customers, the answer is, that of the 238,936 barrels of apples shipped out of the Dominion in 1885, Great Britain took 207,659; the United States, 25,320; Newfoundland, 4,915; St. Pierre, 569; Germany, 6; B. W. Indies, 243; S. W. Indies, 39; D. W. Indies, 5, and British Guiana, 180. Of the \$32,980 worth of "other fruit" exported, the United States took \$27,666 worth.

The three greatest fruit exporting countries are Spain, Italy and Greece. In 1880, Spain headed the list with 121,200 tons, valued at \$8,400,000.

It may also be of interest to you to know that each inhabitant of Great Britain and France, is estimated to consume ten pounds of fruit in the course of a year.

QUESTIONS.

QUESTION.—How and when to propagate *Hydrangea Paniculata*?

Mr. BEADLE.—It propagates very readily from layers. The time would be when the wood is sufficiently ripe not to damp off; or take the young wood of this year, and lay it down as soon as it would bear laying down,

REMEDY AGAINST ANTS.

QUESTION.—How can we best destroy ants and not injure the plants, grass, etc.?

Mr. BEADLE.—What harm do the ants do?

Mr. CROIL.—They throw up the earth on the lawn.

Mr. BEADLE.—I have never been very much troubled with them, although my soil is what they like to work in, sandy. I find phosphate of lime, with a little slacked lime or ashes, seems to keep them in check, although I have no experience in destroying them. They work in the paths, but not in the lawn.

A MEMBER.—A plan I have heard of, is to saturate a sponge with sugar and water, into which the ants will go, and then dip it in hot water.

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Mr. MORTON (of Wingham).—I have effectively banished them by making holes in the ant hills or around them and pouring coal oil therein. It causes them to leave for fresh pastures.

Mr. BEADLE.—Does the coal oil injure the grass?

Mr. MORTON.—Yes; if you scatter it over the top; but if you dig a hole three inches deep it will not affect the grass. I have poured probably a teacupful on the surface near trees and it has not injured the tree.

Mr. WILGESS (of Cobourg).—I tried the sponge and it did not answer, I tried coal oil and it killed the grass. I have also tried ashes and hot water, but cannot get rid of them. The only way is to dig them out. They are a perfect nuisance.

Mr. HEAD (of Lindsay).—If you will make an emulsion with sour milk or skim milk and coal oil, and add water, my experience is that you may syringe even delicate plants with it, without fear of injury. I am sure this would drive ants from the places mentioned.

ANOTHER PEST.

QUESTION.—“What is the best remedy for the black insects that infest *Chrysanthemums*?”

Mr. BEADLE.—I cannot answer that question until I know whether black lice is referred to.

Mr. MORTON.—I think it is one of the plant lice.

Mr. BEADLE.—One remedy is tobacco smoke, so long as you can confine the smoke. I know of nothing better.

Mr. MORTON (of Wingham).—There is a most excellent remedy for nearly all insects, called Dalmatian, or Persian Insect Powder. The California powder, called Buhach, answers best. If you can get it fresh it gives very good results, but as a rule you cannot tell how long it has been in the shops. It must be kept in glass stopper vessels, or the volatile principle evaporates and the powder loses its destroying power. The best way I have found of using pyrethrum is to put it in alcohol or hot water and syringe the plants with it. I think a great deal is wasted if applied dry. It is certainly an excellent thing for destroying all forms of insect life. I would not be sure of the proportion I used, but I think it is one ounce of pyrethrum to two gallons of water. I think I have sometimes used a stronger mixture than that. It is not expensive, and if a plant is badly affected with lice you may give it an extra dose. If I depart from the formula, it is to make it a little stronger; but I think an ounce to two gallons would be about right.

Mr. DEMPSEY.—We sometimes treat insects to a little poison mixed with a sweet principle. Arsenic is what we use.

A DIFFERENCE BETWEEN CURRANTS.

QUESTION.—“Please explain the difference between Moore's Ruby and Fay's Prolific Currant. Where can Moore's Ruby be got, and at what price?”

Mr. MORRIS (of Fonhill).—Moore's Ruby is not quite as large as Fay's, but has much longer bunches and is probably three or four times as productive. They are as productive as any currant grown; but their great merit is in the flavour, which is very mild. They are not generally sold yet, but are worth about \$1.10 in a retail way. We have had them side by side receiving the same treatment.

SHORT STEMS FOR TREES.

QUESTION.—“Which is the more advisable, long or short stems for fruit trees; and what height of stem is recommended?”

Mr. PETTIT (of Winona).—The question was discussed some years ago in the Grimsby Fruit Growers' Association, and Mr. Morris took a stand in favour of low

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heading. Since that time I have been watching it pretty closely and I am inclined to think that Mr. Morris is right; that a tree with more head and less trunk grows better and will withstand the blight better, and not be as likely to become sun burned or have the bark injured as one with a long trunk. In peach trees, with a low head, you can cultivate twice as close as when you attempt to run them up. In picking there is also an advantage, and for all the reasons I should certainly favour low heading.

ROSES.

Mrs. Beall, of Lindsay, presented several plates of roses in bloom, and at the request of the Association she described them as follows:—"That is the Baltimore Belle; it is a climbing rose and grows in clusters; it does not winter-kill with ordinary treatment, although we find it necessary to lay it down; it must be trained up again in the spring in order to get a good supply of bloom. This rose is the Madame Alboni, which we have to cover, as well as almost all our roses, to protect them in winter. We cover them with a little pea straw or grass and then throw brush over it to keep it from blowing away. Anything we lay down, however, we generally put a stick of firewood on top. It is to my mind sure death to a plant to place a board over it."

Mr. BEADLE.—It must not be covered so tightly as to smother it. A friend of mine wanted to take particular care of a rose bush and covered it over with a barrel and covered the barrel over with manure. He succeeded, as you might suppose, in keeping the frost out, but it never showed a sign of life afterward.

Mrs. BEALL.—This Madame Alboni is a free bloomer, and is one of the most enjoyable of all roses on account of its abundant perfume. Some of our roses, although beautiful to look at, lack this quality; but this particular variety is to be cultivated for that quality as well as its fine appearance.

Mr. BEADLE.—Here is one of the Provence roses, which blooms only once in summer; it is not remontant; it is something like the old Cabbage rose, although not the same as I have been in the habit of growing; it is not so full, and is a little deeper shade of colour. The Cabbage rose, I still think, is one of the finest grown. This one was given to Mrs. Beall as a Cabbage rose. Here are two roses very much alike. One is La Reine and the other is the Duke of Edinboro.' They are remontant, and are of a rich colour. They look as though they might have been grown on one bush, but they have not. This is another old variety, Caroline D'Canso, very much cultivated and admired. Here is a white summer rose, the best white rose we have, and the most profuse bloomer—Madame Plantier; it is almost free from thorns; it does not bloom again in the autumn. We talk about remontant roses being perpetual. We call them hybrid perpetuals. I am reminded by this of a boy going through the cars crying out "Hot mince pies," somebody bought one and found it cold, having been frozen. He said, "I thought you called those hot mince pies." "Yes," answered the boy, "that's the name of them." These roses, however, although called perpetuals, will actually bloom until the snow comes. It is one of the most perpetual of the perpetuals. Here is one other free bloomer, Jules Margottin, in which you see another shade of colour. As to insect remedies for roses, I have exhausted my knowledge in the August number of the *Horticulturist*, and presume most of you have read it there.

Mr. MORRIS (of Fonthill).—With respect to cultivation, make the soil as strong and rich as possible, and keep it thoroughly cultivated during the season. They will not do well in the grass or lawn, where they are sometimes planted. As the subject on the programme was to name twelve of the best varieties, I have written down that number:—General Jacqueminot, La Reine, Louis Van Houtte, Prince Camille de Rohan, Coquette des Alps, Victor Verdier, Madame Plantier, Salot, Perpetual White, Crested Moss, Queen of the Prairie and Gem of the Prairie.

Mr. A. A. WRIGHT (of Renfrew, Ont).—Out of my forty varieties these are the ones I have selected: I have divided them up, first as to coloured roses. First of all I put Alfred Colomb. The reason is because, it is very striking in colour and is the

hardest rose we have, which in our section of the country is of paramount importance. It is a very free bloomer and is a fine scented rose. The next is General Jacqueminot, a fine grower, hardy, and one of the proudest roses we have; so red and bright. The next is Baron de Bonstetten; then Louis Van Houtte, and last of all, Anne de Diesbach. Among pink roses, I do not think any one will dispute the right to place at the head of the list *La France*, in odour, colour, and everything except hardness. It is the finest rose we grow at all. Next I place *La Reine*, and then for size, as it is the largest of any rose I have, and perhaps the largest grown, unless it be the new *American Beauty*, is *Paul Neyron*. In whites there is the *Madam Plantier*, and in yellow, *Harrison's Yellow*. Among moss roses is the *Park Moss*. The *Polyantha*, which is small, is an enormous bloomer and bears in clusters. The best among these is the *Mignonette*. With respect to treatment, I protect all my roses, and to do this I first build a sort of fence about them, two and a half or three feet high, by driving down sticks. The object is to get the snow to lie on top of the roses. I peg the bushes down with sticks and then bring forest leaves by the wagon load, which, being light, prevents the rotting of the stems in the spring. I put over all a coating of pea straw, which does not blow away with the wind. If you have any trouble in that way throw boughs over them. A lady in Ottawa has an improvement over this in the use of dry cow manure, which she puts under the rose before covering, and she says it prevents rotting in the spring. I cut back my roses considerably before pegging down, and after uncovering in the spring I cut them back again. With reference to manure, you should have the ground as rich as you can get it. I take a little garden trowel in the spring, scrape the earth away, and then go to my henry and put as much of manure around the plant as I think will not injure it. This I cover over with earth, and after the first rain the plants will grow as rapidly as you ever saw anything. You cannot have the ground too rich. Then, with reference to insects, I cannot give you anything so complete as has just appeared in the *Horticulturist*.

