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THE GLASS PLUM

J. Ellis, Del.

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PRINT

REPORT  
OF THE  
**Fruit Growers' Association**

OF THE  
PROVINCE OF ONTARIO,

FOR THE YEAR

1876.

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Printed by Order of the Legislative Assembly.

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ENTOMOLOGICAL BRANCH  
DEPARTMENT OF AGRICULTURE  
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1877

REPORT

ENTOMOLOGICAL BRANCH  
DEPARTMENT OF AGRICULTURE  
OTTAWA

BY J. H. WILSON

1917

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FRUIT GROWERS' ASSOCIATION  
OF ONTARIO

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ANNUAL REPORT

OF THE

FRUIT GROWERS' ASSOCIATION

OF ONTARIO

FOR 1876.

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that the people the Government of Ontario are now laboring in regard to the exhibition...

distributed to those who were interested in fruit matters from which the profits will have...

great profit by the exhibitor. A large number of our exhibitors have been...

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would produce fruits of such beauty and high quality. If it is a reasonable amount spent...

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and exhibition in Philadelphia. The exhibition of Ontario was more of a success...

We have also been able to make a very extensive collection of our fruit in the Chicago...

have been much desired the best possible specimens of the quality.

export a considerable quantity. Some of our exhibitors have some good specimens...

most fruits, especially the new apples that are now being raised in Ontario, and in...

and exhibition in Philadelphia. The exhibition of Ontario was more of a success...

Zoölogischer Anstalt in Bonn am Rhein, Deutschland. I was also in Bonn and...

general conduct and had...

and, the year was very busy and in some ways very successful. The exhibition...

ANNUAL REPORT  
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FRUIT GROWERS' ASSOCIATION  
OF ONTARIO

FOR 1876.

ANNUAL REPORT OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO,  
FOR 1876.

*To the Honourable the Commissioner of Agriculture.*

SIR,—It gives me much pleasure to submit herewith the Report of the Fruit Growers' Association of Ontario, for the year 1876.

The past season has been one of peculiar character, producing effects upon our fruits that are seldom noted. The mildness of the winter gave promise of a most abundant crop of fruit of all kinds, but when the autumn came, we found that, taken as a whole, we had not been favoured with our usual abundance of fruit. The plum crop was a failure in all those districts where it is usually most abundant. The crop of pears was also far below the usual average. Apples were more abundant—in some sections exceedingly abundant, but the quality of our apples, taken as a whole, was hardly up to the usual average. On the other hand, the grape crop was large and in more than usual perfection. Small fruits were in general, abundant and fine.

Notwithstanding all these unusual circumstances, we have had a sufficient supply of most fruits, especially the great staple fruit, the apple, to supply our own wants, and to export a considerable quantity. Some of our apples were sent to Nova Scotia, where they have been much admired for their beautiful appearance and high quality.

We have also been able to make a very creditable display of our fruits at the Centennial Exhibition in Philadelphia. That collection of the fruit of Ontario was matter of great surprise to many thousands of visitors who had never supposed that our soil and climate could produce fruits of such beauty and high quality. The high encomiums passed upon the collection by the judges and by the press, will prove that we hold no mean position in the grand fruit display of the continent. A large number of copies of our Annual Report were distributed to those who were interested in fruit matters, from which the readers will learn that the people and Government of Ontario are not devoid of interest in the collection of fruits. But I must say in justice to those who contributed as they were able, to make up this exhibit of fruit, that it would have been far more satisfactory and complete, had the members known in January instead of July, that such an exhibit would have been undertaken.

On the whole, the work done by the Association during the past year will compare favourably with that of any former year, and the information in regard to fruits and fruit-



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culture contained in the report I now have the honour to submit, will be found to be well worthy the attention of fruit culturists throughout the Province.

I have the honour to be, Sir,

Your obedient servant,

D. W. BEADLE,

*Secretary of the Fruit Growers' Association of Ontario.*

## PROCEEDINGS AT THE ANNUAL MEETING.

The Annual Meeting was held in the Court House, in the City of Hamilton, on Tuesday evening, the 19th of September, 1876.

The President took the Chair, and called the meeting to order.

The Secretary read the minutes of the last annual meeting.

The Directors' Report was then read, which was as follows:—

### DIRECTORS' REPORT.

Your Directors, in submitting their usual annual Report, have the gratification of being able to say that your Society has continued its work of collecting and disseminating information in regard to the cultivation of fruit during the past year with a good degree of success. The Report for this year will contain a large amount of valuable information, and will, no doubt, be prized by all who are interested in these matters, as have those which have been issued heretofore. We expect to be able to give you a coloured lithograph of that already famous new grape, raised by one of our eminent hybridists, P. C. Dempsey, and known by you as the BURNET Grape, as an illustration for our forthcoming Report. As you are already aware, arrangements have been made to distribute this beautiful and excellent grape to all the then members as soon as Mr. Dempsey can furnish a sufficient quantity of the vines.

The meetings which have been held during the year have been well attended. The winter meeting was again held in Hamilton, the summer meeting in London, and the fall meeting is appointed to be held in Simcoe. Norfolk County is well adapted to fruit raising, and we look for a meeting of considerable interest, and to see a display of fine fruit.

After considerable negotiations, your Directors received from the Ontario Government the sum named by your Directors in their last annual Report as the amount that would be required for the purpose of making a display of our fruits at the Centennial Exhibition in Philadelphia. Unfortunately, the grant was not made until just before the July meeting, so that but very little time remained in which to make preparation, and fruit growers did not have that timely notice which was requisite to enable them to grow their fruit specially for this purpose. Your Directors, however, did what they could, according to their best judgment, to collect and exhibit the fruits of the Province. They made a short exhibit of summer fruits in July, including late cherries, currants, gooseberries, and a few raspberries. This prepared the way for the later exhibit in September, which comprised all the fruits then in season. Of these exhibits, it hardly becomes your Directors to say more than that in their opinion they were highly creditable to us, and to refer you to the published expressions of the judges and other distinguished pomologists, in which our fruits are mentioned in terms of high commendation.

We are called to deplore the removal by death of one of our most enthusiastic growers of fruit, who had also served this Association for some years as one of its Directors. Mr. A. B. Bennett was suddenly called away very early in the year, and at the winter meeting the

Association recorded its high sense of his many valuable services to the cause of pomology in a series of resolutions, which were faithfully transmitted to his bereaved family, and by them very gratefully acknowledged.

All of which is respectfully submitted.

On behalf of the Directors,  
D. W. BEADLE,  
Secretary.

The Report was accepted.

The Treasurer then submitted his Report, which was as follows :—

#### TREASURER'S REPORT.

Paid out for expenses of Directors and Committees.....	\$534 24
Illustrations for Report.....	365 00
Telegrams and postage.....	82 52
Advertising and printing.....	78 00
Prizes.....	115 00
Express and freight.....	5 72
Commission for collecting members' dues.....	42 93
Trees and distribution.....	797 98
Clerk.....	75 00
Sundries.....	4 62
Secretary and Treasurer's Salary.....	200 00
Total.....	\$2,301 01

#### CONTRA.

Received, by balance from last year.....	\$24 45
“ by sale of Report.....	2 00
“ by members' fees.....	1,398 00
“ by Government Grant.....	1,000 00
Total.....	\$2,424 45

Leaving a balance in the Treasury of \$123.44 to meet sundry unpaid accounts not yet set in to the Treasurer.

The Treasurer stated that both of the Auditors appointed at the last Annual Meeting had declined to act, and that, consequently, he was unable to present the Auditor's Report. The Treasurer's Report was accepted, and referred to the Auditors to be appointed.

The President read his Annual Address, which was listened to with marked attention, and on motion of Rev. W. F. Clarke, seconded by William Saunders, the thanks of the meeting were given to the President for his very able and interesting Address, and he was requested to allow it to be published with the proceedings of the meeting.

#### PRESIDENT'S ADDRESS.

The remarkable and gratifying progress that has been made within the last few years in the art and science of Pomology is in no small degree attributable to the establishment of our horticultural societies, and to the beneficial influences resulting from township, county, and Provincial shows. Every year enhances these salutary results—results which are chronicled by the press with wonderfully good effects to every fruit grower resident in every village, town, and city of our Dominion. A great work has been accomplished by the labours of the Fruit Growers' Association of Ontario, but much remains yet to be done. Few people can calculate the good that has accrued to fruit growers by the interchange of individual experiences at our summer and autumnal meetings—few have estimated the future benefits to arise from the collection and diffusion of these reports as found in the published transactions of our Society. A key is thereby furnished to the relative value of different varieties of fruit in every section of our extensive country, and what are suitable for any particular locality. Our

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more recent discussions have brought into prominent notice what new sorts give promise of being worthy of dissemination, which are best for the amateur, and which are adapted to general cultivation. At Belleville we had an array of seedling apples that exceeded the most sanguine anticipations of any of our Directors—varieties well worthy of general cultivation, whether regarded for the excellent quality of the fruit, or for the long-keeping property of the particular apples. Belleville had a new experience for us as pomologists, and we are simply to propagate for patriotic ends every specimen of fruit presented to us likely to benefit our fruit growers. Obstacles there are to overcome in the dissemination of those fruits, and in making them more widely known, but the industry, intelligence, and enterprise of our fruit growers are equal to the task, and having put our shoulder to the plough we are not to look back.

No one can pretend to predict the future of this good work to our country—none can foretell the extent to which it will hereafter contribute to personal and domestic comfort, national prosperity, and material wealth. There can be no doubt that the multiplying of the comforts of pomology, both as respects taste and use, around the homes of our Province, will go far to strengthen attachment to our municipal institutions, and increase to an incalculable extent the joys of home, "promote industrial happiness, the love of kindred and country, and sweeten the social relations of life." Members of the Fruit Growers' Association of Ontario, yours is no mean labour. Your efforts may not be so productive of fruitful results as you might have wished in the past, but a mighty and, we trust, successful future, lies before you. You are to make your instrumentalities felt, and thereby awaken a spirit of enterprise which shall be felt to the remotest districts of the land.

The past summer has not been a propitious season to the horticulturist. He has had various drawbacks in his work, and chief of these has been the heat, which has for the most part been intense. In early spring, nothing could exceed the promise of an abundant crop. The amount of blossom was something wonderful, but the promise has turned out to be but promise, and little else. Almost all varieties of fruit have suffered from the drought. Indeed, we may say all the small fruits appeared only for the briefest period—they were actually scorched, the very stems and leaves suffering. Here and there was a good crop of strawberries, but on the whole, there was scarcely a medium crop. Raspberries were a miserable failure, and the same may be said of plums and cherries. The latter, in many places, rotted on the tree, or, owing to the wet at the period of their ripening, rotted immediately on being pulled.

Apples and pears are generally a poor crop. In some localities apples are a medium crop. St. Thomas and neighbourhood possess some finely loaded orchards, the apples being plentiful and of a fair size. Generally, however, the crop may be said to be a failure. At Wellington Square, as usual, apples are good and abundant. Here and there throughout the length and breadth of our land are favoured localities, both for soil and climate, where the fruit grower has received a bountiful return.

The Centennial year will long remain a marked era. Had the event happened in 1875, we as a Province, would have had beautiful samples of fruit for exhibition at Philadelphia. As it is, it must be admitted by the most enthusiastic among us, that our display at the Centennial was not lacking in quantity, but in point of quality and size. Neither of these characteristics came up to the show of fruit at Ottawa last year.

At Philadelphia, there was a general assent among the Canadian and American fruit-growers that Canada had done well, and it must be admitted, our rivals being judges that we made a fair exhibition.

It is not too much to say that at the Centennial there were powerful competitors. First, among these, and we are inclined to think the foremost, was Nebraska. The apple display of this most important State of the Union, was something grand and remarkable. This, whether taken in its extent or excellence. The sample of fruit was the fairest we have ever witnessed, and the colour the highest. We were curious to know the reason of this, and made inquiries on the point. Some expressed themselves as if the recent culture was the cause—new soil, recently burned over, the fruit grown among the ashes and debris of grass and forest, and the destruction of insect pests. A more reliable theory, however, is perhaps found in the climate of this beautiful State. The air is so pure, the rainfall so slight in the summer months, that both conduce to the production of superb fruit. Mr. Moore, the genial and courteous delegate, was kind and attentive to every one, and earned by his urbanity and kindness, the respect of all who came into contact with him and his col-

lection of fruit. California made a magnificent display. We are not sure that the majority of the visitors would coincide with us in awarding the palm to Nebraska; the fruits of California were indeed superb and varied, but to our mind they stood in the second place. Size and colour were the predominant features of this display. Enormous pears, apples, grapes, peaches, and figs helped us to draw a most favourable conclusion in regard to the fruit-growing capabilities of the favoured section of the Pacific slopes. It would, however, only be the truth to add, in reference to the size of California fruits, that what they gain in size, they seem to lose in flavour. We have often tasted fruits of the same varieties much more exquisitely flavoured than those enormous specimens exhibited at the World's Fair. The taste displayed in the arranging of these fruits ought not to be passed over without one remark. Their huge bunches of grapes, gracefully suspended from a line running the length of their fruit table, added, as I thought, very much to the enhancing of the superb samples below. Iowa is no mean competitor with Nebraska for fruit honours. The only drawback that we could perceive was the "spotting" of the fruit from Iowa. It bore marks of a severe climate, if my theory be the correct one. Otherwise the two States were much upon a par. On such an occasion as the Centennial, it would have greatly tended to advance fruit interests in Canada had a Committee been appointed to taste and make such selections of fruits, and especially of apples, as might prove suitable to our climate and Province. In making a partial enumeration of the State exhibitions, it would be unpardonable to omit mention of that of Massachusetts. The apple and pear display of this State was remarkable. The venerable and Honourable Marshall P. Wilder, as might have been expected, headed the list with 300 varieties of pears. It was a magnificent exhibit, and worthy in every respect of the President of the American Pomological Society. To me this exhibit had a wonderful attraction, and stirred up my pear fancy to its very depths. One regret, and that one of the deepest experienced at the Centennial, was occasioned by the unavoidable absence of the honourable gentleman through indisposition. We are very sure that pomologists on both sides of the line will join us in an earnest heartfelt prayer that he may speedily be convalescent, and long spared to continue to be the enlightened and cultured leader of pomologists. Benjamin B. Smith showed 46 varieties of splendid pears and a goodly variety of large sized apples. The display of seedlings from Clapp's Favourite was well worthy of notice, and arrested attention by their variety and beauty. Hovey, of Boston, fully maintained his old reputation for good, fair samples of pears—the list footed up 175 of fine, fair, full-sized varieties. Time and space fail me to speak of Earle, Robert Manning, J. W. Manning, Newhall, Clapp, whose names are as household words among ourselves. Suffice it to say that Massachusetts maintained ably and well her accustomed place in pomology, and exhibited her fruit growers as still in the front rank as leaders of pomological thought and effort. From Massachusetts, with its happy memories connected with fruit growing, we turn to the admirable display of seedling grapes made by J. H. Ricketts, of Newburgh, N.Y. This gentleman's reputation is so well known that the mere mention of his extensive collection of grapes is enough to direct attention to his hybrid productions. Connecticut and Michigan presented splendid exhibits; among the fruits of the former were cranberries; of the latter, beautiful peaches and plums. Individual collections, however, were as a rule cast into the shade by the magnificent and gorgeous display of Ellwanger & Barry, of Rochester, New York. The beauty of their samples, the size and excellence of their fruits, caught the attention of all beholders. I ought not to omit the mention of the quality of their varieties exhibited. The choiceness of their collection is entirely reliable. Nothing but varieties of first-class fruits have a place in their exhibit, and perhaps it would only be fair to add, in their catalogue. Ellwanger & Barry are princes in correct taste, and foremost in the cultivation of desirable varieties of fruit-trees.

#### PENNSYLVANIA HORTICULTURAL SOCIETY.

The forty-eighth annual exhibition of this society was held on the 12th, 13th, and 14th September, at the Horticultural Hall, Broad Street, winding up with a brilliant reception on the evening of the 15th, at which the F. G. A. of Ontario was duly remembered and suitably acknowledged.

The fruits on the tables were of the greatest excellence, and the plants and exotics of rare beauty. Here again the Hon. Marshall Wilder took the lead as an exhibitor, with 100 varieties of pears. The whole proceedings of the eventful evening of the 15th forcibly

reminded me of the Hon. portrait of the were admirably present philosophically, D. C., as Balderston, land, Bracke splendid trees satisfied that our Province

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reminded me of the play of Hamlet being represented without Hamlet himself. The absence of the Hon. Marshall Wilder was ill compensated for by the exhibition on the stage of the portrait of this veteran pomologist, however admirable the likeness. Thomas Melhan's plums were admirable. Amid the dearth of American plums at the exhibitions at which I have been present, it is pleasant to have to notice their cultivation by the most distinguished and philosophical of all fruit culturists in the United States. John Saul, horticulturist, Washington, D.C., exhibited fifty varieties of splendid pears. Bridgeman, Eshelman, Noble, Parker, Balderston, Hadweir, Chamberlain, Ricketts, Purdy, Brooksbank, Holkmake, Froth, Pentland, Brackenridge, Parry and others contributed to make the tables groan with the fair and splendid treasures of Pomona. Felton was almost the only exhibitor of vegetables, and I am satisfied that it would have taken six of his drumheads to make one of those exhibited at our Provincial to-day.

#### OUR PROVINCIAL EXHIBITION.

Hamilton holds her usual pre-eminence in horticulture. I ought, perhaps, to be less invidious, and say Hamilton and neighbourhood. The samples of apples and pears and grapes are all that could be desired. They are perhaps on the small size, but still they unmistakably show the excellence of our soil, climate, and location for the choicest production of fruit crops. I notice that our old and veteran exhibitors muster in full force, and maintain their former reputation. We question if any other district could show specimens so perfect, large, and fair as those presented on our tables at this Provincial Exhibition.

Every effort has been made by your President, when lately in Philadelphia, to get the Commissioners from foreign countries to visit this exhibition. I may say that the Japanese Commissioner expects to be able to put in an appearance here on this occasion. We, as fruit-growers, ought not to fail to draw his attention to our large, valuable, and select collection of fruits. You are aware that they have certain kinds of hardy grapes that flourish in the northern portions of China and Japan, and it might be worth while to attempt to exchange our Canadian varieties with theirs. The facilities of transit are now so great, that what would almost have been a Herculean labour a few years ago is now brought within the range of easy possibilities. I went round personally to all the Commissioners from foreign States, and gave them a cordial invitation to come north and judge for themselves of the extent and productiveness of our fruitful Province.

#### THE PROGRESS OF OUR ASSOCIATION.

I fear the progress of our Association for the last two years has not kept pace with the growing interest in fruit that marks our western country. Several reasons might be mentioned to account for this. In some sections there is dissatisfaction at the failure of the trees and plants that have been distributed. Others again can see in the diminution of the number of our members the severity of the times. Whatever may be the cause, it behooves every member to lend a helping hand to forward the best interests of the F. G. A. of Ontario, and not to flag in their efforts for the truest interests of our Province as a fruit-growing interest, till every farmer throughout its length and breadth makes a pecuniary return from a well-cultivated and abundant orchard. Certain changes in the Agricultural and Arts Act have been suggested, and commended to the consideration of the Government, by your directors, which, in due time, I have no doubt will receive their careful attention.

#### APPLE CULTIVATION.

This, after all said and done, is the standby of Canadian fruit culture. No fruit product is more important in a sanitary and pecuniary aspect than this. None is so common, and can be so generally cultivated by all. The cultivation of small fruits is important, and making rapid strides among us as fruit growers, but all other fruit culture must yield to that of the apple. Even pears, I am sorry to say, must give way to the value of the apple. It would be curious to know what is the annual production of apples throughout the country. Statistics on this head would be invaluable. There is no means, however, of knowing, and on such a subject guessing is in vain. The amount must be something enormous, and yet it is

far below what it should be. There are large districts highly susceptible of fruit raising that are barren of any fruit product. It sometimes startles one to see the lop-sided, decaying fruit trees that stand, like some deserted home, around the poor and ill conditioned homesteads of a class of our Canadian farmers. Such men are not aware of the abundant and efficient means of health they are squandering in allowing such a state of things to exist on their farms. No addition to the farmer's table is more wholesome than the apple. No product he raises so easily brings a return to the family income. An obstacle to apple raising is often presented to me, and consists of the following assertion:—"That attention to the orchard comes at the very time when the farm demands the most care and toil." Now the difficulty is imaginary. Pruning may be done in the fall, when the land is too wet for ploughing. Trees can be cared for in early spring, in February and March, when other farm labour is mostly in abeyance. Two irons in the fire at the same time, of course, require attention. They can be both attended to. Again, it is asked, what are the varieties to be planted? The answer is ready; plant few, and let these be good varieties. It may be questioned by some that your President is able to give such directions as will lead to beneficial results on these heads. If the apple be planted for profit, then I would say, the fewer varieties planted the better. We can confidently recommend the Roxbury Russet, the Russet of Western New York, the Rhode Island Greening, and Northern Spy. We would like to add the Golden Russet to these, and our profitable winter list would be complete. A great advantage is to be gained in selling when few varieties are cultivated. Buyers like the sorts to be homogeneous. All Roxbury Russets—all Rhode Island Greenings—all Northern Spy. As a matter of course, the above list must be modified according to locality and aspect. Such a list, however, would afford a farmer fruit during a large portion of the year, as it is easy in almost every quarter to supplement his own supply from the earlier varieties cultivated by his neighbours. For pleasure, or for the gratification of the amateur, in addition to what we have already mentioned of winter varieties, we would recommend the cultivation of the Early Strawberry, Early Harvest, Pomme D'Or, Dyer, Early Joe, Red Astrachan, Fameuse, Ribston Pippin, Hawthornden, Maiden's Blush, Colvert, St. Lawrence, Blenheim Orange, Gravenstein, Porter, Alexander, Duchess D'Oldenburgh, Swaar, Autumn Bough, Newton Pippin, Pomme Grise, Swayzie Pomme Grise, Minister, Jonathan, Summer Rose, Red Quarrenden, Sweet Pearmain, Seek-no-further, Red Canada, Canada Reinette, Wagner, Peck's Pleasant, N'ok-a-Jack, Grimes' Golden, Ribston Pippin, Peach Apple, Cayuga Red-streak, Mother, Tallman, Sweetur's Bourassa, Norton's Melon, Cooper's Market, Braddick's Nonpareil, Marston's Red Winter, Klaproth, Smokehouse, Munson's Sweet, and Shiawassee. We have cultivated a number of these, and are acquainted less or more with every variety mentioned in the list. There are doubtless other apples of great promise, rich in flavour, and worthy of cultivation, but we desire to cut our coat according to our cloth, and only speak to the amateur of those that are of the first excellence. In speaking of apples and a sure guide to good varieties, we are constrained to make mention of a recent edition of a work on apples and other fruits—we mean the "American Fruit Culturist," by Thomas. We know of few books more guarded in their recommendations, or that have presented such judicious selections of first-class fruit. The selection of apples in Mr. Thomas' book is largely new to us, but from what we know of the author we can vouch for his being up to and ahead of the times. These, along with seedlings of less or more worth in the hands of various growers, are apples of great excellence. We do not advise the planting of all of these; far from it; but would suggest that a sufficient quantity of early varieties be planted to meet the early markets; that a judicious choice be made of fall varieties, and that the winter varieties recommended be planted to bring in satisfactory pecuniary returns. Gentlemen, no one can be more aware than I am of my inability suitably to fill, and profitably to you, as fruit-growers, perform the duties of the chair. I have striven never to go out of my depth in the presentation of any facts and recommendations in my annual addresses. You are aware, however, that with the best intentions we are all liable to err. I beg that you will overlook both the matter presented in this address and the manner of execution. I am grateful for your past courtesy and kindness, and would conclude, ministerial-like, in inculcating the most determined and earnest efforts to place our Association in the fore rank of the humanizing and elevating instrumentalities of our Province. For the accomplishment of this result, harmony and mutual forbearance must characterize our actions, and a docility to receive statements of facts and beneficial suggestions from the humblest of our members.

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Above all, an indefatigable industry must mark our plans and efforts for advancing the true interests of our Society; and in due time we shall reap, if we faint not.

“Survey the globe through every zone,  
From Lima to Japan;  
In lineaments of light 'tis shown  
That culture makes the man.

“All that man has, had, hopes, can have,  
Past, promised or possessed,  
Are fruits which Culture gives or gave,  
At Industry's behest.”

On the motion of Mr. Saunders, seconded by Colonel McGill, the President was requested to appoint a committee to nominate officers for the ensuing year.

The President appointed Messrs. Holton, Caldwell, Lewis, William Roy, and Rev. W. F. Clarke.

The Committee retired, and subsequently brought in their report, which was read. It was resolved to take the vote on each name in the order in which they stood in the report. The vote was then taken, seriatim, with the following result:—

#### OFFICERS FOR THE YEAR.

*President.*—Rev. Robert Burnet, London.

*Vice-President.*—Henry Macpherson, Esq., Owen Sound.

*Secretary-Treasurer.*—D. W. Beadle, St. Catharines.

*Directors.*—P. E. Bucke, Ottawa.

Colonel J. McGill, Oshawa.

Geo. Leslie, Jr., Toronto.

John Freed, Hamilton.

Rev. Charles Campbell, Niagara.

R. Melvin, Guelph.

Charles Arnold, Paris.

Wm. Saunders, London.

Rev. W. F. Clarke, Welland.

*Auditors.*—Robert Roy.

Angus Sutherland, Hamilton.

On the motion of Mr. Saunders, seconded by Col. McGill, it was resolved that the action of the Board of Directors for 1876, recommending that the Secretary-Treasurer of the Association give security, satisfactory to the Board, to the extent of \$2,000, be approved, and the security be required.

The meeting then adjourned.

#### AUDITORS' REPORT.

To the President and Directors of the Fruit Growers' Association of Ontario.

GENTLEMEN,—We have carefully examined the books of your Association, so far as they relate to the transactions of the past year, together with the receipts and vouchers for the disbursements of the same period, and we have great pleasure to report that we found them correct and satisfactory, reflecting great credit on your able Secretary-Treasurer D. W. Beadle, Esq.

We are your obedient servants,

(Signed)

ROBERT ROY,

ANGUS SUTHERLAND,

} Auditors.

Hamilton, 28th Nov., 1876.

## REPORTS OF DISCUSSIONS.

### WINTER MEETING.

The Winter Meeting was held in the City Hall, Hamilton, on Wednesday, the 16th February, 1876. It was well attended, and quite a number were present from distant points. President Burnet occupied the Chair, and the Secretary read the minutes of the Belleville meeting, which were approved. The President appointed A. M. Smith, Geo. Leslie, Vanduzen, Mills, and Saunders a Committee to examine the Seedling fruits on Exhibition. Mr. A. S. Willand, of Geneva, representing the Western New York Horticultural Society, being present, the President invited him to take a seat beside him.

On motion of A. M. Smith, seconded by Linus Woolverton, it was resolved,

That whereas the fruit interest of Canada is rapidly becoming of great importance, and the exports of fruit have already grown to a considerable item, and whereas it has become very desirable, in the interests of fruit growers throughout the Dominion, and of this Association, that reliable information should be disseminated in regard to the imports and exports of fruit, therefore resolved that the Directors be requested to memorialize the Dominion Government, asking that a bureau of manufactures and commerce be created, so that the imports and exports of fruit can be accurately shown.

The President received the following list of subjects to be discussed:—

1. How to give information to our fruit producers as to where and when they can best market their products.
2. The best agencies in fruit centres.
3. Does it pay the producer to hold his winter apples for a spring market?
4. How and where to make collections of fruit for the Centennial Exhibition at Philadelphia?
5. Is there any certainty in the operations of artificial hybridization?
6. Has the growing of hardy grapes proved profitable?
7. Are the coloured illustrations of our annual report of sufficient value to justify their continuance?
8. What practical suggestions can be given to promote the interests of our Association?

On motion, it was resolved to take up the eighth subject. The President announced that Mr. P. E. Bucke, of Ottawa, had prepared a paper on the subject, and, at the request of the meeting, Mr. Bucke read his paper as an introduction to the discussion.

Mr. Bucke's paper was as follows:—

Gentlemen,—I notice in Section No. 8 of the post-card calling this meeting "that practical suggestions are required which shall promote the interests of our Association." My connection with it has now extended over a period of five years, and it was only by an accident I became acquainted with the Society's existence; and it was in this wise: Having been brought up to agricultural pursuits on the fruit farm now owned by our distinguished director, William Saunders, Esq., in the Gore of London, and having now a small garden of my own in Ottawa, I was induced, from time to time, to contribute short articles of a practical nature to the *Canada Farmer*, the editor of which paper kindly supplied me with a copy, and it was in that publication I first discovered the existence of the Society known as the "Fruit Growers' Association of Ontario." I need hardly say I immediately joined it, and have belonged to it ever since. Now, what I want to inculcate by the foregoing remarks is, "How shall they hear without a preacher?" Unless our Society is talked about, written about, and made public, how can we expect people to know of our existence? I believe it should be the duty of some paid officer—the Secretary, for instance—to use every legitimate means of conveying the knowledge of our meeting to the public through the press. I believe also that short advertisements might be inserted in agricultural papers and others at various points in this Province, which would result in much success. These should state that the

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annual subscription is due and payable on the 1st of March in each year; that prizes are offered for essays; that choice trees are sent out to its members, and that the Report, which is gratuitously distributed, contains valuable papers on fruits, their adaptation to the various localities of Ontario, and also the transactions of the Entomological Society. But I believe there is a better way even than this of benefiting the Society, and which, if carried out, would increase the revenue, and that way has been suggested to me by the fact that, when travelling on the Grand Trunk in early autumn, I met a man who was making inquiries about orchards. I did not learn his name, but, from what I could gather from conversation with him, I found out he was an apple dealer from Liverpool, and was picking up all the information he could with the view of obtaining fruit for shipment. Now, this man must have spent a good deal of valuable time running up and down the country in obtaining knowledge, which he could have learned in one hour if there had been some central office to apply to for the information he required. Therefore, why could not this information be obtained by the Fruit Growers' Association from reports furnished from various sections? These might be kept by the Secretary. Parties having orchards could state the probable number of barrels, kinds of fruit, and price, picked or unpicked. I believe these agents generally prefer to buy the apples on the tree, and see that all that is packed for them is of good average quality, that may be relied upon for the English market. They usually provide barrels. Through this agency, parties having fruit to sell, or those who are about to plant, would be able to ascertain those varieties most in demand for foreign consumption. The reports referred to could be sent to the Agency before the fruit is fit for gathering, and could be tabulated, so that they would be easy of examination and reference. The main difficulty experienced by fruit producers is that it is a very perishable commodity. It does not do to send it to a central market for reshipment, and the buyers referred to prefer to see it before it is made up in packages. If a bureau of this nature could be established, all the fruit-growers of any consequence would be glad to join in it, and the members of the Association would be very materially augmented. Buyers would also be glad to join, or pay a fee for the information obtained.