Mr. HARRIS.—I left off the *Washington* and *Alfred Colomb* because they are slow growers. Budded roses in the hands of those not used to them are valueless, and I do not recommend them for general use. *La France* is one of the choicest roses; but I do not think Mr. Wright can carry it over the second year. It is too tender for general cultivation.

Mr. DEMPSEY (of Trenton).—I have had it for twelve years in one spot. If I had to throw aside every other rose I cultivate, *La France* would be the last to go.

APPLES.

QUESTION.—What have been the failures in this neighborhood?

Mr. BEALL (of Lindsay).—There have been many failures in this neighbourhood, but our people are too modest to let the outside world know about it. There are some places, however, where they do very well. Within a few miles of this place, I believe we have some of the best fruit land in Canada. I know you will not agree with me; but that is my opinion, nevertheless. With the exception of peaches, we have a climate well adapted for all the principal classes of fruit, including apples and grapes. We can grow better grapes than anywhere along the north shore of Lake Ontario. The best samples I have seen exhibited anywhere away from the Provincial Exhibition, have been at Orillia, away north of this. In speaking of failures, I think we may attribute them to two main causes. First, to undrained land. That is the greatest cause we have. We have now a great quantity of under-draining going on, but it is not the kind which will do most good. Our drains are usually two and a-half feet deep, in heavy clay soil. That, I say, is not sufficient for an apple orchard, because a large proportion of the roots on an apple tree above fifteen years of age, are lower than two and a-half feet. I have found thousands of roots down three and a half feet, and rotten at that. The next cause is every person being determined to grow tender varieties. In setting out an orchard of a few hundred trees, so many people want at least fifty varieties. Now, I do not think I can name twelve varieties that I believe to be suitable for this soil. If a farmer has a field to sow

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with wheat, he does not ask his neighbors how many varieties he should put in; he knows it would be folly to put in many. It is as great folly to make his ground a place for testing apples. I do not think you can find more than eight or ten varieties suitable for this neighborhood. The question is asked:—"Should orchards be cultivated after commencing to bear fruit?" No. There should be no ploughing or planting of other crops; but if some light cultivation were done, it might be of some advantage. In taking away a crop we rob the soil of a certain amount of nutriment which the trees should get. I think there is not nearly enough manure applied to our orchards, and perhaps Mr. Panton might show us what kind of manure would be best suited for such a purpose.

Mr. J. CROIL.—Would you have the orchard seeded down?

Mr. BEALL.—All crops take nourishment from the soil; but if you have grass, cut it and leave it there.

A MEMBER.—What about pasturing?

Mr. BEALL.—For pasturing, I would prefer sheep. There are certain breeds of sheep that will not bark the trees, while others will. The next question is with relation to the most desirable aspect for an orchard. If I could have everything as I would like, I should like a north-western proclivity. Let the land lie pretty much up towards the north-west, but not to the south-east. The cold would be about the same on either side, but if the snow lies on the ground it will protect the roots of the trees. "Are wind breaks necessary?" I think they are, but the question turns on what wind-breaks really are. I do not think a high, close board fence is a wind-break. I do not think matted rows of pine or spruce are wind-breaks. It is in one sense, but it is not what we require, or what is necessary. I think it keeps off too much of the wind. I would prefer three, or four rows of deciduous trees, which would allow the wind to pass through, but would at the same time break its force. Three or four rows on the north and west sides will screen the orchard as it needs to be. As to the varieties which may be profitably grown in this section, I might name the Red Astrachan. I do not think, however, there is a very great deal of profit. It is the earliest we have, and is the earliest we can grow profitably. The next apple, that is next in order of ripening, but which should really be placed at the head of the list with respect to profit, is the Duchess of Oldenburg. As much can be got out of that tree here as in any part of the world. They will bear every year. The next is the St. Lawrence. This does well and is profitable to grow, because it is fine in appearance and will bring a good price.

Mr. CROIL.—Does it spot?

Mr. BEALL.—No; never to any extent. We have never had any apple to spot here but the Fameuse, and that not badly. The next apple is Keswick Codlin, and then Colvert. I do not grow it myself, but I find excellent samples brought in from all directions. The next is the Snow apple. That does well here. Then there is the Haas. The next is the Wealthy. I am satisfied it is a most excellent apple, and after further testing, I shall expect to find the Snow apple given up and the Wealthy put in its place. I have given you eight varieties, but there is one more which I have down and of which I have heard a good deal—the Yellow Transparent. I have no winter apple down, because I do not think any winter apple can be profitably grown here. None of the russet family would be considered profitable here, although I have recommended so many of my friends to get the Golden Russet.

Mr. DEMPSEY.—Will not the Tolman Sweet grow here?

Mr. BEALL.—Yes; but there is no profit in it.

JOSEPH WILKINSON (of Cambridge).—I have had some failures. I came here some thirty years ago. I planted fifty apple trees when I came, and there is only one of them left now, and that is the Vandevere. These trees grew beautifully for some years and then when they began to bear, they died branch by branch, until only the one I have mentioned is there now. I read about a Scotchman who dug a hole, filled in a lot of stones, put in a tree and filled it around with earth; I tried that, but only one St. Lawrence tree is left. Those trees did not die of wet feet. Those I planted on a heap of stones would grow immensely, two or three feet in a year, for several years. I thought perhaps the soil was too rich and they grew tender. Two of the trees I planted on stones were crab apples, and they are still healthy. The St. Lawrence is not healthy,

although there yet, and in a few more years will be dead. The next thing I tried was to plough up the soil and make it into ridges, in which I planted rows of trees. These grew for some years, and now there is about a third of them left, although they are dying branch by branch. The most healthy tree there now is the Duchess of Oldenburg. They are beautiful apples and bear abundantly every year, but the fruit will not keep.

Mr. BEALL.—What kinds are those which fail?

Mr. WILKINSON.—The Russet was one. I planted a whole row of seedlings after trying the alternate plan, ten or eleven feet apart. They have neither had cultivation nor pruning, and they are healthy. My idea is they are there because nothing was done, and the nearer we come to the condition of the forest, the better chance the trees will have. The cultivation of the ground around the trees and the pruning lets in the sun and breaks the earth; whereas, if we had a mulch on the ground, it would keep out the sun and prevent injury by frost in winter. Most of you are acquainted with the trees at Sturgeon Point. There was a beautiful orchard there before the hotel was built, but now the trees are dying one after another, because, I think, the conditions of the forest are taken away.

Mr. CROIL.—Did you prune any of your trees?

Mr. WILKINSON.—Yes; I think I pruned the first lot in winter.

Mr. DEMPSEY.—You cultivated the soil with the first lot and made the ground very rich?

Mr. WILKINSON.—Yes; but the last lot I did not either cultivate or manure.

Dr. HERRIMAN.—Did you have a wind-break around the first lot?

Mr. WILKINSON.—No. With respect to varieties, I may say that the Duchess of Oldenburg is the best I have found.

Mr. GLENDINNING (of Manilla).—We have near here as good a section for fruit growing as can be found in the northern part of this Province. We can grow many varieties; more, indeed, than I could name. I will name a few of them that we find profitable. I would take two summer apples, the Red Astrachan and Duchess, both hardy and good bearers. For two fall apples I should put St. Lawrence and Fameuse. It is given as a winter apple by some, but it is not. If I were going to add two more to the list of fall apples, I would add Colvert and Keswick Codlin. The Golden Russet is the best winter apple we have; it is a sure grower, and we very seldom see a branch killed. I have seen some that took a sort of a blight in the summer time and died back, but it is not common. I have never seen a large tree affected that way. The next one is the Wagner. It is a short lived tree, but as it comes into bearing very young, if it only lives fourteen or fifteen years, it has paid for its cultivation. The apple is a good one. There has been a good deal said about the Tolman Sweet, but we find it profitable. They like it for baking purposes. It is a sure grower and a good bearer. Among the new varieties I would name the Wealthy as a very good apple and quite equal to all that is claimed for it. There is nothing, however, which shows greater promise of hardiness than the Pewaukee, the only fault of which is a tendency to allow the fruit to be blown off when it is pretty well grown. Then last, but not least, I would put the Ben Davis; it is hardy, a good bearer and of good quality. As this question relates largely to the market, we find that those which have a fine appearance bring better prices than those of good quality. I have given you ten or twelve varieties, which I think is sufficient.

With regard to those varieties that are not doing well, the King is suffering badly; they did very well until the spring of 1885, when the effects of the winter began to be seen, and the bark of a great many trees turned black, and scaled off in places. The Northern Spy did not appear to be affected until this year, when we found them dying. It was the winter of 1885 that did the damage; the bark is bursting off, and one-half of the tree seems to die after leafing out and blossoming. The Baldwin has been extensively planted, but very few of them are living. They were bought because of the high praises bestowed on them as a market apple, and while they may do in other sections of the country, they do not answer in this.