Another thing is wanted by fruit-growers, and that is reliable agents for points at a distance, both for selling fruits and trees. Probably something might be done in the direction of obtaining tree sellers in the winter and fruit sellers in the summer. I know no place that would repay a man opening such an agency better than in Ottawa. If such a man had an acre or two of strawberries to run him through the early summer, after tree planting was over in the spring, and before cherries came in, he would, I should think, do well. I noticed in an agricultural publication, issued in the United States, that it is estimated that it costs \$10 per orchard to obtain information about its fruit and its probable production by travelling agents. Any money expended for this object, for the most part, is lost by the producer, and would, by the agency scheme suggested, be almost entirely avoided. Again, a central agency could keep a report of the prices, and where fruit could be had for either local or American markets.

Fruit growing, after all, is only half the battle; fruit selling is quite as interesting a subject to producers, and if it cannot be disposed of in its ripe state, the methods of drying and canning should be resorted to—especially the former, for which there is always a steady demand. The dried apple called the "Normandy Pippin" brings remunerative prices at all the leading grocers in Britain. This is a medium-sized apple, dried with the core punched out, but the skin left on. I have never seen any of them in this country. The German prune, of which we import so freely, it is found, can be grown on the northern parts of Lake Michigan, to which trees have been imported from the continent of Europe, and no doubt they can be cultivated with equal success in our own Dominion. The question of artificially dried fruits has not yet received that attention at the hands of this Association which it is deemed its importance deserves. Drying machines have been constructed in the United States which will dry twenty-five bushels per day. In these, tomatoes, apples, peaches, squashes, plums, pumpkins and all varieties of fruits have the moisture extracted from them, and I believe the flavour is perfectly retained. One such machine, built in a central locality, would answer for drying all the fruits that could not be sold in its native state. Canned fruit can be sold at a good profit at from 18c. to 20c. per quart; if parties returned the jars, say from 12c. to 15c. per quart for fruit, and 4c. to 5c. for half a pound of sugar. This would be as cheap as the average price of strawberries at Ottawa. Not much sweetening is required to

be added when the fruit is cooked. The great difficulty the fruit raiser had to contend with is the perishable nature of his product. This difficulty is only overcome by canning and drying, and these processes will enable producers to sell, and purchasers to buy, all the year round, instead of these operations having to be conducted at one particular season. It is questionable, of course, how far this Society can interfere in these matters, but it can, at all events—and I think it quite within its province—bring them before its members in a practical way. With these remarks, and thanking you for so patient a hearing, I take my seat.

Mr. Willard (Geneva, U. S.) suggested greater care in drying fruit. By co-operation, he thought peaches and like perishable fruit ought to be saved.

The Rev. Dr. Darling had heard of a canning establishment at Grimsby. He would like to know the effect on the fruit market.

Mr. Woolverton reported that the people about Grimsby did not care to sell at the Grimsby Canning Establishment.

Mr. A. M. Smith said that several thousand cans were annually put up, but that our fruit was too dear to be put up profitably.

Rev. Mr. Darling had seen large quantities of fruit go to waste in his neighbourhood.

Mr. A. M. Smith thought that peaches could be canned with profit.

Mr. Beadle said that our people know so little of drying fruit that they take no interest in establishing fruit drying processes; they know so little of the amount of dried fruits imported that they do not know the profit of fruit drying.

Mr. Jarvis (Stratford) thought the motion ought to be referred to the Market Bureau of Agriculture. Had fruit growers been half as energetic as our cheese men, we would have had fruit markets established in England long ago. Stratford is fast becoming a fruit centre. In reference to prunes, he has had some for years. It is the most valuable tree that a man can have in his garden, as it keeps well. The prune has an advantage over every other variety of plum. French prunes are the most delicious of canned fruits. Fruit drying has made no progress, especially with regard to apples. Elsewhere they are doing wonders in improving the drying of fruit.

Mr. Willard knew that much was being done in Michigan, opposite Chicago. The quality of their dried products was splendid, and it was being sold at a very large percentage.

Mr. Dempsey thought that fruit drying could easily be accomplished by means of a base-burner.

Mr. Jarvis (Stratford), said that he intended looking out for some dried peaches. Fruit growers should get the best dryers. He considered this subject one of deep importance.

Mr. Secretary Beadle thought that the Association should advise the Directors to communicate with prominent fruit-drying establishments in the United States, and ask those interested to come forward and give all needful information at our next winter meeting.

Mr. Dempsey described a "Fruit-dryer."

The following resolution was then put and carried:—

Moved by P. H. Jarvis (Stratford), seconded by P. E. Bucke (Ottawa), That the Directors be requested to secure the presence at the next meeting of some person who can give information of the different modes of drying fruits, with samples and models.

The President stated that Mr. Arnold, of Paris, had sent over to England, to the Royal Horticultural Society, four varieties of seedling apples, to which he had received the following reply:—

ROYAL HORTICULTURAL SOCIETY,  
Chiswick Garden, W., December 2nd, 1875.

SIR,—I have the honour to return you the thanks of the Royal Horticultural Society for your exhibition of four varieties of seedling apples at the meeting of the Fruit and Vegetable Committee, on the 1st ultimo, at South Kensington.

I am, Sir,  
Your very obedient servant,

A. F. BARRON,  
Sec. to Com.

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## EXHIBITION OF FRUIT AT THE CENTENNIAL.

Mr. Saunders, of London, moved, seconded by Col. McGill, of Oshawa, the following resolution :—

That, in the opinion of this meeting, the grant of \$1,000 proposed to be given by the Ontario Government to aid the Fruit-Growers' Association in making a suitable exhibition of our fruits in their season at the coming Centennial Exhibition at Philadelphia, is insufficient for the purpose designed ; and in view of the increasing commercial importance of our fruit-growing interests, that a Committee be now appointed to proceed to Toronto to wait upon the Government and urge an increase of the grant to an amount sufficient to enable the Association to make such an exhibition as would be a credit to the Association and the Province of Ontario.

Mr. Frazer, Secretary of the Advisory Board, said that he hoped there would be a good show of Canadian fruit at the Centennial, and he hoped the Committee, if appointed, would be successful.

The resolution was carried.

Mr. Saunders moved, seconded by Col. McGill, That the President, Messrs. Leslie, Bucke, Arnold, Saunders and Beadle be a Committee to wait on the Government.

This was carried.

The Committee agreed to go down on Monday.

Mr. Saunders moved that the President leave the chair, and that the Vice-President take it.

This was done.

Mr. Dempsey, the Vice-President, called on Mr. Arnold to read the following

## ADDRESS

*To the Rev. R. Burnet, President of the Fruit-Growers' Association of Ontario :*

DEAR SIR,—The members of the Association in various sections of the Province having long felt a desire to express in some tangible manner their appreciation of your valuable services so long rendered in their interests, have availed themselves of this opportunity, and now beg, through me, to assure you of their admiration of your untiring zeal and labour on behalf of our Society, and to present you with this watch and chain as a token of their esteem, hoping that you may long be spared to read with undimmed eyes the inscription on the watch, and at the same time to remember the great delight this occasion has afforded the members thus spontaneously to show their attachment to you.

Signed on behalf of the members.

CHARLES ARNOLD

Hamilton, Feb. 16, 1876.

Mr. Bucke said, a few of the members only had first been called upon, but so spontaneous was the response from the members of the Association that there was a surplus over, which he had much pleasure in handing over to Mr. Burnet.

The Rev. Mr. Burnet, who appeared completely taken by surprise and much moved, said that he knew this was the work of friends. He was utterly unable to rise to the occasion and return thanks. He was unable to say anything. They must accept his sincerest thanks for this mark of their kindness. He knew of no one from whose hand he would receive such a presentation with greater pleasure than from his friend Mr. Arnold, and his friend Mr. Dempsey. He esteemed them all his friends. He would thank them again, and he felt deeply their debtor.

Mr. Johnson, Chief of the Six Nations, said he did not know how many nations were gathered together ; he himself represented six ; he said he never gave towards anything with greater pleasure than to this presentation. The Association had done much good ; they did not know how much ; Mr. Arnold and the late lamented Mr. Bennett had introduced among his people the cultivation of fruit, and they were showing great improvement. He said he was overjoyed that the Six Nations had contributed towards the presentation, and he could almost send up a "war whoop."

The watch and chain, which were extremely handsome, and were enclosed in an elegant morocco case, bore the following inscription :

PRESENTED  
By the Members of the  
Fruit Growers' Association  
of Ontario  
to  
Their President,  
REV. ROBERT BURNET,  
As a Token of Esteem.  
Hamilton, Feb. 16, 1876.

The meeting took a recess until Two o'clock, P.M. On re-assembling after dinner, Mr. Linus Woolverton, of Grimsby, read a paper on "Some of the Discouragements in Fruit-Growing."

### SOME VEXATIONS OF THE FRUIT-GROWER.

There is, perhaps, no department of rural life, of which the world entertains more erroneous ideas than the one it seems to hold concerning fruit-growing. If I speak of the golden grain and sweet-smelling hay, of the lowing herds and the bleating flocks of the happy farmer in terms which would make you believe his life a lot of romance, still he is supposed

"To plough and to sow,  
To reap and to mow."

Not so, however, the grower of fruit. The fair goddess, Pomona, is represented as giving him his fruits without the sweat of his brow. His life among his trees is supposed to be one of comparative ease and idleness; his only toil to gather and to market his golden luxuries.

How very different this from actual experience, every one engaged in the work can bear as witness. With Edwards, he will say:—

"The price of our apples, of peaches and cherries,  
The price of fine currants, of pears, plums, and berries,  
Is measured by combats with foes in a tilt,  
With war to the knife and the knife to the hilt."

But we propose, in this paper, not the recital of poetry, but simply to set forth a few of the difficulties of fruit-growing which have come under our own experience during the past year or two, together with a warning or suggestion, where we are able, in regard to the surmounting of them.

Chief among the difficulties of our occupation is that of dealing with foes of the insect world. Root, stem, bark, leaf, and fruit are all to be defended with unceasing vigilance, which cannot be altogether remitted even during the severity of a Canadian winter. All those have been most faithfully described by our esteemed Canadian entomologists.

But one species, which was supposed not to be found in Canada, has during the past season been giving us much trouble. We refer to the Canker Worm, a full account of which may be found in the Report of our Association for the year 1870, from page 68. We there read, "This insect is not often met with in Canada. The only specimens we have seen were sent to us in 1867, by our friend Mr. Pettit, of Grimsby, who stated that he had first noticed them late in November of the previous year."

Not often met with! How we would rejoice to be able to say that to-day.

Last summer a large young orchard which we had planted near a clump of forest trees upon the shore of Lake Ontario, was nearly eaten up by this worm before we knew of its presence. In hot haste we turned up the Reports of our Association and those of Professor Riley, of Missouri, in search of every item concerning it. We set to work. We whipped the trees, and larvæ innumerable hung down by as many threads. These we killed by catching them upon flat boards, which were rubbed together. This was very tedious. We tried

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Paris Green and Hellebore, somewhat more speedily, but still with no small toil. We filled casks with water, and placed them in our express waggon; then diluting the poison in water, we applied it to the young trees through the rose of a watering-pot.

But among our older trees this was impracticable, and they were neglected. The Canker Worm was almost forgotten, until early in November, when we observed the female moths climbing the trees in very great numbers. Upon the branches and along the trunk of a single tree we counted over one hundred. We thought to ourselves:—"If, as the entomologists say, comparatively few leave their cocoons in the fall, and the great part of them not until early spring; and if each moth lay nearly a hundred eggs, what a prodigious army of Canker Worms would be upon our trees next summer! Surely not a single tree could survive the ravages of such a multitude.

We immediately set at work to apply the tarred bandages, as directed by the Reports of our Association. For this purpose we found stiff paper, folded double to a width of four or five inches, very suitable, being easily applied, and answering every purpose. These we fastened by means of a tack, drawing them tightly on the lower side, so that not a crevice should be left for the ascent of the small young larvæ. Upon these bandages we applied a ring of fine tar, as much as would stay without running down, to the injury of the bark; which, upon warm days, required much attention. Care was also required to keep the tar sticky during the cool of night, for the moth is nocturnal in its habits; and for that purpose we found the admixture of a little raw oil very serviceable. Nor is the labour little in a large orchard to renew the tar every mild day, beginning in early fall, and continuing until the leaves show themselves in the spring.

After applying the bandages, we set at work, whipping off the trees those moths that had already climbed up them. This done, we could sit down with a quiet satisfaction, and watch their vain endeavours to get back. Scores were below the bandage, but none were able to cross it.

So we were fully repaid for our labour, and indulged in the hope that two seasons of such toil might rid us for a time at least, of this troublesome pest.

We have thus fully set forth our experience with the Canker worm, because it has as yet become little known among the fruit-growers of Canada, and perhaps the recital may be of some interest to our brothers in the business, or at least may warn them of the approach of one of the most formidable among our insect enemies.

From other injurious insects we have had a comparative immunity during the past season.

The Borer (*Buprestis*) has scarcely shown himself. But we can point to marks that show what ravages he was making before our brothers in Entomology taught us how to fight it.

A fine orchard of twelve years, just ready for bearing, has in it a few trees dying of premature old age, the effects of the Borer and the knife some years ago. We have decided that the labour of applying a protective wash to a whole orchard is repaid, if a single tree is saved. In one section of our orchard the Tent Caterpillar (*Climacocampa Americana*) was exceedingly abundant during the month of June.

"Catch'em and Kill'em" was the motto of Mr. S. E. Todd, and this we put vigorously into practice. True, a Yankee friend suggested a quicker method than the one we were using. He said, "Blow them away with powder from a gun." We experimented to please, but found that worms so scattered had a peculiar faculty of climbing back upon the trees again. So we continued the old slow method of killing them in a hand-to-hand fight, as the only sure and safe means of destroying them.

Mice had been a great vexation; but sad experience has taught us many lessons, and we now see heavy falls of snow with less trembling. We find that by clearing away all rubbish, and heaping fine earth about the tree, it is made safe; and this attention every tree gets, although it occupies a man through almost the whole month of November of each year.

Once a careless hand piled soddy earth against our trees in our absence. How happy the mice were! They used the sod for nest material, and the bark of the trees for food, and a cosy comfortable home they had. What more trying to the grower to see trees he has carefully tended for years, thus girdled!

Another great vexation is spotted fruit. Usually the fall pippins and the snow apples in our section spot very badly. In 1873 and 1874, one-half to two-thirds of these apples were unfit for shipping, solely on this account, though fine in every other respect. To show

how unsatisfactory it is to ship spotted fruit, we may here state that in September, 1872, we shipped to Montreal thirty-six barrels of Fall Pippins, choice, but somewhat spotted. In culling them over, we had already thrown out about the half. The lot was sold in Montreal for \$46.50, or about \$1.25 per bbl., the greater part of which was eaten up by freight, cartage, and commission. At the same time our King and Cranberry Pippins sold for \$3 per barrel.

But should we enumerate all the vexations and difficulties with which a grower of fruit must contend, in order to achieve success, we would swell this paper beyond all patience.

Suffice it to say, that in no other occupation of life must more earnest vigilance, more constant industry, and more untiring patience be exercised, than by him who desires to become a successful Orchardist.

The President read a paper on "Criteria for Fruit-judging."

#### CRITERIA FOR FRUIT-JUDGING.

We know of few subjects about which the notions of fruit-growers are more crude and indistinct, than the elements which enter into a good judgment of the excellence of fruit. Indeed, we question if any criterion for judging has ever been attempted, or laid down by connoisseurs, by following which they might arrive at a certain and definite result. This has partly arisen from individual idiosyncrasies, and from the difficulty of laying down any *one unit of measure* to gauge things differing among themselves. Such a unit of measure may yet be found, and we must not despair in making some advance even in this very essential branch of horticultural knowledge. We must all have often had occasion to deplore the judgments at our fruit exhibitions, in which ignorance and conceit have both played important parts, and must have often wished that *points* of judgment were established in judging of fruit, just as there are certain infallible points in the judging of cattle, recognized and acted on by every one possessed of the competent knowledge.

Your Secretary and President have issued circulars asking from our members some practical suggestions on horticultural subjects suited to advance the interests of our Association. That I may not be behind in setting a good example, I have thought I might perhaps be able to present some views on fruit-judging that might not be unworthy of some discussion at our winter meeting.

The first criterion which I shall notice is

#### I. BEAUTY.

Every housewife exercises her taste in the beautiful when engaged in purchasing our horticultural products. We are led to our judgments greatly by the eye, or, by the manner in which outward objects please the sense of sight. All fruits have this element of beauty, but some in greater perfection than others. Russet apples are in great favour with some buyers, and deep red coloured ones with others. It is well known that King of Tompkins County apples stand high in the market from their taking colour. So with the Baldwin, an inferior of itself, but catching on account of its beautiful appearance. We question if Rhode Island Greenings would stand so well in the market as they do, if the excellence of their eating, cooking, and keeping qualities was not well known. A green apple can never compare for market purposes to a flashing red one. A dull yellow is inferior to a green.

Colour, however, is not the only element in a beautiful apple. *Shape* has much to do with our preferences. We have often admired the perfect shape of a Pomme Grise, of a Ribston Pippin, or Golden Pippin, or Westfield Seek no Further. The more an apple diverges from these recognized types of beauty, just in the same degree do they assume abnormal shapes, and offend the eye. The nearer fruits partake of the oblate, round, conical, and oblong, the nearer do they come within our notions of beauty. An unshapely apple ought not to be put in comparison with one distinguished for its fine outlines. It not unfrequently happens that exhibitors make choice of specimens grown on young, thriving trees, their size being something enormous, but lacking in every line of beauty and grace. What we desire to see is that every dish of fruit should be judged from a fair standard of the variety, taking into account colour and shape. Overgrown and misshapen samples should invariably have the second place assigned to them. Red we prefer to green, green to yellow, and russet to any of the three

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## 2. SIZE.

Marketers of fruit know the value the public put on *size* of fruit. Small and ill-grown ones can never stand comparison with full-grown and fair samples. Good sized fruit is entirely different from abnormal, over-grown, and rugged specimens. The symmetry of large fruit may be quite as perfect as the prettiest smaller specimens. Large, handsome fruit can only be obtained by severe thinning. It is a fact not to be gainsayed, that a tree properly and carefully thinned will bear as heavy a crop as when allowed to overbear a small, under-sized, and dwarfish crop. Either for exhibition or for market, fruit should be thinned. It not unfrequently happens that exhibitors pick over an orchard for their show day. What we would like to see is a shapely, large-sized, even crop. On this account we prefer a *dish* of fruit to a limited number of specimens—three or four, as the case may be. In forming an estimate of the size, a plate evenly sized, with few or no irregularities, is to be preferred to a similar plate with two or three monstrous large fruits, and the balance of a much smaller size. Size, and evenness of size ought to be the criterion.

## 3. FLAVOUR

Flavour ought perhaps to have been the first grand requisite. It comes, however, in the sequence of time next in order. Beauty and size having entered into the judgment, the question of flavour succeeds as a necessary consequence. Different fruits have different criteria of flavour. The apple of the highest flavour is perhaps the Esopus Spitzenburgh. At this moment we remember no higher flavour. There may be some more delicate, but certainly few with so high and nice a flavour. The Mother, Grimes' Golden, Drap D'Or, Autumn Strawberry, Early Joe, Benoni, and Summer Rose have all their peculiar excellences, but for flavour they are all outdone by the Spitzenburgh. In the multiplicity of exquisite flavoured fruits there is such diversity that of necessity there must be a great difference of opinion. High flavour must be accompanied with agreeableness. In fact it must not be too high. Delicacy must predominate to render any fruit agreeable. Take the Bartlett as an example. Many people sooner tire of a luscious Bartlett than they would of a less highly flavoured variety. The Seckle is, perhaps, for delicacy and flavour, superior to every other variety of pear. There are however other pears of different but of exquisite flavour, such as the Beurree Millet, the Glout Morceau, Laurence, and Mount Vernon.

Among plums, perhaps the Green Gage is yet No. 1. We know of no plum that transcends it.

Among cherries the Coe's Golden Drop is exquisite—we have often thought that it is the perfection of cherry-flavour.

The Black Hamburg and Otonell among grapes, Arnold's Seedling Strawberry, Saunders's Nos. 69 and 70 Hybrid Raspberries, and Arnold's No. 7 Seedling Hybrid Raspberry, stand in our estimation a long way ahead of any other fruits of their variety.

In judging, therefore, our conclusion ought to be, how near the flavour comes to the best established varieties, and the largest number of people to whom the variety is likely to give the greatest satisfaction.

## 4. ADAPTATION FOR GENERAL CULTIVATION.

It may be that this is as important a consideration in our judgment as any that have been previously noticed. Indeed, it cannot be over-estimated. *Adaptation* is the watchword of our Association in the distribution of plants throughout the Province. Blight, black knot, tenderness, hardihood, all render this question pressing and important. No more urgent criterion can be found among fruit judges than the adaptability of the plant to different localities. It avails little to the country, and less to fruit-growers, that an individual can raise certain fruits by care and extra protection. We have heard of an enthusiastic fruit-grower keeping the temperature of his garden a number of degrees above that of his neighbour by hanging bottles with hot water among his trees and plants. Such plans may serve to make the ignorant stare at the size and beauty of the productions raised under such circumstances, but they are of no practical use or advantage to the ordinary fruit-grower. In estimating the real value of fruit, the measure must be, can the million grow it?—is it hardy?—will it

stand the winter?—will it bear the heat of summer?—the latter of these questions being just as important as the former.

Our fruit trees must be able to withstand both heat and cold. Another feature of this adaptation of which we speak is,—can the fruit bear transportation to a distant market? Some varieties of fruits are so soft and delicate that while adapted for the cultivation of the amateur, they are utterly worthless for the general market. In coming to any comparative conclusion about the value of different varieties of fruits, we must of necessity embrace in our estimate the general good to be derived from the production of the fruit. Winter apples, in such a judgment, ought to stand higher than fall, and fall than the summer varieties. A fruit that grows over the largest area is to be preferred to one that will only grow in sheltered and favoured localities. Fruits that keep well, that are good cookers and easily handled without being damaged, are to be judged superior to higher flavoured varieties, soft, and apt to rot. We fear that were this quality of adaptation ought to bulk more than it does in our judgments on fruit, some varieties that now stand high would be found in a lower place.

Every year this important criterion is becoming more and more pressing. The introduction of new hybrid varieties urges every one to form a true estimate of the general value of such hybrid fruits. Indeed, it must become supremely important in the consideration of hybridists themselves,—their hybrid fruits will only succeed when they are entirely adapted to general cultivation throughout the Province.

#### 5. ADAPTATION FOR AMATEUR CULTIVATION.

This is the last element in the criteria for estimating the excellence of good fruit. It comes last because it is least valuable. The importance of amateur cultivation, however, must not be underrated. Patriotic aims must always give place to individual good. The amateurs of our Association are not likely to lay little stress on this requisite in forming a judgment of good fruit. Fruit of rare excellence—trees known to be tender—can be raised and cultivated by the amateur, when it is utterly impossible for the general cultivator to give his attention to their production. How it will pay must always form a large portion of the estimate of any fruit by the latter, while how it will please will form an important item in the consideration of the former.

We have thus passed in review briefly a few thoughts on this important subject. If not unworthy of reception by this Association, it will always remain a pleasing recollection that, as far as I know, I have been the first to give them embodiment, and any little that I can add to the advancement of fruit interests, and the advantage of our Association, will prove an ample reward, as a co-labourer with you, gentlemen, in this good work.

ROBERT BURNET.

Mr. Charles Arnold, of Paris, opened the discussion on the Fifth subject, by reading a short paper which he had prepared.

#### IS THERE ANY CERTAINTY IN THE RESULTS OF ARTIFICIAL HYBRIDIZATION?

Taking the term Hybridization to mean here the crossing of two varieties of the same species, I would answer, according to my experience, yes, positively, yes, in the case of apples, strawberries, wheat and Indian corn; and in the case of grapes and raspberries, I am equally positive that what have been called distinct species will hybridize one with the other.

But, in making these positive statements, let me be distinctly understood to say that the operation must be performed at the proper time and in a proper manner, or it cannot be said to be performed at all.

I have heard of people who believed that nothing more was necessary in order to produce hybrids than merely to shake the branch of one tree that was in flower over the branch of another tree of the same species that was in flower at the same time. That there was then nothing more to do but to save the seed from the fruit grown upon this branch. That every seed thus saved would in time produce fruit combining all the good qualities of both

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parents, forgetting that, in most cases, Nature is making efforts to produce wild children instead of cultivated ones. That, with most fruits, the nearer they are to the wild type, the greater the superabundance of pollen they produce. That the whole atmosphere is sometimes charged with this pollen, ready to attach itself to any cultivated cousin that it shall find unprotected in the neighbourhood, the desire of nature seeming to be to produce healthy seed, and not caring to surround these seed with rich and superfluous pulp.

I would therefore beg most respectfully to express the opinion, that no good results can be expected from such pretended hybridizing as that alluded to above; and in order to any degree of certainty in the results of hybridizing, very great care, with some knowledge of the structure of flowers, is necessary, as well as the condition of the flower to be operated upon.

The amount of influence the pollen has upon the pistil varies with different plants, and the condition of the pollen and the pistil when operated upon.

The stock also upon which the graft is worked may exert an influence over both male and female parents.

I have been led to half believe this by observing the uncertainty of the results of crossing apples upon grafted stocks, compared with crossing raspberries, grapes, strawberries, corn and wheat upon their own roots.

In the crossing of corn, the pollen has sometimes a completely prepotent and immediate influence both upon the colour and shape of the grains.

Again, in the grape, if foreign pollen is applied to the pistil of the native grape, I believe the pistil can be so gorged, or surfeited, that plants grown from the seed thus produced, will show scarcely a trace of the mother plant that produced them; thus showing, in my opinion, that the pollen has had almost a prepotent influence.

The same may almost be said of the strawberry, to such an extent, that I have found the pollen of Dr. Nicase upon the pistil of Wilson so powerfully to effect the embryo seed, that scarcely a trace of the Wilson parentage was observable in the next generation. So much so, that I have been compelled to breed back in order to get the good qualities of Wilson.

Let us now take the raspberry. To such a degree is the embryo seed of one species of the raspberry susceptible to the influence of the pollen of another species, that I have been able by artificial fructification to change them entirely, and to shift, so to speak, the peculiarities of one species to what has always been considered an entirely distinct species. As a proof of this, I refer you to Mr. Saunders' hybrids as well as my own.

In my case all my last lot of seedling raspberries, that our President has spoken so highly of, are great-grandchildren of the old White Cap, that roots from the tips of the new canes, crossed with pollen of a different species, that does not root from the tip, but propagates itself by throwing up suckers.

But the fruit of this first cross was worthless. Therefore, I again crossed, and this time with the pollen of a good fall-bearing variety. The result in the next generation was, in some instances, great fall-bearers of different shades of colour, size and flavour, but not one of them rooting from the tip of the cane.

This fall-bearing quality proving of little value in this country, I selected the hardiest and best of these varieties and again crossed them, this time with the largest and best European varieties. The result is several new kinds, of various shades of colour (an illustration of one is now on the table, and will be sent out by this Society in 1877), that will challenge this continent for size, hardiness, flavour and productiveness, and one variety ripens two weeks later than any other variety in cultivation.

Allow me to say a few words about the Pea, and the advantages to be derived from artificially crossing it. No one, I am sure, in our Association, that has ever grown and enjoyed a dish of luscious Champion of England Peas, could the next year muster up courage enough, however much he might be disgusted with its long rambling growth and, in some seasons and soils, greatly deficient productiveness, to throw it away, or to refuse to plant it again. Then, Mr. President, I would ask, would not every member of this Association who is "sound at the core" (as of course every fruit grower is) feel under a life-long obligation to the fellow-member who shall give him all the good qualities of the Champion of England upon such a gloriously productive little dwarf stalk as McLean's Little Gem.

Such, Mr. President, has been done by one of our members, and can be done again by hybridizing.

If further proof is wanted as to the certainty of the benefits to be derived from hybridizing, let me refer you to Roger's Hybrid Grapes, to Mr. Saunders' Hybrid Gooseberries, Raspberries and Currants, and last, but not least, to Mr. Dempsey's hybrid fruits of various kinds; and let it be remembered that, but for the labours of the hybridizer, not one of the fruits referred to would have had an existence.

Now, Mr. President and Gentlemen, if the above statements are true, and shall be made known to our members, surely no one will ask in the future, "Is there any certainty in the results of artificial hybridization?"

The Secretary read a paper written and forwarded to the meeting by Mr. George Peacock, of Mount Salem, on

### THE FRUIT GARDEN.

We would distinguish the fruit garden from the commercial orchard; the former has reference to fruit to be consumed at home; in the latter fruits are grown especially for merchandise. Some sorts will naturally extend into both the garden and the orchard; yet there are several sorts more adapted for use at home than for transportation, even to adjacent markets; also, many good market fruits would be required for the fruit garden, such as some good keeping apples, and some pears and peaches, etc.