I have pruned generally in June. I am of the opinion that orchards would be better seeded down; I have top dressed mine every second year with manure, and find that the

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trees do well. I seeded down with red clover and June grass. If you mow it, it comes up the second time and leaves soft places, on which the apples fall. If you plant timothy, and mow it, when the apples fall the stubble runs through them. There is nothing of that kind with the clover and grass, which, to my idea, answers better than anything else I have seen. As to the aspect, I know what I am going to say will not meet with the approval of many prominent fruit growers. My orchard lies over a high ridge, part of it facing the south-east, and part of it north-west. I give my preference to the south-east. I know that it has been said and argued, that a north-west aspect has a tendency to keep trees from blooming early in the spring. Well, that depends on circumstances; I have had the same kind of a tree in bloom on a north-western aspect before one on a south-eastern aspect. We do not, however, look upon early blooming as a detriment. I do not know whether it is the locality, but during the thirteen years I have been on my farm, I have not seen a single blossom destroyed by spring frosts. My reason for preferring this eastern aspect, is this: when we come to the fall of the year, we suffer from high winds, and a great many apples are blown off; if the trees catch the north-west wind at that season of the year, we lose in the fall, but never in the spring, and by being shielded from these fierce winds, we generally have a fair crop. I have noticed also, that winds in the spring of the year affect the blossoms and prevent them from setting. It is not necessary that we should have frosty winds to do damage, for I have seen dry, hot winds as destructive as cold ones. There are some varieties which seem more susceptible to the action of the wind than others. The Ribston Pippin has been mentioned to me, but as a general thing, the Keswick Codlin suffers most; if there happens to be any high winds during the blossoming, we get comparatively few apples. In regard to wind-breaks, I believe them to be very necessary.

Dr. HERRIMAN.—Have you a wind-break on the north-west?

Mr. GLENDINNING.—Not all along the north-west; but I have on a part. I have noticed that a great many more apples are shaken off where there is no wind-break.

Mr. MORRIS (of Fonthill).—We have, so far, heard two causes of failure in this northern soil—bad planting and tender varieties. I would like to add another, viz., late cultivation. Cultivating late in the season tends to make the trees tender for the winter. The work should be done early. I do not think you can get too much growth early in the season, but stop cultivating as early as this—the middle of summer. Another cause of failure was that spoken of by Mr. Pettit, and that was trees in cold sections having too long stems. These are exposed to the sun and are killed on the south-west side. If you notice, young trees will suffer that way. Then, if you have a wide, large top, the wind cannot sway it over. I used to make this matter of low stems a hobby, but at the Grimsby meeting I got such a set-back that I feel it gratifying to know that I made one convert, at least. Nurserymen generally think the right time to prune is just when the winter is over. June is, I think, the worst month in the year, unless you can do it without getting into the tree. The bark of the tree is loose, and if you step on it, or take hold of it, it is liable to peel or remain loose. There is a danger of doing a great deal of damage in that way. Prune, say, in April. I would recommend you to cultivate trees from the time they are planted until you are done with them, bearing in mind, however, to confine yourself to the early part of the season. I have noticed that one way of cultivating orchards, is to sow buckwheat. The plowing and harrowing come just at the right time. Cultivate as often as you like, early in the season. As far as wind-breaks are concerned, I would recommend the plan suggested by Mr. Beall, not to shut out the wind, but break its force. Where the wind cannot get through, I have noticed that the trees are more subject to the codling moth, and other insects of that kind. The list of apples I would recommend are as follows, of all well-tried sorts:—The Wealthy, Duchess of Oldenburg—I have left out the Red Astrachan, as it is not so hardy as the Duchess of Oldenburg, and the apples come in at very nearly the same season—and the Yellow Transparent. I think this latter is going to be a very good apple for cold sections, and the Duchess of Oldenburg will follow right after. Then I would name the Wall-bridge, American Golden Russet, Tolman Sweet, Alexander, St. Lawrence, and Canada Baldwin, which was originated in Lower Canada or Quebec, and is very popular in that

section. For a very late keeping apple, I would recommend the Mann. The list might be extended, and, if so, I would include the Ben Davis and Colvert.

Mr. ROBINSON (of Lindsay).—I take the following:—The Red Astrachan, which is fine and hardy here. The Duchess of Oldenburg everyone can grow. The Tetofsky, a Russian apple, is hardy and a good bearer. The St. Lawrence I find very hardy. I would like to mention the Canada Red and Alexander. Keswick Codlin I had bearing for some time, but they are dying. The Canada Baldwin I am growing now, and think it will be hardy. The Wagner I do not think is very hardy here.

Mr. BEADLE.—Have you tried the McIntosh Red?

Mr. ROBINSON.—I have had it a few years, but some of my trees have been killed by over-pruning.

Mr. BEALL.—Do you think the Ben Davis will grow here?

Mr. ROBINSON.—No; I had a number of them, but they are all dying, or are dead.

Mr. G. SMITH (of Lindsay).—I have had the Keswick Codlin growing for ten years, and it has fruited every alternate year, nearly, since I planted it. It seems to be perfectly hardy here. I live forty miles to the west.

Mr. GLENDINNING.—Mr. Morris mentioned the Walbridge. It has been generally considered a hardy variety, but it is not so in our section. I had only one tree, and it died. It seemed to suffer around the base of the limbs first. I was talking to a man who sold a good many trees of that variety during the last three or four years, and he said the general verdict was, they were not hardy. I am sorry for that, as I thought it was going to be a good variety.

Dr. HERRIMAN (of Lindsay).—I have seen many fine orchards planted on a northern exposure, well drained, and protected both by hedges and wind-breaks, to which the proprietors attribute much of their success; and what I have heard to-day confirms the idea that one cause of failure is want of wind-breaks. Many trees that I have seen have been planted for over twenty years, and are still bearing well. I might name the Wagner, Alexander, Snow, Tolman Sweet, Golden Russet, Northern Spy. There is also a fine apple called the Yellow Bellflower, which is doing well. To show you how different is the result, with different people, one man got seven trees and they are all living; another man planted seven and they are all dead. There was no wind-break in the latter case, and the soil was a little too shallow. I have noticed that a number of orchards, lying in low, wet soil, without drainage, have died. This section of country has a ridge of nice warm clay loam, and all the orchards I have seen doing well, are those placed on nice, well-drained soil. The two orchards I spoke of, as being successful, have a northern aspect, and are drained into Sturgeon Lake. It is not a thick wind-break, but I have noticed that there is also a fine, heavy bit of woods to the north.

Mr. J. L. PAYNE (of Ottawa).—The Spitzenburg apple is a favourite at Ottawa. Will the tree grow here?

Mr. BEADLE.—No.

Mr. COATES (of Cambray).—My orchard is on a sandy loam, sloping to the south, and on the west I have a wind-break, not quite finished, composed of cedars and spruce. My trees have done better than those in an open space, but the tree that has not succeeded with me has been the Baldwin. The Red Astrachan appears to be a tree that does well on my place, although half of my Bellflowers have died. The Duchess of Oldenburg bears every year, and the tree is hardy. The Snow apple also succeeds, and so does the Tolman Sweet. I have the Roxbury and Golden Russet, and the Ben Davis doing well, and I have one tree of the Ontario which is doing even better than the Ben Davis. The Ben Davis was slightly injured last year by the frost, but not much. The Ontario bears a fine crop every year, and is a very fair apple. I think orchards should not be cultivated after they commence to bear fruit. I give them a top dressing, every other year, of rotted manure, from which I can see an advantage. As to the time of pruning, I find the trees do better if the operation is performed early than if delayed. The time I select is just as the bud breaks.

Mr. DEMPSEY (of Trenton).—There is something for all to learn if we take a proper view of this discussion. You will find that most of the failures have taken place in gardens where the land is manured highly and where it is a strong, heavy clay loam.

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Evidently cultivation has been carried on from spring to fall as long as the frost was out of the ground, preparing the soil for a crop of vegetables, or something else, to follow in the spring. Where we find in the country parties growing orchards on a more favourable site, they are succeeding in producing almost every variety of apples, and failures are exceedingly rare. Now, I think this idea is worthy of our attention. We learn this from the discussion of to-day, if we only give it a thought.

With respect to soil, my mind has not been changed by what I have heard. If you read the reports you will see that I have said I would rather have a drifting sand than heavy tenacious clay for growing apples. I have seen the Baldwin apple flourishing in a section of the county where the climate is as severe as in the town of Lindsay, on soil where a pine stump had actually drifted out. The Baldwin tree had been planted just a short distance from where this stump was standing, and the finest Baldwin apples I ever looked at were grown on that land. Grass will not grow there; but the apple was flourishing and giving perfect satisfaction.

You talk of cultivation; I know a very large orchard of some two thousand trees where the man was persuaded it was unnecessary to cultivate and still he wanted to raise a few acres of beans, and on the portion where he grew the beans the apples were fully double the size of those on the portion he left to grass, although top dressed liberally and the grass not taken off. He was taking a crop of beans off and using no fertilizer. Just that one observation was sufficient to satisfy me that we should cultivate our orchards early in the season. Again I visited an orchard where the man was practicing cultivation by sowing red clover whenever the ground became a little lean and mixed in red timothy. The next year he would have a stand of clover you would think was a year or so old and he would then plow it under. He was manuring his orchard in this way and making a success of it. There are various ways of making a success of an orchard, but we must come down to ask where do we find them flourishing? It is on a northern exposure in preference to a southern. The best wind-break I have seen was a natural one. If we want to make a success of fruit culture we must select a favourable site. Do not be afraid of getting the soil to light. Speaking of drainage; where my house is, and where I commenced to plant, it was a bog soil, some of heavy clay and some of lightish loam. In preparing it, I under-drained five feet deep. I supposed that was sufficient. It cost me more than the land, and more than the land would bring if it were offered for sale to-day with the orchard on it. I cannot grow the Baldwin nor the Greening on it, but strange to tell you, I can grow the Roxbury Russet on it, an apple tenderer than any of them. The Yellow Bellflower is hardy on it. There are a few varieties that succeed on it. The Tolman Sweet is doing very well and the Ribston Pippin is succeeding well. I think it is next to impossible to underdrain land that is unsuitable for orchard purposes and make a success of it. The roots have gone down below five feet.

With respect to varieties there are a few that I have not heard spoken of that might do well here. One is the Hawthornden New. It originated in Scotland, is perfectly hardy in the northern part of that country, and to say that it is productive does not convey the proper idea. It will produce such an amount of fruit that the trees cannot bear it, and next year you will find a crop there again. I have not known an inch of it to be frozen. There are several varieties worthy of trial, if nurserymen would propagate them. The Cellini is a very large fine apple, far superior to the Colvert. It will produce two bushels to one of Colvert with me. Our object is to cultivate winter apples.

I think most of your failures here have been from the causes you have mentioned. Pruning has something to do with it. I had an uncle who had the idea that his orchard was too thick; so he sent his man into the orchard with an axe, thinking that by severe pruning he could double the size of his apples. He lost all his trees. It must have been planted with hardy varieties for many of those trees were from sixty to seventy years old, grown from seed. The axe did it.

Mr. MACDONALD (of London).—With respect to soil, we know that trees are great feeders on potash, and on sandy soil a liberal quantity of ashes should be used.

Dr. HERRIMAN (of Lindsay).—With respect to the packing of trees and sending them to customers, my experience in one case was not very satisfactory. I ordered fruit trees

to be sent to Manitoulin Island, but when they got there the roots were dry and they soon died. I ordered some more and when they came I was delighted. They were beautifully packed in a box with nice chaff straw thrown about the roots, and on opening the box the bark was found to be green and new, roots had begun to grow. Every one of those trees are growing and doing well. I am quite convinced that a great deal of harm is done through defective packing. The small fibrous roots should never get dry before being put into the ground. Mr. Dempsey made an observation that the soil could scarcely be too light. My experience is that trees have not flourished on light land.

Mr. DEMPSEY.—There is no doubt that you can make a perfect success by growing apples on a sandy soil. It must, however, be cultivated and manured.

Mr. MORRIS.—You do not get the quality of fruit. To get that you want heavier soil.

Mr. DEMPSEY.—That is true, but how easy it is to apply lime to sandy soil. There is more potash contained in clay soil, but how easy it is to apply potash. We want to get rid of these ash buyers. We don't need them any more. Let us scatter the ashes over our apple orchards. We can give the trees the feed they require on sandy soil.

Mr. DOUGLAS (of Manilla).—One thing has been lost sight of in this section, and that is proper cultivation. It may be that cultivation late in the season has done much harm. Some of the older orchards with us are those having a northern aspect, and have been kept in grass a large portion of the time. The trees there are fifty years of age, and of those that have been planted half that time, not so many are alive as the older ones.

Mr. MORRIS (of Fonthill).—I do not think grain should ever be sown among trees, except it be buckwheat. I remember planting a lot of trees myself. Half were planted in wheat and the other half in corn. That half planted in the wheat was nearly full of borers. They attack a tree that is unhealthy. The soil was clay loam. Nothing tends to set trees back more than by drying up the ground.

Mr. MACDONALD.—What is your experience about guiding the roots.

Mr. MORRIS.—They will take their own course.

Mr. MACDONALD.—Has the soil any influence?

Mr. MORRIS.—Yes; if it is hard they will spread instead of going down.

Mr. BEADLE.—I will corroborate what Mr. Morris has said. A neighbor who had a fine apple orchard asked me to go and see it. He had a beautiful field of rye in his orchard, and nearly every young tree was turning yellow in the leaves. I said your trees are dying for want of water, and they did die.

Mr. DEMPSEY.—Just as quick as the grain begins to brighten, the rays of the sun are reflected on the under side of the leaf and the tree is injured. You may see the same effect by turning a grape leaf over and exposing it. It will be killed in nearly twenty minutes. You can do the same with an apple tree. Just as soon as the grain begins to change its color, so that the rays of the sun are reflected on the under side of the leaf, it has the same effect as a mirror. You may experiment with a mirror if you like. Mulching is really a system of cultivation. It opens the soil so as to receive a certain amount of the atmosphere; but when you commence to mulch you must continue. If you do not, after a while all the roots will be found on the surface. If you go to the forest and rake away the leaves, as I have done in search of plants, you will find that the roots are running right under the surface.

Mr. A. A. WRIGHT (of Renfrew).—There is nothing to keep clay soil so light and pliable as mulching; but you must continue it forever, or those roots coming to the surface will die. If you can continue it, it is certainly a fine way to work clay soil.

Now I want to say one word about the Yellow Transparent apple. In the north it is one of the earliest and hardiest apples we have. There is no other apple that will ripen so early; it is a fine size, smooth, of good flavor and one of the earliest. The Tetofsky has been mentioned, but it is really nothing like so good as the Yellow Transparent, and has a habit of dropping its fruit, which is not true of the Yellow Transparent. The tree, too, is fine and shapely. The Wealthy stands at the head of the list in our section of the country, and ought to be planted in every section where there is a difficulty in getting hardy trees. The Wallbridge and the Pewaukee are not hardy enough. Some can grow it in favoured localities, but as a rule it will not succeed. The Peach of Montreal

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is very fine. You cannot ship the fruit any distance, as it is very easily bruised and looks bad; but if you can pick it and take the fruit to market in baskets, there is none other that sells so well, and the tree is as hardy as any you can find. The only objection you can have to it, is that it is a fall apple and will not keep. The Alexander is perfectly hardy in our section, large in size, and for selling we have none that does better. The Duchess of Oldenburg is hardy, but not so much so as the Wealthy. In many catalogues you will find that the Duchess of Oldenburg has been placed at the head of the list; but it cannot compete in our section with the Wealthy. I have come to the conclusion that there is no other apple tree hardier than the Wealthy. The Duchess of Oldenburg is a magnificent apple and as grown in northern sections is superior to those grown in southern counties.

Mr. BEADLE.—Have you grown Scott's Winter?

Mr. WRIGHT.—I have, and a fine apple it was. I allowed the birds, however, to get into the tree and spoil it for a market apple. I have had the Canada Baldwin, and so have many of my neighbors; but we have only one tree there living. I have no faith in its living to any size. Might I just say a word with reference to the people in this section. They have been troubled with a good many conflicting stories regarding the hardiness of the Russian apples; but as far as my experience goes they are not as hardy as represented. I have had more failures in Russian varieties than I ever expected. I do not want to discourage you, and do not give them up hastily.

Mr. BEADLE.—Will you make out a list of those which failed, so that I may publish them?

Mr. MORRIS.—There is one encouraging feature about the fruit grown in cold sections like this, and that is, the further north it is grown the better is the quality. The keeping qualities are better. The Rhode Island Greening becomes a fall apple in the south, while in the north it becomes a good winter apple. I am sure the flavor is better on clay.

Mr. DEMPSEY.—The best apples I ever saw grew on sandy soil; but it had the benefit of a dressing of leached ashes. The application has not been repeated for eight years, and up to last fall they were the finest Northern Spys I ever saw.

RESOLUTION OF CONDOLENCE.

Moved by A. A. Wright, and seconded by J. Croil and

Resolved—That the Fruit Growers' Association of Ontario have learned with deep regret of the death of Mr. Henry S. Evans, late Secretary of the Horticultural Society of Montreal. By his removal not only has our sister Province lost one of her most able and willing workers, but a blank has been left in the entire Horticultural community which it will be hard to fill. We have all admired his estimable private character, his many Christian virtues, as well as the untiring efforts he put forth so long and so effectually in furthering the cause of Horticulture, and we regret exceedingly that he has in the Providence of God been removed at an age when he had apparently before him many years of usefulness. We beg to tender our sympathies to his widow and family in their deep affliction.

Carried by a standing vote.

The Association then adjourned until the evening.

On resuming in the evening the "Question Box" was opened.

A DESTRUCTIVE GRUB.

A sample of a grub was placed on the table, and it was announced that a gentleman had sent it from Cornwall, where it had preyed upon his black currant bushes. A request was made that it might be named and a remedy suggested.

Mr. BEADLE.—It is the larva of a beetle, which both in the larva and perfect state feeds on plant lice. It does not eat anything but living creatures that I know of; it certainly never injures the leaves of any plant. This is one of the provisions the Almighty has made to keep things in check. When the plant lice become numerous, these enemies also become numerous. I have seen more of the lady bird, their larvæ and chrysalids this year than at any time within twenty or thirty years; they also are very numerous. The gentleman has found this larva on the under side of the leaf of his currant bush, and has taken it for granted that it was feeding on the leaf, whereas it was feeding upon the plant lice. These little fellows were doing what they could to save the currant bushes. I see that Mr. Saunders, in his work on "Insects Injurious to Fruit," speaks of this little beetle and the help it affords in keeping the aphids in check.

Mr. BEALL.—Is the whole difficulty this year from the aphids?

Mr. BEADLE.—As far as my knowledge goes it is; my neighbor called my attention to his currants and I found the bushes covered with them.