It is supposed that at the present time an excellent collection of desirable fruit can be obtained among the fruit growers of Ontario, perhaps such as has never been equalled in any country of similar climate, for we have new apples, new pears, new peaches, new plums, new grapes, and we may say, all the fruits have been recently improved so much that it is possible, for *any one* who owns land, to have a fruit garden as far superior to those belonging to our ancestors, as the present mode of travelling by steam surpasses the old turnpike road manner of transportation.

The nations of antiquity being destitute of systematic communication must have been scantily supplied with the necessary information or with the materials for either numerous or good fruit gardens. The methods of hybridizing and of multiplying valuable sorts were not generally understood; consequently the balance of the people must have passed through the world without the possession of a fruit garden, or even the taste of its luscious productions. We read that collections of fruit trees were obtained and distributed at long intervals by invading armies, and later by ecclesiastics and individuals "in the days of monastic splendor and luxury." But how were the masses supplied? Where were the millions of fruit gardens for the people?

The improved modern facilities for obtaining information have never been equalled in any age of the world. Horticultural societies, newspapers, nursery men and private individuals are daily publishing valuable information, and transmitting it through the post office and telegraph to millions of anxious readers and practical cultivators of the fruit garden. The post office, with returning seasons, for as small a sum as letters have been carried, will deliver seeds, and plants, and trees at our doors, after travelling hundreds of miles, as fresh and ready for transplanting as just from the nursery. And yet with all these extraordinary facilities, can it be possible that tens of thousands of families in Ontario are now living on bread and pork and potatoes, when they might have in their cellars a hundred bushels of apples in variety of the very best selected sorts, and a hundred gems (jars) filled with the most delicious fruits? Thus their tables might be decorated with cherries, plums, peaches, pears, and with blackberries, raspberries, strawberries, and grapes through the winter months, all from their own garden, the only expense being a few hours of seasonable and pleasant enjoyment.

Why are so many without a fruit garden? Why is so little known about "delicious, luxurious food?" Information is needed, which is being collected by the Fruit-Growers' Association of Ontario, and will be of incalculable value to thousands of families who know but little of the domestic happiness and enjoyment to be obtained from the fruit garden. Many have not considered the advantages of our climate and soil in relation to the richer and more delicious fruits. Having come from climates where the winters are not so severe as in Ontario, they have supposed that the richer fruits would not prosper here any better than in more northern latitudes, and have been satisfied to grow the mere necessities of life, and a few of the common kinds of fruit. But it should be considered that the summer sun

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and the refreshing dews of Ontario give to our fruits a richness and a delicacy not discernible in those of countries having winters milder than our own. Our beautiful apples, melting pears, juicy peaches, and golden plums; our shining strawberries, clustering grapes, and tempting cherries, give to our tables a richness and relish far beyond the most sanguine expectations of those not accustomed to such delicious fruits. In a conversation with a gentleman on the comparative climates of the north of England and Ontario, it was elicited that in the former country water-melons are grown and of only moderate quality, yet the luxury cannot be dispensed with by the opulent classes, who produce them, by artificial appliances, at the cost of five dollars each; while the climate of Ontario is such, that melons of superior quality and of delicious flavour can be raised as easily as potatoes, affording their refreshing juices from the middle of August to late in October.

The money value of the fruit garden may be stated briefly; thus, one hundred bushels of apples stored for winter, fifty dollars; and one hundred "gems" filled with small fruits in great variety, fifty dollars. These would supply a family through the winter months, and would in a measure, on the table, turn winter into summer, for to have cherry pie at Christmas, and ripe plums, and strawberry short cake, would be having summer eating in winter. The table would be plentifully supplied during the winter months with fruit of every kind in its season, ripening from June to October; this summer's supply would be sufficient to pay for all the labour and expense of cultivation, and of gathering and storing the produce of the garden. Such a garden might be said to represent a capital sufficient to produce an annual income of \$100, to be applied to the comforts and enjoyments of a family during the winter. Even the present imperfect fruit garden is filled with highly desirable pleasures for its possessor. He beholds in the beautiful blossoms the cheering prospect of golden fruits; his family, his friends, his neighbours, the passers-by on the highways, feel pleasurable emotions rise within them. All behold the delicately tinted flowery spray, the wafting odours, the rising melodies, and tiny humming birds whose varying plumes reflect the sun's most brilliant rays; and happy children dancing round the captivating scene. How can millennial happiness be brought about unless every man has a fruit garden of his own? Since the first occupation of man, has any substitute afforded so much real happiness and enjoyment, and at the same time administered to so many desirable habits as the fruit garden? In it is practised patience, perseverance, obedience, prudence, cheerfulness, content. The continual reflections of such principles in youth will constitute a special preparation for the duties of after life; for he who builds his character by a steady practice of virtue, is well fortified against vice and misery. The fruit garden is therefore one of the *best schools* for the *young*.

The fruit garden abounds with agreeable employment to those *advanced* in life, being well adapted to exercise the ingenuity and ability of all classes and conditions of men. The retired merchant, or the mechanic; the professor, or the unskilful, may each have a paradise of his own making, in which to pass away the last few years of his earthly existence in peace and happiness. Whatever may have been his successes or misfortunes in his earlier career, he will have the pleasure of leaving a handsome legacy to the rising generation.

The climate, the political, and the social condition of Ontario, are highly favourable to the increasing multiplicity of fruit gardens; so much so, that it now lies within the sphere of individual enterprise to make this Province the brightest gem in the British crown.

Information on planting and cultivating plants and trees for the fruit garden can be obtained in Beadle's Fruit Book, which contains more useful and more recent instructions for the climate than any other book on the subject.

Mr. Dempsey said that he had found in his experiments on hybridization that the female parent gave the constitution to the offspring. He was experimenting with apples and pears to see if he could effect a union by hybridization of these fruits.

Mr. J. McGill propounded to the meeting the following conundrum on this subject:

Why is Mr. Dempsey not likely to succeed in producing good fruit from the union of apple with pear?

Answer.—In the Garden of Eden it was shown to be impossible. The apple turned the first pear (pair) out of Eden.

The 7th question was taken up, and, on motion of Mr. Fearman, it was resolved, as expressive of the sense of the meeting,

That the Directors be requested to continue the illustrations in the Annual Report.

The Committee on Seedling Fruits brought in the following Report, which was accepted:—

REPORT OF SEEDLING FRUIT COMMITTEE, FEBRUARY 16, 1876.

John H. Foster, of ———, shows three varieties seedling apples, No. 1, a fine showy apple, resembling very large specimens of the "Wagner;" sub-acid but inferior flavour. No. 2, a peculiar shaped, ribbed, oblong apple, striped and mottled with red, flesh firm, crisp and of a pleasant sub acid flavour, worthy of further trial. No. 3, a large showy apple resembling in appearance the Sweet Bough, sour, no distinctive qualities to recommend it.

Wm. Roy, of Owen Sound, shows a small and handsome striped apple of oblong shape; but quality not such as to recommend it.

S. Morse, of Lowville, shows five varieties of apples; from appearance are rather out of season, or have been kept in too warm a cellar to judge of their merits. No. 2 is a handsome dark red apple of medium size; in colour, texture of flesh and flavour much resembling the Black Detroit.

Jas. Clarke, of Cannington, shows two varieties of apples. No. 1 is a fine looking striped apple, medium size; but neither of the sorts of sufficient merit to recommend them. He also shows a small Crab resembling the small Red Siberian in appearance. Evidently a good keeper, and fine, nearly sweet, flavour. Its small size is against its being a candidate for public favour.

P. C. Dempsey, of Albury, shows a very handsome seedling apple of medium size, ribbed slightly at the apex, rich red colour, slightly striped. The flesh as white as the Fameuse, firm and of fine grain, of a peculiar agreeable and almost spicy flavour, sub-acid approaching to sweetness; an apple of a great deal of merit and well worthy of cultivation if the qualities of the tree are also to be commended. On this latter point we would be pleased if Mr. Dempsey would furnish the Association with the requisite information. We consider it worthy of a first prize.

Mr. Bucke, of Ottawa, shows a seedling from the Spitzenburg, showing some of the characteristics of the parent. It is of good flavour, but much smaller in size. If the tree is of a hardy nature it will be valuable in the colder sections.

A. Moyer, of Jordan, shows two varieties, one resembling the Rambo and of small medium size; it is of good flavour, and we would recommend it for further trial as a winter dessert apple. The other is a handsome Russet, but too dry and sweet to be of much value.

Daniel Wismer, of Jordan, shows a large handsome red apple, which, from appearance, might be a good market fruit, but the specimens were in too wilted a condition to judge of its quality.

Mr. Wm. Brown, of Sydenham, shows one variety which neither in appearance or quality can be commended.

D. Hammond, of Sheridan, shows a large handsome striped apple, flesh firm, and juicy, lacking flavour. Its attractive appearance would no doubt make ready sale of the fruit.

There were also on the table some fine grapes, namely Rogers No. 4 and 9 shown by Mr. Lister, Hamilton, and fine clusters of Rogers No. 4 by S. Woodley. A cluster of Clinton, grown in Ottawa by Mr. P. E. Bucke. Mr. Dempsey, of Albury, exhibits very fine specimens of the Josephine de Malines pear in splendid condition. Other samples of cultivated varieties of apples are shown by Wm. Roy, Owen Sound, and John McGill, Oshawa, which are in good condition, and are creditable specimens.

All of which is respectfully submitted,

A. M. SMITH,  
GEO. LESLIE, Jr.  
D. VANDUSER,  
WM. SAUNDERS.

Mr. Johnson, Chief of the Six Nations, explained to the meeting his method of growing grape vines, illustrating his remarks with some large bones. His method is to plant a number of these large bones in the soil, forming a small mound, and on this mound and over the bones to plant a grape vine, which soon sent its roots into the bones, drawing from

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them a great amount of nutriment. The leaves of the vines were larger and darker green than when planted in ordinary soil, and the fruit much finer.

Mr. Jarvis, Mr. Fraser, and Mr. Lundy called attention to the West Indies as a market for fruit.

Mr. Saunders called the attention of the meeting to the loss the Association had sustained in the removal by death of one of our active members, who was also for some time one of the directors, and introduced the following resolution, which was warmly seconded by Mr. Leslie and carried unanimously:—

Resolved, That we, the officers and members of the Fruit-Growers' Association of Ontario, have heard with deep regret of the sudden death of Mr. A. B. Bennett, of Brantford, who for many years was a member of the Board of Directors, and ever manifested a deep interest in all the affairs of our Society; and while we deeply deplore our own loss in the sudden removal from our midst of so active a member, we respectfully tender to his bereaved widow and family in their deep affliction our heartfelt sympathies.

That the Secretary be instructed to transmit to Mrs. Bennett a copy of the foregoing resolution; also to have the said resolution embodied in the proceedings of this meeting, to be published in the next Annual Report.

After passing a vote of thanks to the Mayor and Corporation of the City of Hamilton for the use of their commodious Council Chamber, so generously given for the holding of this meeting, the proceedings were brought to a close.

#### SUMMER MEETING

The summer meeting was held in the City of London on the 6th of July, 1876, in the rooms of the Y.M.C.A. The President called the meeting to order, and minutes of last meeting were read and approved.

After the reading of the minutes, the President and Secretary verbally reported the proceedings taken by the Directors in regard to Ontario being represented at the Centennial. The Ontario Government only promised \$1,000 to the Association with which to defray the expenses, and they stuck to that figure till this week. The previous day (Wednesday) the Secretary was promised \$2,000, the amount the Association asked for. This delay had caused a good deal of inconvenience to the Directors, Wisconsin having carried off the prize for long-keeping winter fruit, a prize which the President believed Canada might have obtained. It had also given them but small time to make preparations for their summer fruit exhibit, exhibitors having to get it ready at an early date. However, the Directors had resolved to do their best to show the fruits of Canada, and it was hoped they would be ably assisted by the members and fruit-growers generally.

#### STRAWBERRY CULTURE.

The meeting then proceeded to discuss the questions drawn up by the Directors, first taking up:—

“Strawberries—What new varieties are desirable and promising?”

Mr. Laing, St. Thomas, being called upon, said he had found the Wilson generally best, but last year he got a variety from the States, which looked very healthy and strong.

Mr. W. Saunders had found the “New Dominion” to be a pretty good variety. He had also tried Arnold’s kind, but it was not sufficiently far advanced to report on.

Mr. A. M. Smith, Drummondville, speaking of the “New Dominion” (some excellent specimens of which were shown), remarked that it was a little softer berry than the Wilson; yet, for a market berry, grown with the Wilson, he claimed it would be valuable, as prolonging the season. It was fully as hardy as the Wilson, and was nearly as prolific as the Wilson. It was uniformly a large berry.

Mr. Moyer, of Jordan, said he could not tell about the fruit of the “New Dominion.” He had handled it, but had not much grown this year, as he had only planted out in the autumn. He thought the “New Dominion” and the “Colonel Cheney” were the best new varieties. He also liked the Kentucky, although not as good as the two first mentioned.

Mr. Russell, of London, had grown the "Colonel Cheney" this year. With small protection, they had come through the winter better than any other variety.

Mr. Caldwell, Galt, found it was no use to plant until they had the proper soil. Hence he had failed in growing some of the new varieties. None of his neighbours had cultivated the "New Dominion." He believed that, to be a successful grower, they should make their business a fruit grower; in that respect they had failed in Galt.

Mr. Shoff, of McGillivray, had seen Mr. Wilson grow the "New Dominion" at Park-hill, and that well. He had no experience of late years himself.

Col. McGill, of Oshawa, said that in his neighbourhood they found the Wilson to be the most desirable and promising variety.

Mr. Arnold, of Paris, rather gave the "New Dominion" the preference to the Wilson. It was more hardy, and was possessed of more really strawberry qualities. The Wilson, of course, would stand more knocking about than any other; and, of course, it paid best. It was a miserable strawberry; but people who consumed strawberries generally looked for those that were most like strawberries. The "Hooker" and the "Bishop Scanning" he considered to be the best at one time; but these were now out of cultivation. There was a new strawberry, sent to him by Mr. Chas. Brown, of Yarmouth, N.S., called the "Mary Flesher," that, next to the "Hooker," he preferred. The berry was a good one; but he was afraid that, no matter how delicious it was, it was too small for market. For No. 1 of his own growth (which was exhibited), he claimed it was the best and most highly flavoured grown; but it winter-kills, and would be most expensive to grow. No. 23 (excellent specimens of which were also passed round), he remarked, was a hardy kind on his soil; but it might not be so on others. He intended to send No. 1 to England, where he knew it would grow very well, the climate being well adapted for it. No. 23 seems to be very prolific. The cross of No. 1 is a cross between the Wilson and Dr. Nicaise; but all the seedlings were from No. 1, and not further crossed. No. 23 was a seedling of No. 1. His land was a mixture of clay and loam. He had not used any artificial fertilisers; but covered the plants with manure in winter. Straw was the best covering.