Mr. BEALL.—I imagine there are other difficulties. I think I have seen great quantities of the red spider; it is along with the aphids this year. We have had very hot dry weather, and it seems to be troublesome only then.

A CORDIAL WELCOME.

At this stage the Mayor of Lindsay was introduced, and in a speech full of kind words, welcomed the Association to the town.

Mr. DEMPSEY replied.

PLUMS.

Mr. ROBINSON (of Lindsay).—I certainly did take the prize for plums, and I have two or three kinds that are fairly successful. I have some growing now very nicely of the Lombard variety. My choice, however, is Pond's Seedling. I think most of the people know that plum trees are very liable to the curculio, they are our greatest trouble here; there are diseases among the trees, but this is the chief trouble here.

Mr. SMITH.—Are you troubled with the black knot?

Mr. ROBINSON.—I have seen none; I have heard of it, but have not seen any. I have twenty to thirty trees, mostly Lombards. I have also the Yellow Egg, Victoria and one or two other kinds.

Dr. PURCELL (of Port Hope).—I applied Paris green and destroyed the curculio and the plum too. I am anxious to learn whether others have had a similar experience; that is to have the leaves wither where the Paris green fell.

Mr. SMITH.—You have used it too strong.

Mr. PETTIT (of Winona).—It has been used a great deal in our neighbourhood and is considered a good remedy; but the gentleman who has used it here has applied it too strong. I think the proper strength is four ounces to the barrel of water. I used it myself last year, and while we had not any plums for years before, we had a very good crop.

Mr. DEMPSEY.—A teaspoonful to a pail of water is, I think, the proper strength.

Dr. PURCELL.—I used even less than that.

Mr. BEALL.—I think there is a good deal of misunderstanding with respect to the application of Paris green. I did not think there was any difficulty until the last six months, and now I think there is a good deal. There is no doubt that Paris green will be an injury to foliage in certain cases, but I am quite satisfied that it can be so applied as to effect not only a remedy but prevent injury to the tree in the least degree. My friend, the Doctor, from Port Hope, used a teaspoonful in a pail of water and he thinks that is too strong. Now, suppose he should use half a teaspoonful, he might find that to do very well; but suppose he used a teaspoonful in three gallons of water and makes it do for

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half a dozen trees. It depends on how much goes on each tree. I have never experienced any harm from using Paris green, but I noticed in the *Horticulturist* a letter from my friend Mr. Thompson, who used to live in this neighbourhood. He has evidently applied the water so that his trees are all injured on one side. Now, if properly applied it would not effect the trees in that way. It should be thrown over the tree in such a way that the spray would fall in the calyx of the flower. In shooting against the tree you do not effect an equal distribution. It should fall down upon it. Then a good deal depends upon the instrument you use. One man said he got a pump and shot it into the tree. The only proper way is to use a fine rose syringe, as fine as can be obtained, and then you get your fluid so finely separated that there is practically no drop at all. It is like a fog falling on the tree. As to whether Paris green is an effectual remedy is another matter. Some six years ago I began experimenting with Paris green. I had two red plum trees standing near together, that I cared very little about. They bore large quantities of red plums every year, but they were so badly destroyed with curculio they were worth almost nothing. I applied Paris green to one and not to the other. The foliage was not injured, but on the tree I applied Paris green to I had a good crop of plums, while the other tree was as bad as in any other year. The next year I reversed the order, and applied it to the other tree and not the first one. The consequence was I had a reversed order of fruiting. There was a crop on the one I had sprayed, but not on the other. Our vice-president, Mr. MacD. Allan, in an orchard of a thousand trees, selected four trees on which the Paris green was not applied. He took every care that none fell on those trees, and he had a plentiful crop on all but those four trees. He tried four other trees the next year with the same result. It seems to me a man will not regret applying Paris green if he does so carefully. I applied it just as the blossoms are commencing to fall and just when the blossom has left the tree. The insect does not eat the Paris green, and there is nothing known to show how the effect is produced. It is sufficient to know that it is accomplished.

Dr. Cross (of St. Catharines).—I think the reason is apparent. Paris green is very caustic and prevents the curculio from laying its eggs.

Mr. PETTIT.—I have found that if you spray a tree with Paris green as often as you wish and as early as advisable, you will find that a great many of the blossoms are marked by these insects. The philosophy of the thing, I have always thought, was that the poison lodges there just when the insect begins to feed on the bloom.

Mr. ROBINSON.—I am under the impression that it is the strong sense of smell which this insect has.

Dr. PURCELL.—I applied some to two St. Lawrence apple trees, with the result that the leaves fell off the tree, and with them a great portion of my apples fell to the ground. The reason I applied it to the St. Lawrence was because of the beneficial effect upon another tree I do not know the name of. The codling moth takes them as soon as they are the size of walnuts. I had three barrels off that tree and they kept until six weeks ago. It was the success with this tree that led me to apply it to the St. Lawrence, with, however, a very different result.

Mr. BEADLE.—I wish to ask this gentleman whether there is not some free arsenic in some of the Paris green. Mr. J. P. Williams, of Prince Edward County, who had a similar experience to Dr. Purcell, said he was afraid he had put it on too strong. I have this impression that arsenite of copper is not soluble in water; but if there be free arsenic, it is soluble in water, and I can understand why the leaves are scorched and fall to the ground. Perhaps there is some gentleman here can tell us whether there is anything in it.

Mr. MORTON (of Wingham).—As far as the argument that it is not soluble in water and therefore cannot be injurious, is concerned, it is not valid. I do not say it is the case in this instance, but there are substances in themselves insoluble in water, which, when brought in contact with other substances, chemical decomposition takes place. It may therefore be that the arsenic set free would have the same effect as the arsenic in a mechanical compound. I do not say that has been the case in this instance, but with regard to the action of Paris green, I have discovered this, that it would effect a tree at one time that it would not another. The same quantity, as near as I could come at it,

was applied in one case as in another. After giving it some attention I found almost invariably that the sun was shining brightly when it injured the leaves. Another thing is, that unless you pay close attention, you will not have an even mechanical mixture. It certainly will not dissolve, and, unless you keep it agitated, you are very apt to have one application containing a greater proportion than another.

Mr. BEALL.—There is another idea which I merely advance just now. I applied Paris green to currant bushes, gooseberry bushes, and I think to other things, and it never affected the leaves in the least. If it were free arsenic that did the injury, I should think it would affect all leaves alike. Several complaints have been made, and I have noticed that in each instance, it has been the St. Lawrence apple that has been affected. Is it not possible the leaves of that tree are more easily affected than others?

Mr. CROIL.—What kind of a syringe do you use?

Mr. BEALL.—I use one of those English fine brass syringes; It is not very large. I think it has an inch and a-quarter, or an inch and a-half bore. I paid \$4.50 for mine, but they can be bought cheaper. I have nearly three hundred trees, and my man can go over them all in a day.

Mr. BEALL (of Lindsay).—As to the kind of plums that can be grown with profit in this vicinity, I am in some doubt. I have cut down a great number of plum trees, some of them five or six inches. I have in fact, given up all idea of growing them for profit. I do not think it can be done just in this locality. There may, however, be other situations within a few miles of this locality where they will succeed. I know one man in the very centre of this town who has grown the Lombard plum, and has had fine crops every year, and never had a curculio on his place. His neighbours have plenty. It is Mr. Huskell.

Mr. BEADLE.—Why can't you grow plums profitably? Is it on account of the curculio?

Mr. BEALL.—No; the trees this year showed inflorescence very large. There was a beautiful prospect of a crop, but the supply will be very limited. A light frost just comes at blooming time and destroys the blossoms. I am satisfied that the plum tree is not suitable for this soil. I do not think it is the climate.

Mr. DEMPSEY.—I think you have beautiful soil for plum trees.

Mr. BEALL.—As plum trees begin to bear the trouble begins. Overbearing kills them off. With respect to variety, I know of no other that will succeed except the Lombard.

Mr. MORTON.—Don't you think if the plums were thinned out the tree might be saved?

Mr. BEALL.—No doubt of it.

Mr. DEMPSEY.—There is one plum tree, I presume, you have never tested in Lindsay. It bears the name of our honoured President. I have had the privilege of looking at the original tree for several years, and I have never noticed the black knot on it, although the Lombards, and other varieties beside it have been covered and killed. I have never seen it fail to bear a crop so large, that the tree was in danger of breaking down. The next year it comes out green to the end of the branches. I do not know whether the tree can be had or not. When you can get it, try it. I believe it can be grown anywhere. The name is the Saunders. It is a superior plum, a trifle smaller than the Lombard, yellow in colour, and it is early. While the Lombards sell at Belleville for fifty cents a bushel, these brought \$1 a peck.

Mr. BEADLE.—An abundant supply would affect the market.

GRAPES.

Mr. BEALL (of Lindsay).—I am quite satisfied that any grape can be grown here that will not ripen later than the Concord. It would require a little more care than these Yankees exhibit, but it could be done. I will leave it to others to name the varieties. While on my feet, however, I will relate a circumstance that may interest you. I fruited the Jefferson grape last year, and it was ripe when the Concord were green. I under-

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stood from the originator that there was no use in sending it here, as it could not be grown in this neighbourhood. This, however, is its fourth year; but of course only a few bunches were on it. I have perhaps thirty varieties altogether, and I am satisfied there is no difficulty in getting any grape to ripen. I can get a good crop from the Agawam, which is later than the Concord.