Mr. Parker of Woodstock, said he had used leaves to cover in the winter.

Mr. Stevens, London, had cultivated Wilson's hitherto, and found them the most profitable.

Mr. Honsberger, of Jordan, said he cultivated Wilson, and sent it to Toronto. The Col. Cheney was fully as hardy. He had realised a third more in St. Catharines market for the Col. Cheney than the Wilson. He was putting in the "New Dominion;" but didn't believe in growing fruit the first year, as the plants were not very strong. The Colonel Cheney had paid him best this year, although the Kentucky was paying very well, too. It would ship as far as the Wilson; but was not so productive as some varieties.

Mr. Stevens, London, said his experience in strawberries was very poor. He did not think the soil suited. There was always a hard knot in the centre.

Mr. Cooper, London, thought the Colonel Cheney good; Boyden's 30 was superior for market purposes. The French was too dry to his taste. The Charles Downing he considered a very good fruit. Grown in connection with the Wilson Albany it would be found to give satisfaction. The Nicanor was the hardiest of any he had. It stood the winter without any covering, and was several days earlier than the Wilson. It was much sweeter and nicer flavoured than the Wilson. He thought all fruit growers should grow it as an experiment.

Mr. Kettlewell, Westminster, had tried several new varieties, but had found none better than Wilson's. There was a great deal of difference in the soil; his soil was clay; where there was a mixture of sand and clay, they could grow all kinds of berries. The Wilson was the best in the London market.

Mr. G. Morlatt, Oakville, said they grow strawberries there of an excellent quality—many varieties—and good.

Mr. Laing, St. Thomas, thought Wilson best. He had found the new variety—"The Bishop"—a failure in productiveness.

Mr. R. F. Sibbald, Bluevale, said they had not grown many strawberries in his district. They had a good soil; but people did not go in for cultivation.

In reply to Mr. Jarvis, Oxford,

Mr. Arnold, of Paris, said that in raising seedlings from his No. 3, which he had

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produced this year, he transplanted 110 plants from the same plant one year from seeding. He generally planted out in the beginning of September.

The Secretary thought that, if the plant was strong and well rooted, it did not matter whether it was the first or fortieth runner. He preferred to do his planting out in May.

Mr. Arnold, being again called on, said his No. 8 was the earliest strawberry he had ever seen. It was quite as early as Metcalfe's variety, and double the size, and ripened a week earlier than the Wilson.

#### MANURES FOR THE STRAWBERRY.

The meeting next took up the question—"What manures are best suited to the culture of the strawberry?" the majority of the members being in favour of barnyard manure.

Mr. Arnold had once used soda as manure, but had now discarded it.

Col. McGill had never used any fertilizers except salt, sowing about a barrel to the acre, but had failed. He had also used leached and unleached ashes. It changed the foliage a little, and caused the plants to be more vigorous.

Mr. Bucke, of Ottawa, thought bone dust the best promoter of strawberry growth. People in his neighbourhood also used phosphates.

Mr. Jarvis, Oxford, never used anything but barnyard manure.

Mr. Caldwell thought there should be combination of both bone dust, barnyard manure, ashes and salt. That would answer for any soil.

Mr. Denton had found wood ashes and guano mixed, the finest fertiliser for strawberries that he had tried. This composition he had used for seven or eight years.

Mr. Laing, St. Thomas, thought the manure system spoken of by Mr. Denton would be too strong.

Mr. Russell, London, said all the manure they used was the slops from the kitchen thrown over the garden.

Mr. Smith, Grimsby, and Mr. Honsberger, Jordan, used only barnyard manure.

Mr. Bucke, Ottawa, said that the Buckingham phosphates, after the mines were opened up properly, would be much preferable to those of Brockville. He considered water for strawberries far more needful than manure. When once they had the country thoroughly irrigated, then they would have much better crops of strawberries.

#### FRUIT EXHIBITION AT THE CENTENNIAL.

Practical suggestions on this subject were next called for.

The Secretary suggested that any one having plums and good summer fruits should send word to Mr. Saunders immediately, so that he might make arrangements. He had been informed by those that should know, that the plum crop at Meaford and Belleville was a failure. He had not heard from Owen Sound, the plum garden of Canada; but it would be necessary to act at once.

A gentleman here remarked that the crop of plums in Guelph and Galt was also a failure. At Bluevale, it was stated, the crop was good.

Mr. Saunders said not only plums, but raspberries, currants, and all sorts of fruits would be required. Baskets, for the packing of the fruit, would be sent to exhibitors on application; these, then, would be sent direct to Philadelphia. The exhibition was to last from the 18th to the 25th; and a committee, consisting of Messrs. Beadle and Arnold, had been appointed to receive the exhibits.

Mr. Denton suggested that each member should do his very best to make the exhibit a success. If not, he was afraid, it would not be so.

The suggestion was adopted by the meeting, as also several other minor suggestions by other members.

#### COMMITTEE ON FRUIT.

The President appointed the following committee to report on the exhibition of fruits on the tables:—Messrs. Saunders (chairman), Denton, Cooper, Kettlewell and Stevens.

## MISCELLANEOUS QUESTIONS.

In reply to Mr. Stevens,

The President said he had cultivated Elliott's early pear. It kept much longer and better than several other samples. The size was a stage larger than the D'Ete (Doyenne). It grew coarse and rough at the stem. It was a hardy tree, and was a very desirable early variety. It does not rot at the core. The Souvenir de Congress, he had also cultivated. It was a good variety, and much larger than the Bartlett.

Mr. Saunders had seen the nicest flavoured Rostiezer pears lie in the dealer's window much longer than pears of inferior quality. It was not a good selling pear, as its colour was against it. Some of his dwarf trees had been blighted this year.

Mr. Kettlewell advocated the doing away with the dwarfs. He went for a standard at once.

The President upheld the dwarf system as the best under ordinary circumstances.

Mr. Russell remarked that, if they cut away the bottom roots and cultivated the top ones, the trees and vines would be more productive. He believed that the top roots were fruit-producing, and that by taking away the wood-bearing roots they would have more fruit.

Mr. Caldwell spoke in similar strain.

Mr. Kettlewell had never seen the tap root of a grape at all. He held a Standard tree was the best for Western Ontario; and his experience was that the man who now cultivates dwarfs will regret the step inside of ten years.

Mr. Saunders said this was quite a new idea to him. And it seemed to arise from this:—The more they pruned their tree roots the more fibres they gave it, allowing it to get additional sap. Still, the same roots produced both fruit and wood-giving qualities.

Mr. Cooper asked whether, in planting grapes in a cold vinery, he should place the border outside or inside.

Mr. Bucke, Ottawa, would place it outside. He had found that by far the best.

In further discussion,

Mr. Bucke—I wish to tell you a little experience of a Director of this Society. A gentleman grafted potatoes with tomatoes, and he found the potatoes grew above ground and the tomatoes under. (Much laughter.)

In reply to Mr. Bucke, who asked whether any one had experience of native wild plums as a hedge tree,

Mr. Saunders said he had found them grow very well in a row. There was this objection, however—it was just a hot-bed for plum curculio.

Mr. Smith—Would that not be an argument for its use. If it took the curculio from the good varieties.

Mr. Saunders—They will attack both.

The President recommended the "Beurre Giffard" as a good pear for cultivation.

## THE BIRD-SHOOTING QUESTION.

A letter was read from Mr. Geo. Buckland, Secretary of the Bureau of Agriculture and Arts of Ontario, in which he said he was instructed by the Commissioner of Agriculture to request the Fruit-Growers' Association to consider the question whether the present system of granting licenses to procure birds for scientific purposes is attended by injurious results to fruit-growers and gardeners generally. It added:—"About twenty persons residing in different parts of the Province have annually been granted this privilege, and it has been represented that, in consequence of this great destruction of insectivorous birds by these and other parties, very injurious results to fruits and also to garden and farm crops have followed."

After remarks from Mr. Wm. Saunders, London, and Messrs. Smith, Grimsby, and Stevens, Westminster,—Mr. Saunders holding that, in the absence of a decided opinion as to what birds are, or are not, destructive to fruits, it would be difficult to condemn the granting of licenses, the following resolution was carried:—

Resolved, "That having heard the communication from the Minister of Agriculture relating to granting licenses to persons to shoot birds for 'scientific purposes,' this meeting is of opinion that the traffic in birds for the purposes of personal adornment should be discontinued by all classes of the community, and would suggest that the licenses to shoot birds

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should not be transferable, but be limited strictly to the person whose name is incorporated in the body of the license, as we are of opinion that the privileges now granted are abused by many of the holders of such licenses, and that such destruction as is now carried on is detrimental to the interest of fruit-growers."

#### CULTIVATION OF CHERRIES.

The Association took up the query—

*Cherries.*—Best varieties for this neighbourhood? Is the culture of this fruit profitable?

Mr. Denton introduced the discussion by saying he grew Mayduke and Elton, Yellow Spanish, Black Tartarian and Black Eagle. Recommended not to grow trees too rapidly, and would select high land with north and north-west aspect. Early Richmond most profitable. Comes before the common cherry.

Mr. A. M. Smith, Grimsby—Empress Eugenie is very promising. Early Richmond is the earliest. Butner's Yellow is a good late.

Mr. Arnold, of Paris, finds it necessary to grow only on Mahaleb stock. Believed he would sell cherries at a good profit if he lived near a large city.

Mr. Ellison had never found cherry trees to be very profitable.

Mr. Saunders—Have made more money out of Early Richmonds than any other cherries. It is ten days earlier than others. Got from eight to ten cents a quart for Early Richmonds; only from three to five cents for common sorts. Had found Mahaleb stock the best. Belle de Choisy were a failure, so far as he was concerned. Bowman's May, Governor Wood, and other early varieties are non-paying, because you cannot keep the birds off. Next to Early Richmond, he preferred the English Morello. It was so bitter that the birds did not touch it so much as the early varieties. Empress Eugenie could be ripened, and was a pretty fair fruit-producer. The late Duke is a very nice cherry, and a fair bearer. The Belle Magnifique was also a good variety, and one of the latest. Mr. Saunders then explained the *modus operandi* pursued by Mr. Meehan, of Philadelphia, in planting trees. He dug a hole in the sod, and put in the tree; and it was found this practice, suited extremely well.

Mr. Shoff, McGillivray, found the common cherries the best for use.

Col. McGill said the most money was in the Early Richmond. Had one tree that, two years ago, he had taken 114 quarts off, besides supplying his own and another family. He had got ten cents per quart for these before the common Kent were in the market. There was very little profit in cherries; if there was any, it was in Early Richmond and Elton's. He found at least three times the amount of money in an equal acreage of strawberries.

Dr. Brown, London, had one tree—the old country "Black Heart"—on which grew so many cherries that he got plenty and the birds too. (Laughter.)

Mr. Kettlewell, Westminster, thought cherry trees, as a rule, should get a good trial as to age. Where they got too much growth, they could not get fruit. For productiveness, the early cherry beats anything he had ever seen. In regard to profit, he also thought it the best. As a cherry to eat, the Napoleon Bigareau was the best.

Mr. A. B. McColl, London, spoke of the discussion as a great boon to fruit growers, in elucidating so much valuable information.

Dr. Brown thought it would be a very good thing for this Association to disseminate instructions to the public, as to the best means to pick fruit. A great deal of fruit was destroyed by the way it was picked. He thought that all plums and cherries should be gathered by being cut by scissors.

The President.—I have picked fruit in that way; it is a good one.

Mr. Leslie, Toronto, drew the attention of the Association to what he believed to be a fact—that a great deal of the non-success of cherry culture in Canada arose from overculture. If they wanted to grow cherries, they must put them in poor soil. On an average, he thought the culture of the fruit in this country was not profitable. He believed, however, the Empress Eugenie—a new variety—might yet be made profitable.

Mr. Arnold, Paris, said that when a tree looked sickly he would cultivate it. If it was growing too rapidly, he would not.

Dr. Brown remarked that his "Black Heart" tree had never got any cultivation; it

was all sodded; and yet it had grown enormously in the last five years, being now twenty feet high, and, as he had stated, bore large crops of fruit.

#### THE APPLE BLIGHT.

"What is its extent, and how far has it injured the apple crop? Have any remedies been suggested or tried?" These were the next questions discussed, the first speaker being Mr. Caldwell, of Galt, who said it was a most mysterious affair. He could not give any idea as to its origin or cure. It seemed to be caused by currents of heated atmosphere, when the air was charged with electricity. He could not explain how it sometimes took one tree, or one twig, and missed another. The hardiest varieties—the crabs, the golden russet, &c.—are the most subject to it. With a very few exceptions, it has not gone in amongst the young nursery trees. It entirely destroys the branch where the blight is; but if you cut it off, the rest of the branch is perfectly healthy.

Mr. A. M. Smith, Grimsby, said it extended over a vast area.

Mr. Leslie, Toronto, believed the theory of Mr. Caldwell—as to hot and cold currents, to be the real cause of the blight. He thought this country and the United States was being so denuded of forests that it allowed these currents to take effect. He thought they should give their trees more shelter.

Dr. Brown had his garden well sheltered. This year his whole trees were blighted. It was due to atmospheric causes, he thought. There was still a large amount of ice in Lake Superior, which was absorbed into the atmosphere, causing these currents of hot and cold air. On some of his trees the fruit had died as well as the tree. He didn't think there was any remedy for it, because they could not control the atmosphere. One of his trees he had cut off the blighted parts, with the result that the tree was now sound. He was sorry he had not done so to the other trees. Reversing the general arrangement of fruit trees he had planted them quite close together, with the result that he had always an excellent crop of all kinds.

Mr. Stead remarked that his experience was, that currents of air could not produce the blight, because often one tree was missed immediately by the side of one blighted.

Mr. Wm. Saunders said that some six years ago the blight appeared in the Western States, and had been gradually extending. Mr. Dougall, of Windsor, first spoke to him about it a few days ago, when his apple trees were seriously affected. He visited Mr. Dougall's nurseries last year, and found the blight had seriously increased, even entering his young nurseries. Prof. Beale, of Lansing, and other gentlemen were with him; and the general opinion was that, as in the case of the pear blight, the present blight arose from some fungus growth. He had tried the plan of cutting out the blighted parts, but had not much faith in it. In Mr. Dougall's nurseries, he thought, the larger portion of the trees had been blighted by a succession of the blighting of the smaller twigs. The blight might seriously injure the apple crop of the country.

Mr. Shoff reported the outbreak of the blight in McGillivray.

The Secretary said the blight generally struck the cluster of fruit. Non-fruited trees seemed to escape.

Mr. Arnold, of Paris, said he would just as soon lay the blight to the "man in the moon" as to electricity or currents of air. He did not believe in either. It appeared to be a mystery, as Mr. Caldwell had correctly stated at the outset of his speech.

The Secretary said that on the trees where there were no blossoms in his garden there was no blight.

Mr. Sibbald, of Bluevale.—There is no blight in our neighbourhood.

Col. McGill.—In my neighbourhood, the trees affected are those which have not blossomed at all.