Mr. BEADLE.—This question of early bearing grapes is important. If you take a grape-vine and let it bear fully, the fruit will be from one to two weeks later in ripening than if you cut off a third. That is a fact. You can make ten days' difference in the ripening of your grapes. Perhaps the Jefferson Mr. Beall speaks of, was more warmly located than the Concord.

Mr. BEALL.—No; scarcely as favourable.

Mr. BEADLE.—Well, it had this in its favour, it was a four year old vine and had only a few bunches on it. I thoroughly believe that in nine cases out of ten, if three-fourths of the fruit were cut off, the rest would ripen.

Mr. DEMPSEY.—That is not the only advantage. We used to have close competitions for exotic grapes, and if we wanted to get a five pound bunch of Black Hamburgs, we used to cut off all the bunches on a vine but one or two. We would then be very careful to keep that vine well fed. We would not only cut off two-thirds of the bunches, but we would thin out the berries on each bunch. By that means we would actually get a larger bunch, but greater weight. I have tried this with grapes in open ground. If you want a close bunch remove half the berries. The vine matures better, the foliage is healthier, and the fruit will weigh more and command higher prices. I think it will pay to thin out Concord grapes. I know it pays to thin the Delawares. I have seen it set such a large crop of grapes that the foliage would fall, and they had no flavour.

Mr. MORTON (of Wingham).—Mr. Dempsey might also have told us about the trick of ringing grapes for show purposes. It prevents the sap from returning, though not of going up; you get show, but no quality.

Dr. HERRIMAN (of Lindsay).—What is the best manure?

Mr. DEMPSEY.—I have never found anything superior to bone dust; if I can get plenty of that I am satisfied.

Mr. BEALL.—How about ashes?

Mr. DEMPSEY.—I apply them, but I prefer bone dust.

Mr. MORTON.—What about soil?

Mr. DEMPSEY.—Any soil will do for grapes.

Mr. JAMES WATSON (of Lindsay).—I wish very much to know something in relation to the pruning of them. If they are very rampant in growth how should they be treated? I have been in the habit of pinching them as soon as the flowers seem to leave, and then when they get about the size of a pea I have cut them back. I have noticed that this sometimes checked them too severely. I have been very successful in growing them and have a beautiful promise, but from the heavy growth of wood I do not know what to do. I have one vine extending sideways thirty-five feet.

Mr. PETTIT (of Winona).—It is a pretty difficult thing to explain pruning to a man outside of the vineyard and the vines not before you; so much depends on the strength of the vine. I have done a great deal of it and have watched the result of others' work. From the distance Mr. Watson speaks of his vine growing, I fancy he would have too much wood. The less old wood you make the vine carry the better.

A MEMBER.—Do you prune in the summer?

Mr. PETTIT.—Very little.

A MEMBER.—Do you clip the leaves off?

Mr. PETTIT.—No. The question of manure was spoken of. I have used considerable quantities of ashes and salt, and a very suitable manure consisting of a compost made of dead horses and cattle. I never found anything to answer like this compost. I made one lot of six horses and two cattle, and saw dust and muck, and after it was well rotted I used it principally on the Delawares, and I never saw such fine grapes as were grown from the use of it. My soil is a heavy wash soil from the mountain. This Jefferson grape you speak of has been rather tender with me; it winter-kills. I have tried it in a row of over fifty varieties and it has done nothing. Mr. Beall says that any grape that

will ripen with the Concord will ripen here. That will give you a good list of the following varieties. viz:—Champion, Moore's Early, Massisoit, Delaware, Niagara, Jessica, Brighton and Hartford.

Mr. JOHN CROIL.—What space would you allow each vine? The old Hampton Court vine, nearly one hundred years old, and which had 1200 bunches on it, has wood nearly as thick as your leg.

Mr. PETTIT.—You cannot compare that vine with vineyard cultivation. If we were to attempt to carry that much wood, I fear there would not be much profit in it. Give them twelve feet on the trellis and ten feet between the rows; the Delaware will answer with eight feet. They should be about five feet high or a little more than that. In pruning we adopt a rough-and-ready way; we go along with something like a currant cutter and knock off the ends just as they begin to stand out and take hold of the trellis. I never, however, practice the so-called system of summer pruning. I always claimed that it is weakening to the vine and you do not get as good a setting of fruit the next year. I do not think the young wood will mature the fruit bud so well, as when these shoots are allowed to grow.

Mr. DEMPSEY (of Trenton).—I am disposed to show a good deal of charity with respect to the cultivation of grapes. My first experience in grape culture was all based upon European authority, and while the directions applied very well to exotic grapes they were more than useless when applied to our American varieties. We used to depend on the spur system, and considerably to what they called the rising and dormant bud; that is to prune as close to the old wood as we could and depend on it to raise the bud. That system is worse than useless when you undertake to practice it on American varieties. They will not mature sufficiently to produce bunches the following year or that year; so we have to adapt our methods to the variety we are dealing with. Dr. Grant, in his book on the beautiful system of training grapes, took every one of his ideas from European books; that did harm in Canada. In cultivating an American variety, we should remember that we want this year's shoot for next year's fruiting, and if we want good bunches we must take that shoot from last year's branch; thus avoiding the old wood as much as possible. I am just giving you the theory, if you can pick it up. When it comes to summer bunching, we train to two wires. We tie the fruiting canes to the wire, one about two feet from the ground and the other about five. Each branch sets from two to four bunches, and after they run out horizontally thereon we bend them down. We do not lop them off any more except in the case of the Brighton. If we did not do that we could not sell grapes at three cents per pound.

Mr. PETTIT.—I agree with what you have said. I find that beginners invariably leave too much wood. They ruin their vines thinking they have pruned them.

The Association then adjourned to meet the next afternoon in Bobcaygeon.

SECOND DAY.

The Association met on July 8th, at Bobcaygeon. The members and their friends had taken a steamer at Lindsay in the morning, and after a most enjoyable trip arrived at Sturgeon point. There the vineyard of Mr. Knowlson was visited, and methods of cultivation discussed in a general and informal way. On arriving at Bobcaygeon, lunch was partaken of, and immediately afterward the Association assembled in the Town Hall. Business was at once proceeded with.

PRESERVATION OF FRUIT.

QUESTION.—“Will Mr. Morton give the process of preservation of grapes exhibited by him at Lindsay yesterday?”

Mr. MORTON.—I do not want to claim the credit of what is not due to me. I did not preserve the grapes; I got them from my father at Brampton. The process is very simple. They take ordinary building sand, and after washing it to rid it of clay, dry

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it thoroughly; then a close box is taken, and about two inches of this sand put in the bottom; the grapes are packed on top moderately close; sand is then sifted over them and shaken down, so as to fill the spaces; the top is put on and the box left in a cool dry cellar. I spoke of this to the Provincial Treasurer, and he said he had no difficulty in keeping grapes for over a year by the very same method, and that for a number of years he had been doing so. Rogers' No. 19 he found to be the best keeper. You are all aware you need not attempt this plan with some grapes. The best and most suitable are those which have a thick skin. Hon. Mr. Ross says he prefers, in putting them down, to take ordinary linen tissue paper and wrap each bunch in it before putting on the sand. This prevents the sand from touching them, as when one bursts or shrivels up the sand adheres to it and some of the mucous attaches to others.

Mr. BEADLE.—I want to call your attention to two articles which appeared, one in the July number of the *Horticulturist* and the other in the previous number, in which an account is given of Mr. Torrance's discovery of infusorial earth and its preservative qualities when applied to fruit. His theory is that it preserves the fruit by excluding the atmosphere, preventing the least possible changes in temperature and permitting no moisture to enter. This uniform temperature, he contends, will keep fruit a long time. Some autumn apples which he put away in a box with infusorial earth about it, was not opened, I think, until May, and the apples were still fresh. The apple used was the Alexander, a fine showy fruit, which is not a long keeper. This earth is found in Nova Scotia and is composed of minute shells. If plums or peaches were to be preserved, his method is to wrap each specimen in tissue paper, place them in trays and put this infusorial earth over, so as to fill all the interstices, then place the trays in a box and sprinkle the earth into it so as to fill all the remaining spaces. Then the box is set away wherever you like. He thinks it is impossible, no matter where you sit it, for any heat to get in. Mr. Jack, of Beauharnois, tried keeping some grapes, so Mr. Bucke writes me, and he forgot all about them being out in his shed until the thermometer had gone down below zero. He placed the box in his cellar, and when he opened it in the winter, he found the fruit in fine condition, sound and fresh. Mr. Chas. Gibb, of Abbotsford, tried keeping some butter for a time in this infusorial earth, to see if it would impart any flavour to it; but after keeping it a week, he could not detect the slightest change. The butter was as sweet as when it went in. The inference is that this stuff is odourless, and possesses no power of communicating flavour, and yet has the power of maintaining a uniform temperature, and keeping out the atmosphere, and moisture.

RESOLUTION OF REGRET.

On motion of Mr. D. W. Beadle, seconded by Mr. Morton, the following resolution was unanimously adopted:—

Resolved.—That this Association desires to express deep regret that we have not been permitted to enjoy the pleasure of meeting with one of its esteemed members, Mr. John Knowlson, who has been a pioneer in grape culture in this vicinity.

BAGGING GRAPES ON THE VINES.

Mr. A. M. SMITH (of St. Catharines).—I should like to ask if any of the members have had any experience in bagging grapes on the vines. It is receiving attention on the other side of the line and from the results that are reported, it is a desirable thing to test. It is said to be a protection from rot and mildew, and I understand has had the effect of producing a finer appearing fruit.