Mr. Russell.—My theory is that the blight is caused by an exhaustion of the tree, through overbearing; the trees at certain conditions of the atmosphere not being able to give sufficient nutriment, and the blight ensuing.

The President.—If it proceeds from exhaustion, how is it that the tree is not affected as a whole?

Mr. Russell.—The partial want of nutriment is not sufficient to cause such a total blight.

Mr. Arnold.—I would suggest that we dream over the matter for a year or two.

The discussion then dropped.

The Committee Report, which was

#### REPORT OF FRUIT

Mr. Arnold, bred with fruit. Downer's Late Red. Mr. E. A. T.

Mr. A. M. S. berry, in good condition. A seedling variety, and worth Mr. Arnold's character for flavor. No. 1, which is also berry-growers. T. of good colour and variety. The standard. We think Mr. Arnold serving of all com-

Mr. A. M. S. some seedlings, the Brandywine, Naom. Mr. Moyer also Mr. Russell, also Downing's Se-

A vote of the of their room; and

This meeting Wednesday, the 15. The President which were approved. The meeting of The President cess of drying fruit

The Committee appointed to examine and report on the fruit exhibited brought in their Report, which was accepted. The Report is as follows :—

REPORT OF FRUIT COMMITTEE APPOINTED TO REPORT ON THE  
FRUITS ON EXHIBITION AT THE SUMMER MEETING.

CHERRIES.

Mr. Arnold, of Paris, exhibits some fine samples of cherries on branches literally covered with fruit. Napoleon Bigareau very fine; also good specimens of Black Bigareau, Downer's Late Red, and Elton.

Mr. E. A. Taylor, of London, shows a plate of Black Eagle in very good condition.

STRAWBERRIES.

Mr. A. M. Smith, of Drummondville, shows fine samples of the New Dominion Strawberry, in good condition.

A seedling raised by Mr. Biggar, of Drummondville,—we regard this as a promising variety, and worthy of more extended culture.

Mr. Arnold showed very good samples of his No. 1 seedling, which maintains its high character for flavour and beauty. He also exhibits a new seedling, No. 23, a seedling of his No. 1, which is also of excellent flavour, and promises to be a great acquisition to strawberry-growers. The berry is large and handsome, varying in form from irregular to regular, of good colour and apparently prolific, sufficiently so, we believe, to make it a good market variety. The stalk is remarkably robust, and long, sustaining its fruit well above the soil. We think Mr. Arnold's persistent efforts to improve the character of our strawberries is deserving of all commendation.

RASPBERRIES.

Mr. A. M. Smith exhibits a collection of this fruit, embracing five named varieties and some seedlings, the latter not yet ripe. The named fruits are Elm City, Highland Hardy, Brandywine, Naomi and Ganargua, all in good condition.

Mr. Moyer also shows a fine sample of Highland Hardy.

Mr. Russell, of London, shows fine samples of White Grape and Red Dutch Currants, also Downing's Seedling Gooseberry, grown from the bush sent him by the Association.

WM. SAUNDERS,  
J. M. DENTON,  
E. H. COOPER,  
R. KETTLEWELL,  
RICH. STEPHENS.

A vote of thanks was then passed to the Young Men's Christian Association for the use of their room; and the meeting adjourned at 10.15, P.M.

AUTUMN MEETING.

This meeting was held at Simcoe, in the lecture room of the Mechanics' Institute, on Wednesday, the 15th November, 1876.

The President took the Chair, and the Secretary read the minutes of the last meeting, which were approved.

The meeting proceeded to the consideration of the best methods of drying fruit.

The President introduced Mr. W. G. Murdoch, of London, who is interested in a process of drying fruit, known as Reynold's Patent Fruit Evaporator.

Mr. Murdock proceeded to explain the advantages of Reynold's Evaporator, claiming for it that it is superior to any other now in use, because—

1st. It is more simple in its construction, and does not require an expert to operate it successfully.

2nd. It will evaporate more fruit and do it better than any other machine of proportionate size or cost.

3rd. By the condenser, the saccharine matter is retained, and the watery portions of the fruit are taken out, so that when the same is supplied the fruit resumes its natural flavour.

The following description of one built in Chicago was submitted by Mr. Murdoch, which gives a very good idea of its structure and mode of operation :—

The Evaporator is a cylindrical structure, seventeen feet in height, and having a diameter of eight feet. The peaches, apples and other fruits or vegetables to be dried, after being cut up, are placed on screens within the cylinder. A shaft, which, by means of cogs, any small boy can operate, serves to revolve the screens. A furnace keeps the air constantly heated to a temperature from 150° to 175° Fahrenheit. By gently revolving the screens the fruit is dried. About two hours is the time required for drying peaches; *an hour and twenty minutes is sufficient for apples when properly prepared.*

The steam and vapor rising from the fruit comes in contact with a cold water condenser at the top of the cylinder, and is carried off.

This Evaporator has a capacity for drying two hundred bushels of fruit per day. Forty bushels are placed in the chamber at a time. The inventor claims that peaches can be dried at an expense of seven cents per pound, and when peaches are bought for 25 and 30 cents per bushel, there is quite a margin of profit remaining.

The Evaporator can be used for peaches, apples, pears, pumpkins, squashes, tomatoes, corn, and other fruits and vegetables.

It is claimed for this invention that it preserves the *natural colour of the fruit*, and with the *natural colour it retains its flavour.*

The machine of A. J. Reynolds differs essentially from all others in its application of heat. Its shelves of fruit, operated also by a crank and cog-wheels, have a rotary motion; the heat is introduced at the bottom of a cylinder, which may be of a size proportioned to the amount of the work to be done, within which rotate the fruit-shelves upon a spindle which supports them, and in the centre of a hollow drum, which only office is to occupy space, and thereby confine the heat to the material to be dried. Unlike the machine of Alder & Smith, the vapor created by the heat and process of drying is not allowed to escape directly at the top, but is there conducted into condensing tubes and flows off gradually. The shelves of fruit, when dried, are removed at once by opening a door of one side of the cylinder at the top. Heat is also introduced into the side of this machine through the medium of the smoke-pipe, which passes up alongside of the outer cylinder. It is claimed for this machine that it consumes less fuel and diffuses the heat more generally and continually than any other; that it may be used of so small a size as to be adapted to the top of a common stove, and from such a size up to the largest, which is 10 feet in diameter and is 16 feet high. The price varies from fifty to twelve hundred dollars.

When we consider the importance of the desiccation of fruit and vegetables, effecting the saving of so large a portion which is now lost; for keeping them for any length of time, and in all weather and climates, in view of their transportation—their weight is reduced at least three-fourths—too much importance cannot be attached to the subject.

The apparatus consists of a circular condensing chamber, within which is a shaft with a great number of wire shelves attached, on which the fruit screens are placed and constantly revolved around fans in the hot air, the heat being supplied from a furnace at one side of the base of the shaft. Cold air is admitted through a valve to vary the heat, the cold water through another valve into the conductor, which is at the top of the cylinder. Convenient doors are constructed in the sides of the cylinder, so that the condition of the fruit can be ascertained at any moment, and withdrawn, if necessary, during the operation. The prepared fruit is laid out on the screens of fine net-work, and placed on the wire shelves, fitted perfectly to receive them, and in a short space of time is taken out dry and ready to pack away. Peaches, apples, pears, green corn, beans, sweet and Irish potatoes, squash, tomatoes, pumpkins, string beans, and in fact, anything in the fruit or vegetable line, can thus be preserved without the usual discoloration incident to drying by solar heat and natural atmosphere.

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It cures apples thoroughly in one hour and twenty minutes and peaches in two hours, retaining in all cases the original colour and flavour of the fruits at the time they are prepared for the Evaporator.

Apples can be prepared and evaporated at a cost of 3 cents per pound for the dry product; Peaches (pared) at about 7 cents; Tomatoes, at 15 cents; Pumpkins and Squash, at about 4 cents; Raspberries from  $1\frac{1}{2}$  to 2 cents; Green Corn, 3 to 4 cents.

**AVERAGE YIELD AND WHOLESALE PRICES CURRENT OF EVAPORATED FRUITS AND VEGETABLES, DECEMBER 1st, 1875.**

	Pounds.	Price per pound.
Apples, per bushel, yield from.....	$5\frac{3}{4}$ to 6	18 to 20 Cents.
Peaches, pared, per bushel, yield.....	6	40 to 45 "
Peaches, unpared, per bushel, yield from.....	8 to 9	18 to 20 "
Squash, per 100 pounds, yield.....	7	18 to 20 "
Pumpkins, per 100 pounds, yield.....	6	18 to 20 "
Raspberries, per bushel, yield.....	8	45 to 50 "
Blackberries, per bushel, yield.....	8	30 to 35 "
Onions.....	4	to 75 "
Corn.....	8	16 to 20 "
Tomatoes.....	4	50 to 60 "
Potatoes.....	10	16 to 20 "
Pumpkin and Squash flour, in $\frac{1}{2}$ lb. packages, per dozen,		\$3.00. Two table-spoonfuls make a pie.

**OPERATION.**

The fruit is nicely pared as rapidly as possible, and inserted into the Evaporator at the lower doors, with  $175^{\circ}$  Fahrenheit heat, and after 30 minutes is raised by the windlass, sufficient to admit of two more trays of fresh fruit at the same door, which is repeated until the fruit trays reach the upper doors and is sufficiently cured, when it is withdrawn through the upper doors.

With all delicate fruits the circulation of the drum and fruit over and off of the furnaces should be very slow, not more than ten revolutions per minute, as it gives a variety of heat around the circle, preventing the baking or "kilo-drying" of the products.

Mr. Murdoch exhibited some samples of dried apples prepared by this Evaporator, and stated he was about erecting one at London, which he hoped to have in operation shortly.

The President called upon the Committee that had been appointed by the Directors, to examine different apparatus for drying fruit, and to collect what information they could on the subject, with a view to laying it before this meeting.

The Secretary, on behalf of the Committee, submitted the following.

**REPORT ON FRUIT DRYING.**

Your Committee immediately entered into correspondence with parties interested in fruit drying, with a view of securing their presence at this meeting, with models of their various apparatus, samples of their products, &c. Their reply was to the effect that much more satisfactory information could be obtained by visiting the several establishments when in operation, and witnessing the working of the apparatus. Your Committee, in accordance with this suggestion, and with the power conferred upon them by the Directors, proceeded to make a personal examination of such Evaporators as were to be found within a convenient distance. Their first visit was to Lockport, N.Y., where they inspected an Evaporator in operation. Unfortunately, the proprietor was from home, and the foreman was both deaf and dumb. We were, however, very kindly permitted to go through the establishment and examine the various processes, and glean such information from the employees, who were mostly boys and girls, as we could. The apples that were being used were such as had fallen from the trees from various causes, a good deal bruised and otherwise defective, and such as heretofore would have been used for making cider or have gone to waste. These apples,

without any further preparation, not even that of wiping off the clay that adhered to them, were put upon a paring and coring machine, and the rind taken off, as well as such machines could do with such apples. A slicer was then brought to bear upon the apple while it was being revolved, which cut it spirally through of a nearly uniform thickness. The apple was then taken from the parer and passed to a boy, who, with a thin-bladed knife, rapidly removed any portions of rind still remaining, any bruised or otherwise unsound spots, and then made a longitudinal cut directly across the spiral cut of the slicer, which caused the apple to fall apart into slices, as though after paring and removing the core by punching it out, the apple had been sliced directly across from stem to blossom end. The fruit thus sliced was now spread by a girl upon a wire tray or sieve, and as fast as the trays were filled they were removed by a lad and taken to the Evaporator.

The Evaporator, in so far as we could see, differed in nothing from the oven of any of our power bakeries where soda biscuit are baked. Like those ovens, the heat was applied at the bottom, and through the oven ran an horizontal shaft with arms, upon which were suspended frames for receiving the wire trays, which, though the shaft was revolved, remained in a horizontal position. As fast as the fruit became sufficiently dry, these trays were taken out and others, filled with the fresh fruit, put in their places. These trays were received by another lad as they came from the oven, who examined the fruit to see if it was sufficiently dried, removing any slices that were not dry enough, and then, emptying the dried fruit into a box, passed the trays back to the table to be again filled with fresh fruit.

Owing to the absence of the proprietor we were unable to get any particulars as to the cost of erecting or working this Evaporator, how rapidly it performed its work, nor what was its capacity. But we were kindly permitted to bring with us a sample of the dried fruit, which we have placed on the tables for inspection.

Your Committee then proceeded to Albion, where we had made arrangements to meet Mr. C. S. Cole, of Spencerport, under whose superintendance an Evaporator under Mr. Reynolds' patent had been erected and, for a short time, in operation. Mr. Cole met us at the station, in accordance with our appointment, but with the unfortunate announcement that the Evaporator we had come to see had burned down during the previous night. However, we proceeded to the place where it had been, and had an interview with the proprietor. He expressed himself well satisfied with the working of the Evaporator, and with the quality of the product. He had shipped only a few barrels of the dried apples, and had not yet had any returns from them, so that he could not tell what it would sell for by the barrel. Nor had he been able, during the short time in which he had been using the Evaporator, to systematise the work so as to get it in regular running order in the most advantageous and economical manner, so as to be in a position to say what the cost of drying the fruit actually was. The fire had so completely consumed the Evaporator and the building in which it stood, together with the contents, that we were unable to receive from him any samples of the dried fruit.

Mr. Cole thereupon suggested that we should proceed to Spencerport, and see the Evaporator that he had erected at that place, but which was not now in operation, on account of some changes that were being made in the furnace. We therefore accompanied Mr. Cole to Spencerport, who hospitably insisted upon entertaining us as his guests over the night. In the morning we went with him to see the machine, and found a large wooden cylinder, about eight feet in diameter and some twenty in length, placed perpendicularly upon a brick foundation. This cylindrical structure was held firmly together by iron bands or hoops, after the manner of a wooden vat, and had a horizontal opening near the bottom, and another near the top, with doors by which they could be closed at pleasure. Within the cylinder and at the centre was a vertical shaft running from top to bottom, which was geared with a cog-wheel, so as to be made to revolve by turning a crank. To this shaft were attached supports for receiving the trays, which are put in at the bottom, and are raised by means of a lever perpendicularly, so as to be moved in a vertical direction from the bottom to the top. The trays are made in the form of segments of a circle, so as to fit into the cylinder with sufficient accuracy to fill the entire circle of space, and are made by stretching wire cloth over a wooden frame, to the bottom of which are fastened iron feet of about four inches in length, which keep the trays at that distance apart from each other while they are being raised in a vertical direction by means of the lever.

In the side of the cylinder is a thermometer, placed so as to be visible from the outside, which enables the operator at all times to know the degree of heat that is being maintained.

within. Within is the furnace in and gases escape openings into the The cylinder is to admit of the pan of cold water patentee claims

After the at the bottom of ing shaft, and by has just been pu and brought to h furnace. This p the shaft brings tray is raised ve in, and so, by su the top, and com with trays of fru bottom, to that

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It will be at necessary to have fast as they are night and day w

Although w of the explanati method of worki some samples of are of several va that the colour o more decided str ably white.