Mr. PETTIT.—I have not had any experience, but have often thought I would try it; I know it has been largely carried on in Ohio, on account of the rot.

Mr. A. A. WRIGHT (of Renfrew).—I always bag the specimens I am going to exhibit. I take a two pound, satchel bottom, manilla paper bag; but before I put in my fruit I

clip off the corners of the bottom. Then you slip the bag over your bunch of grapes when the grapes are about the size of a small pea and tie a string around it. It is a splendid protection in many ways. Your bunch is better and children do not pick off the berries, nor chickens get at them.

Mr. SMITH.—I have been informed that the bags may be had for seventy-five cents a thousand, and girls can pin them on for a very small percentage on that price. I have seen fine samples of fruit that had been grown that way.

Mr. PETTIT.—I would like to ask Mr. Wright if he gets his grapes a good colour and plump?

Mr. WRIGHT.—I always thought I got a better specimen in every way, and if the frost happens to come the bag protects the grapes.

Mr. WANZER (of Hamilton).—I have bagged grapes to protect them from wasps in certain seasons of the year, but I always found those bunches to be more or less rubbed, especially if they were where the wind could get any play at them.

GRAPES.

Mr. BEALL (of Lindsay).—I would like to go back to the subject of preserving fruits. In this neighbourhood there are, I believe, a great many deposits of infusorial earth and if any are discovered of good quality it would be well to make the matter known.

Mr. BICK (of Bobcaygeon).—We have tried some of the earth in this neighbourhood without success. Let me now ask a question: I have been troubled with frost in the fall; what sorts of grapes would be likely to answer best?

Mr. MORRIS (of Fonthill).—Perhaps the Champion would be most suitable for this section. The Hartford, Early Victor, Moore's Early, and if the Concord will ripen in Lindsay, it also should ripen here.

Mr. PETTIT.—I would add Wyoming Red; it is early and would be a relief from the black.

Mr. WRIGHT.—I would add Brighton also, for red.

Mr. A. M. SMITH.—And Jessica for white.

Mr. THOMPSON (of Bobcaygeon).—I do not know much about grapes, but I believe it is hard to get them to grow here. Why, I do not know.

Mr. WRIGHT.—Cannot you get them to grow?

Mr. BICK (of Bobcaygeon).—Yes.

Mr. WRIGHT.—You no doubt have varieties that ripen too late; but if you get those that have been named you will be safe. The Martha and Lady will also ripen early, as well as those named.

Mr. THOMPSON.—I think the Brighton grape has been chiefly grafted here.

TULIPS AND GLADIOLI.

Mr. BEADLE (of St. Catharines).—I have not had much experience in cultivating tulips. I get a few every once and a while and put them in the ground and let them stay there until they run out. I have never taken them up at all, or taken any trouble with them. They will stay in the ground in our climate, but they run out after a time. They do not come true to colour after a few years. This matter of growing tulips is one largely dependent on skill and knowledge of the subject. In Holland, where so many are grown, great attention and study are put into the work. They sow seeds and grow tulips, and then handle them in such a way as to break the colours and secure rich blendings. I suppose the best and cheapest way is to do as I have done unless you find that winter kills them and then I say, take them up and after they have died down, pack them in sand and put them in your cellar; then put them in the ground in the spring as

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early as you can get them out. Now, with reference to the gladiolus, it wants altogether different treatment. It will not endure the winter in the ground even where I live, unless we cover the ground in such a way as to keep the frost out. In preference, to that, however, I take up the bulbs in the autumn before the ground freezes and take off all the little bulblets that have formed on the main bulb. If I want to multiply my stock I save these little bulblets; if not I throw them away. Then I take these bulbs and put them in perfectly dry sand. If there is any moisture the bulbs will decay. The mice are very fond of them and you must see that they cannot get at them. Apart from the mice, keep them dry and cool, where they will not freeze, and planting them out in the spring as early as you like. Give them, if you can, a light sandy soil. Now, to come back to the little bulblets, by which you increase your stock. You may put these into a paper bag and hang it up and let them stay there one summer and plant them the following spring. If you plant them the very next summer, ten to one you lose all of them. If, however, you plant them the year after, they are much more likely to grow and do well.

Mr. HILLBORN (of Arkona).—To what depth do you plant bulbs?

Mr. BEADLE.—Three inches.

Mr. HILLBORN.—Some say six to eight inches.

Mr. BEADLE.—I never do it.

Mr. WRIGHT.—I never put them in sand. I simply throw them into a cheese box and leave it on the potato bin.

Mr. BEADLE.—Mine would shrivel up if I did that.

Mr. DEMPSEY.—My wife just keeps them in a little basket.

Mr. MORRIS.—I pack them up about the first of August, and place them in the greenhouse in the shade so that the sun will not strike them. I let them lie there until the first of October, and plant them out again.

Mr. CROIL.—It is the simplest way to keep your bed clean to follow Mr. Morris' plan.

Mr. DOUGLAS (of Manila).—Does going to seed destroy them?

Mr. MORTON (of Wingham).—The whole effort of the plant is to go to seed. If growers of pansies want to show flowers, they keep taking off the first bloom before the seed has become set and the vigour is thrown into later blossom. The way I do is to cut off the stem as soon as the blossom is past.

APPLES.

Mr. BURCHARD (of Bobcaygeon).—One of the greatest causes of failure here is the apple tree borer. We lose more trees from that cause than any other.

Mr. DEMPSEY.—Wash your trees with soft soap thinned with lye to the consistency of paint. Do that every year, and if the borer is tempted to deposit his eggs at the base of the tree, the washing down of this alkali will prevent him.

Mr. BEADLE.—That is what I have used and found effective.

Mr. DEMPSEY.—One application is sufficient.

Mr. BEADLE.—Kill the borers already in the tree with a bit of wire.

Mr. BICK.—Is whitewashing an injury to the trees?

Mr. DEMPSEY.—No; but it does no good. It does no harm and it may do a little good.

Mr. BENTERS (of Bobcaygeon).—What I have noticed here and in other places, is that when our trees come to be bearing nicely, they begin to die. If you could name some varieties you think I would do well to plant, I shall be pleased to hear them.

Mr. MORRIS (of Fonthill).—This question was gone over so thoroughly yesterday, that I do not think it necessary for me to repeat what was then said; but let me correct a false impression which this gentleman has formed respecting late cultivation. He thinks ploughing in the fall is late cultivation. I call it late cultivation in the middle of summer after the trees have ripened and formed their terminal buds for the season. I do not think any cultivation after that will affect them injuriously.

Mr. FAIRBAIRN (of Bobcaygeon).—I have tried to cultivate an orchard. I have gone in for fine fruits, but they have invariably failed. Of the Tolman Sweet I do not think I have ever lost one. I do not know ten varieties that would grow here. Some Snow apples bore six or seven years, but they are all gone.

Mr. DEMPSEY.—Have you planted the Duchess of Oldenburg?

Mr. FAIRBAIRN.—Yes; and they are doing well.

Mr. DEMPSEY.—Have you the Wealthy?

Mr. FAIRBAIRN.—I have not.

Mr. DEMPSEY.—Have you the Walbridge?

Mr. FAIRBAIRN.—A few.

Mr. DEMPSEY.—Does the Golden Russet fail?

Mr. FAIRBAIRN.—No; they have flourished. The borer attacked them, but we tried this remedy you speak of and it drove them off?

Mr. DEMPSEY.—I think if the varieties you have named will do well here, you can get twenty others.

Mr. ROBINSON.—Have you tried the St. Lawrence?

Mr. FAIRBAIRN.—Yes; and they are doing pretty well.

Mr. ROBINSON.—Have you tried the Alexander?

Mr. FAIRBAIRN.—I have very few.

Mr. WRIGHT (of Renfrew).—If you plant the Wealthy you will find it very good. I will also suggest the Yellow Transparent, which ripens early, but does not keep very long. It is very hardy. Another is the Peach, of Montreal. I would not advise you to plant many of those as they will not ship.

Mr. DEMPSEY.—What is the difference between the Irish Peach and the Peach, of Montreal.

Mr. BEADLE.—They are not identical.

Mr. WRIGHT.—The Duchess of Oldenburg is very hardy. The Alexander and Scott's Winter is a fine red apple and does nicely. It keeps right into the winter. I have the McIntosh Red. It does not stand the cold with me, but it ought to here, if you can grow the Russet and Tolman Sweet.

Mr. CROIL (of Aultsville).—The McIntosh Red spots badly.

Mr. WRIGHT.—You can grow the Tetofsky and Walbridge, but the former is not so good as the Yellow Transparent, and the fruit drops badly from the tree. If you desire a crab apple, I would advise you to buy Whitney's No. 20.

Mr. MORRIS (of Fonthill).—I will give you the best I think advisable for you to try:—Wealthy, Duchess of Oldenburg, Yellow Transparent, Walbridge, American Golden Russet, Alexander, St. Lawrence, Canada Baldwin, and Mann. The list could be extended by adding Ben Davis, Scott's Winter, and a dozen more could be grown here.

Mr. WRIGHT.—We have tried the Mann apple in Renfrew and it will not grow. It winter kills every time. It is a splendid keeper, and if you can grow it here, I would advise you to get it. Plant two to one of the Wealthy.

Mr. DEMPSEY.—I would commence by planting Yellow Transparent, and then the Duchess to follow. The Wealthy next, and then I would plant my winter apples. The Wealthy would go into December. I know all of these apples I have mentioned are good ones and will give you satisfaction, and are hardy wherever I have seen them growing.

Mr. BICK (of Bobcaygeon).—I planted an orchard about twenty years ago, of two hundred trees—the Golden Russet, Tolman Sweet, Northern Spy and Snow apple are living yet; all the rest died.

Mr. ROBINSON.—How long will the Yellow Transparent keep?

Mr. DEMPSEY.—If it is ripe at breakfast time eat it. It is one advantage, however, that you may have Yellow Transparent for ten days or more. The fruit ripens unevenly, and when you have a specimen fit to use, you will keep finding others until they are all gone. They come in ahead of the Duchess; they come in with the Early Harvest.

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HEDGES.

Mr. BEALL (of Lindsay).—I have tried Native spruce for a hedge, and I like it very much; but during the last few years I thought I would rather take Norway spruce. I thought the Native spruce was the best we could get; but if I were going to plant another hedge, I would take the Norway. We can get Norway spruce that has been two or three times transplanted, and I think it makes a better hedge than the Native. The Arbor Vitæ would make a good hedge. The proper time to plant, I think, is in the spring of the year. If I could get at them, I would take them up when they make the first start in the spring, and have them planted the same day; that would be somewhere about the middle of May, or the latter part. I would plant Norway spruce two feet apart, and I think they should be pruned once a year, sometime about the first of August, or just about when the trees have made all their growth.

Mr. MORRIS (of Fonthill).—There are two spruces natives of this country. The Black spruce is not worth anything, but the White spruce is better than the Norway. I do not know whether it can be got in this neighbourhood or not. Next to that the Norway spruce is best. I differ, however, from Mr. Beall as to the time of pruning. I would prune about the middle of June. At that time the new buds would form back of where it was cut, which would not be the case in August.

Mr. HILLBORN (of Arkona).—For a wind-break I like the Scotch pine. It grows much more rapidly.

Mr. J. CROIL (of Aultsville).—Nothing makes a prettier fence than cedar. We take the trees from the bush on a wet day, dig a ditch and put them in closely. Cover over the earth and you will hardly ever see a failure.

Mr. A. M. SMITH (of St. Catharines).—I have grown fine hedges from cedar and spruce, and I agree with Mr. Morris as to the time of pruning.

Mr. BICK (of Bobcaygeon).—Mr. Boyle has a fine hedge, and he has been pruning every day since the first of May.

Mr. BOYLE (of Bobcaygeon).—And some of them look pretty sick. My trees have been pruned so much there is hardly anything left to judge by. I do not know what shape to prune them into. I never cut the bottom, but the top, and I should like information on the subject.

Mr. BEADLE.—I have some notions about that, but perhaps they are only notions. If you wish to confine your hedges within any space, you must shear them; but I think the prettiest American white spruce or Norway's I ever saw, were those which grew just as nature taught them, and upon which the knife had not been used. When the branches are straggling out you can pinch off those that are ahead quite easily, and in time they branch out regularly. You can make your hedges quite symmetrical, but in nine cases out of ten, they will grow that way themselves.

Mr. MORRIS.—I do not think that Norway spruce should be planted on the side of a house. Smaller evergreens are preferable, and I think the Arbor Vitæ is the prettiest of all trees for a lawn. Hedges must be pruned of course.

Mr. BEADLE.—I should make a light hedge in the shape of an acute triangle. It stands the snow best.

Mr. BOYLE.—Is the month of June too late to transplant?

Mr. BEADLE.—I would prefer to plant just as soon as the buds begin to push out.

This closed the discussion, as the members were obliged to leave in order to catch the boat.

FRUITS IN NORTH SIMCOE.

The following report on fruits in North Simcoe was handed in by Mr. G. C. Caston, of Vespra:

The Season of 1886 has been a very favourable one for fruit in this section of country, as those who visited our Central Exhibition at Barrie can testify. People from southern and more favoured localities, were surprised at the display of apples and grapes grown in

this northern county. The specimen of grapes, especially some of Rogers Hybrids, could scarcely be excelled anywhere in Ontario. Although the weather has been very wet and broken, yet we have had no frost severe enough to kill grape-vines, and the foliage is as green now in the middle of October as it was in August, so that all the varieties have ripened perfectly. Moore's Early, Early Victor, Worden, Vergennes, Prentiss, Rogers' No. 3, 15, 19, and the Concord, have all ripened well with me. Worden and Champion were the first to ripen—both about the same time, the Concord being the last and latest; and I would advise beginners not to plant too many Concords. What is wanted here in a grape, is early ripening, combined with hardiness and good quality. The Concord has proved very hardy with me but is too late in ripening. As for mildew, that is a thing we know nothing of here so far; and if we put down our vines and cover them in winter they come through safe, and if we can only get our grapes to ripen early enough to escape the frost, I do not see why grape culture should not be a successful and profitable enterprise, even so far north as Simcoe County.

Strawberries were a fair crop, although affected somewhat by the hot dry weather of July. I grow the Wilson, Sharpless, Crescent and Triomphe De Gande. I prefer the Wilson and Crescent; they have done the best with me.

Raspberries are not much cultivated here owing to an abundant wild crop. I have the Cuthbert and the Gregg; I don't wish anything better, and I doubt if anything better can be found at present.

The Apple Crop will be a fair average one, although there is a great deal of fungoid or spotted fruit, the Snow, Red Astrachan, Early Strawberry, and many other varieties being badly spotted. Golden Russets are very fine. The Wealthy is one of the coming apples for this county; it seems to be as hardy as the Duchess, bears early and perfectly free from spots. Another kind likely to do well here is the Pewaukee; it is a fine, clean, hard fruit here, and seems perfectly hardy.

Plums have been a comparative failure with me; I have tried a good many varieties, but they always die as soon as they get about large enough to bear, and the only way I have succeeded in raising a few of the finer kinds, is by top grafting them into native seedlings.

I believe that we must look largely to Russia for a list of hardy fruits suitable to the colder parts of Canada. I am one of those who believe that it will never do to take fruit from a warm climate to a colder one; but that in order to succeed, you must get a fruit that has been acclimated in a country colder than our own. And the sooner our nurserymen take hold of the Russian fruits, the better for them and their customers. I would also suggest that some arrangements should be made next year between the Fruit Growers' Association and the Directors of our large central exhibitions, whereby some competent Pomologist might be appointed to visit our principal fairs and see that the fruit is properly named, and correct any errors that may be made. Often samples of fruit are thrown out by the Judges because incorrectly named, and very often the Judges are wrong themselves and do not know the names of some of the fruit on exhibition. I think the Fruit Growers' Association should make the appointment and the Directors should pay the expenses. It would be well worth all it cost to have proper classification and nomenclature, and thus save all disputes.

FRUIT COMMITTEE'S REPORT.

Report of the Committee on Fruits exhibited at the meeting of the Fruit Growers Association of Ontario, at Stratford, February, 1886.

PEARS.—Messrs. Ellwanger & Barry, Rochester, N.Y., exhibited twelve plates of pears, in a fine state of preservation, consisting of the following varieties: Beurre Alexander Lucan, resembling Belle Lucrative in appearance, quality good; the Winter Nelis, an extra sample, in good condition, quality good; Columbia, extra size, beautiful in appearance, quality not so good; Beurre D'Anjou, very fine sample, large and well-flavoured; Winter Beurre Grise, a remarkably fine large russet pear, not yet fully matured; Beurre Easter, fine size, and when fully matured, of good quality; Doyenne

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D'Alencon, medium in size and quality ; Clapp's No. 64, a high coloured beautiful pear, resembling Clapp's Favourite in size and appearance, and very fine quality ; Duhamel resembling a medium sized Flemish Beauty, quality good.

APPLES.—From A. M. Smith, St. Catharines :—Princess Louise, a new variety, beautiful in colour, resembling Maiden's Blush, mild, subacid, good ; Rhode Island Greening, fair sample, old variety ; Northern Spy, medium sample ; American Golden Russet, good sample ; the Twenty Ounce Pippin and the Cranberry Pippin, fair.

The Stratford Horticultural Society showed a collection of twenty-five plates, consisting of King, Baldwin, Spy, American Golden Russet, Swaar, Swazie Pomme Grise, and others, being fair to good samples and in good condition.

Three plates of apples, shown by Mr. John Dempsey, of Baldwin, Spy and others, fair samples.

Eleven plates, shown by Nelson Monteith ;—King, Spy, Fall Pippin, Spitzenburgh, Snow and others—fair samples and well kept ; also one plate of Vicar of Winkfield Pears, a very good sample and sound. A plate of apples, said to be seedlings of Northern Spy, appears to be of no special merit.

Two plates of apples shown by I. P. Woods—Northern Spy and Ribston Pippin—very fine samples, well kept, in fact the best samples shown.

GRAPES.—By A. M. Smith, St. Catharines ;—the Niagara ; the first of the kind shown here, a fine white grape, quality good and hanging well to the bunch, showing signs of being a splendid keeper and shipper ; Vergennes, large red grape, in good condition and medium quality, a good shipper.

By George Sanderson, of Catawba, N. Y. ; the Catawba in splendid condition and decided flavour, old and well known.

A Seedling Apple shown by F. O'Brien, of Hibbert, size large, splashed with red on light green ground, open calyx, good quality and well worthy of extended trial ; by far the best seedling exhibited.

P. R. JARVIS, Chairman.	} <i>Members of the Committee.</i>
A. GILCHRIST,	
W. W. HILBORN,	