We learned for drying fruit v as the Alden pro Evaporator, we d Mr. Cole had bus to Brighton and acquainted. We operation, and re to our many inq of a cylinder, not upon a brick cha feet in height, w opposite each oth top to the bottom and at the top an ports for holding chamber. These fruit was prepar apples in the sam taken when ready which stood betw them, and gave th

within. Within the brick-work at the bottom, on which the wooden superstructure rests, is the furnace in which the heat is generated. The fuel used is anthracite coal. The smoke and gases escape through a pipe, which is carried in a flue up the side of the cylinder with openings into the cylinder, so as to economize any heat that may be given off from the pipe. The cylinder is covered over at the top, but has two or three small circular openings in it to admit of the escape of the vapour arising from the fruit. This machine did not have any pan of cold water at the top to serve as a condenser of the vapour, which we believe the patentee claims to be an important feature of his process.

After the fruit is prepared and placed upon the wire trays, a man, stationed at the door at the bottom of the wooden cylinder, places the tray upon the supports fixed to the revolving shaft, and by means of the crank makes the shaft to revolve so as to bring the tray that has just been put in, directly over the furnace. Meanwhile, another tray has been got ready and brought to him, this he places in another segment of the circle, and turns that over the furnace. This process is repeated until the circle of trays is complete, and the revolution of the shaft brings the tray first put in once more to the door, then by means of the lever the tray is raised vertically and a tray of fresh fruit is put in under the tray that was first put in, and so, by successive revolutions and elevations, the tray that was first put in arrives at the top, and comes to the door ready to be taken out. By this time the Evaporator is filled with trays of fruit in various stages of curing, from the tray of fresh fruit just put in at the bottom, to that at the top now fully dried and ready to be taken out.

A person now stationed at the top, removes the trays of dried fruit as fast as they are brought round and up to the door at the top, empties them of their dried fruit and sends them down to the floor below, to be again filled, placed into the Evaporator at the bottom, and again go through the process already described.

It will be at once seen that for the most economical working of the Evaporator it is necessary to have just enough persons preparing the fruit as can keep the trays supplied as fast as they are emptied, and to have relays of workmen, so that the process may go on night and day without interruption.

Although we did not see this evaporator in actual operation, we were able, with the help of the explanations so kindly and fully given to us by Mr. Cole, to fully understand the method of working it, so as to give you the details already presented. Here we obtained some samples of the dried apples, which we herewith submit for examination. The samples are of several varieties, as the Baldwin, Spy, St. Lawrence and others. It will be noticed that the colour of the fruit varies slightly with the variety, that of the Baldwin being of a more decided straw-colour than the samples of the other varieties, some of which are remarkably white.

We learned from Mr. Cole that there was at Brighton, near Rochester, an establishment for drying fruit with an Evaporator of somewhat different construction, and which is known as the Alden process. Having seen all that was to be seen at present of the Reynold's Evaporator, we decided to take the next train to Rochester, and proceed to Brighton. As Mr. Cole had business in Rochester, and was going there, he consented to ride with us out to Brighton and introduce us to Mr. Wing, the proprietor, with whom he was personally acquainted. We were so fortunate as to find Mr. Wing at home, and the Evaporator in operation, and received from him every possible courtesy and attention, and the fullest replies to our many inquiries. This Evaporator we found to consist of a long cubical box, instead of a cylinder, not quite square, but measuring perhaps four feet by three, placed vertically upon a brick chamber, in which is the furnace. This cubical box was some twenty or more feet in height, with the top end open. It was provided with two endless chains, placed opposite each other, and running from the bottom to the top on the inside, and from the top to the bottom on the outside. Near the bottom was a door where the fruit was put in, and at the top another where it was taken out. The endless chains were provided with supports for holding the trays, which were of a size to fill the entire cross section of the cubical chamber. These trays had also a wooden frame with wire cloth stretched upon them. The fruit was prepared in an adjoining room by young women, who pared, cored and sliced the apples in the same manner as seen at Lockport, and spread them on the trays. These were taken when ready, by an assistant and carried to the evaporating room, and placed on a table which stood between two of these tall cubical evaporators. There a young man received them, and gave the fruit any final adjustment it needed, and opening the door of one or the

other, as was needed, placed the tray in the chamber upon the supports which are attached to the endless chain. On the floor above, another young man, with a lever, gradually moves the chain so as to bring the trays slowly up from the bottom of the chamber to the top. Arrived there, the fruit is sufficiently dried, and, as the trays successively come to the top, he opens the door, takes out the trays, removes any pieces that are not sufficiently dried (if any), and then empties the dried fruit into a hopper, through which it falls to the floor below. The empty sieves he places upon a hoist, and sends them also to the lower floor.

There is no apparatus for condensing the vapour in this Alden machine; the heated air simply rises from the bottom to the open top, and, passing out there, carries with it the moisture taken up from the fruit. The motion of the trays is simply vertical, by means of the endless chain, the whole space of the chamber being occupied by the trays, without any shaft or contrivance for giving them a rotary motion.

The dried fruit is allowed to remain exposed to the air for a few hours, so that it may absorb sufficient moisture to become somewhat elastic, in order that it may be closely packed in boxes or barrels without breaking, it being too brittle when it first comes from the Evaporator to bear pressure. It is put up in boxes, containing six pounds each, for family use; also in barrels, for bakers and grocers.

The Messrs. Wing told your Committee that they had last year carefully computed the cost of dried apples, put up ready for market, including the price paid for the fruit, but nothing for the interest on machinery, building and fixtures, and found that it averaged seven cents per pound. They had also successfully dried sweet corn, squash, potatoes and onions; but in drying these vegetables they could not use the wire trays, because the wire discoloured the vegetables; but to obviate that they used a coarse netting stretched upon the frames.

We noticed also that there was in the store-room a quantity of dried cores and parings, and on inquiring why they had dried these, were told that last year they had sold a large quantity of these to the Jelly Manufacturing Company at six cents per pound, but that they feared there would not be as good a market for these this season.

We have obtained from Mr. Wing a sample of their dried apple, and of the dried sweet corn and potatoe dried by the Alden Evaporator; also some samples of jelly made from the cores and parings, all of which we submit for your inspection.

Your Committee cannot express any decided opinion upon the relative qualities of the fruits dried by the several processes; that can only be settled by some practical tests, in the use of them. To all outward appearance they seem to be very much alike. The chief difference seems to us to be one of economy in the construction and working of the several Evaporators. We are unable to give any particulars as to the cost of the one we saw at Lockport, but we understand that the cost of the Alden Evaporators varies from one to five thousand dollars, and the cost of the Reynolds Evaporator from fifty to twelve hundred dollars.

We believe that the time has come when some method of drying our fruit must command the attention of fruit-growers. There is always a quantity that from one cause and another can not be marketed in the fresh state. Indeed a great deal that is now put up and sent to market would be worth more to the owner if it was kept at home, for it only serves to lessen the price of the good fruit with which it is mixed. There is also an increasing demand for fruits in a form convenient for long transportation, as in ship's stores on long voyages, exploration parties, Government surveys and the like. The grocers and bakers in large cities find in the dried fruit a much more convenient and satisfactory material for pies, puddings, &c., than in the fresh fruit with its great liability to deterioration and decay. The dried fruit has an advantage in being less bulky and lighter than either the fresh or the canned fruit, thereby saving largely in the cost of transportation, besides being in a state to keep for an indefinite period.

The only questions that seem to your Committee, to require careful attention, are these, do the fruits dried by any of these processes so retain their natural flavour as to be generally palatable to consumers? And can the fruits be so economically dried by any of these processes as to effect a saving to the fruit-growers?

All of which is respectfully submitted,

D. W. BEADLE,

A. M. SMITH,

*Committee.*

Apples contain	85	per cent of water.
Peaches, " 84	"	"
Cherries, " 80	"	"

Mr. P. F. other apparatus consists of a large chamber, through which the fruit is placed. The number of trays is filled with fruit long chamber, where the fruit is raised to the top with dampers times. The vacuum is by a syphon. It is used for candied fruits and dried fruit preparation. The cost is from 600 bushels as Normandy.

The President exhibited fruits on exhibition.

The meeting was best about 500.

Mr. Ainsworth also the Salem.

here, the season.

Mr. Hall severe that the

Mr. Slaight are the very best

trimmed, the best leading sort for

somewhat shy fruit when well

Mr. Jackson Astracan. The

Spy about four not picked early

think the flavor the best of all

is the Spitzenberg then truly splendid

this fall, for with the barrel and

Bonne, White not think much

blighted. I think As to grapes, the

Delaware; the bear more than

My soil is variety of the best fruit

Rowan.

Peter Gilbert in planting to

Pippin, Snow market and very

valuable for hot berries, both for

Mr. P. E. Bucke, Ottawa, explained to the meeting the construction and working of another apparatus for drying fruit, known as the "Pacific Fruit and Vegetable Dryer." It consists of a long horizontal chamber, divided lengthwise into three separate compartments or chambers, through which currents of heated air are passing from a furnace upon which it is placed. The fruit is placed upon sieves or trays, and these are slid into a frame holding a number of these trays, the frame is fastened to a truck with wheels, and when the frame is filled with fruit, the truck with its load of trays is rolled gradually to the opposite end of the long chamber, there the truck is lifted to the second story and made to travel to the front, where the fruit can be taken out if sufficiently dry, or, if not dry enough, the truck can be raised to the third storey, and made to traverse that. The partition floors are so arranged with dampers in the opposite ends as to cause the heated air to pass through the dryer three times. The vapour from the fruit is condensed and made to travel out through an inverted syphon. It is designed to dry fruits, vegetables, meat, fish, &c., &c. It will also make candied fruits and raisins fully equal to the best imported. Mr. Bucke exhibited some candied fruit prepared by this Evaporator. It dries apples in from one hour and a half to two hours. The cost of this Evaporator is from \$30 to \$1,000, with a drying capacity of from 15 to 600 bushels per day. Mr. Bucke also exhibited some apples dried in France, and known as Normandy Pippins. The apple is dried whole, only the rind being removed.

The President appointed the following Committee to examine and report on the seedling fruits on exhibition, viz., Messrs. Robb, Jackson, Leslie, Ainslie and Dr. Clark.

The meeting proceeded to the discussion of the question, "What varieties of fruit do best about Simcoe?"

Mr. Ainslie, Simcoe, said that in grapes the Eumelan and Creveling did well this year; also the Salem, Concord, Delaware, and Hartford Prolific. In 1875, grapes scarcely ripened here, the season was so cold.

Mr. Hall said, Greenings and Spy do well among apples. The winter before last was so severe that the peach trees were badly killed.

Mr. Slaughter, of Waterford, named the Baldwin, Spy, Greening and Rox. Russet, these are the very best we have for shipping, and for home use in winter. If the tree is well trimmed, the Spy does very well. The fruit does not blow off easily. The Baldwin is our leading sort for market. The King of Tompkins is not likely to prove satisfactory; it is a somewhat shy bearer, and sometimes the fruit decays on the tree. Old trees will bear nice fruit when well cared for, properly trimmed and manured.

Mr. Jackson, Simcoe.—Our best early apple is the Early Harvest; next to it is the Red Astracan. These grow magnificent. The Spitzenburgs do splendidly. Planted Northern Spy about fourteen years ago, and rank them next to the Spitzenburg, though if they are not picked early they do not keep as well, but show dry rot towards the spring. I do not think the flavour of the Greening quite equal to these. In truth, I esteem the Spitzenburg the best of all winter apples. The Baldwin is popular, and it sells well, but my first apple is the Spitzenburg, and next to it the Spy. The Snow apple is a favourite in the fall: it is then truly splendid. There have been thousands of barrels of apples shipped from this station this fall, for which the growers received from 75c. to \$1 per barrel, and the buyer furnished the barrel and packed the fruit. I grow of pears, the Bartlett, Flemish Beauty, Louise Bonne, White Doyenne, and Clapp's Favourite. The best one of all is the Bartlett. I do not think much of the Louise Bonne; the tree blighted this year, the only sort I ever had blighted. I think a great deal of Clapp's Favourite; the White Doyenne is also a fine sort. As to grapes, everybody ought to have the Concord. I depend on the Concord, Clinton, and Delaware; these never mildew, and are fruitful. The Salem does well here, but does not bear more than half as much as the Concord. The Hartford Prolific ripens early but unevenly. My soil is varied, having both sand and clay. Think this County of Norfolk produces some of the best fruit to be found in this Province. A good many grapes are grown about Port Rowan.

Peter Gilbert, Woodhouse Gore.—The great mistake that has been made here has been in planting too many kinds. Would recommend the Early Harvest, Sweet Bough, Fall Pippin, Snow Apple, and Fall Janetting. The Spystands first for shipping; next to it for market and winter use, is the Baldwin. The Spitzenburg does well on a strong soil, and is valuable for home use. We have a good soil and climate for apples. We also grow strawberries, both for home use and market; the Wilson is the most valuable sort. As for rasp-

berries the American Black Cap is the best as yet for market, being very productive. I am trying the Philadelphia. My chief business is hop-growing; am cultivating fourteen acres of hops. The best yield I have had was 1,200 pounds to the acre.

The meeting was suddenly brought to a close by the announcement that it was train time, and the members from a distance were obliged to leave. There was a fine display of fruit, both apples and late pears.

The following is the Report, as far as prepared by the Committee, on Seedling Fruits on Exhibitions:—

#### REPORT OF THE SEEDLING FRUIT COMMITTEE.

SIMCOE, 15th November, 1876.

The Committee have had brought before their notice specimens of seedling apples, as follows:—

No. 1,	raised by	Howell Morgan,	Rednersville, Ont.
No. 2,	"	Mr. Essery,	Petersville.
No. 3,	"	Mr. West,	Westminster.
No. 4,	"	Mr. Colbick,	Hamilton.
No. 5,	"	Mr. Russell,	London.

No. 1 is a handsome, medium-sized, flattish round apple, dark red cheek, slightly striped. The flesh is soft in texture, and flavour a pleasant sub-acid verging on sweetness. The specimens now exhibited are past their prime, but we would consider this a very promising variety in its season.

No. 2 is a seedling from the Spitzenburg, but shows none of the characteristics of its parent. It is of small size, sub-acid flavour, but in our opinion of no special value.

No. 3 is a nice medium to small apple, in its markings somewhat resembling the Wagner, flesh yellow, pleasant sub-acid, and evidently a good keeper. We consider it worthy of trial.

No. 4. A seedling from the Esopus Spitzenburg, much resembling it in colour and appearance, but smaller and more ribbed and variable in shape.

Report cut short by announcement that it was time to leave for the cars.

#### REPORT OF COMMITTEE ON SOUTH WELLINGTON AND SOUTH WATERLOO.

*To the President and Directors of the Fruit-Growers' Association of Ontario.*

The Committee appointed to report upon the capabilities of the District lying upon the line of the Great Western Railway between Guelph and Hamburg, comprising part of South Wellington and South Waterloo, beg leave to report:

They first commenced their duties in the neighbourhood of Guelph, by visiting the Model Farm. They find that there has been a great improvement made by the indefatigable exertions of Mr. Barron, the gardener there. He kindly showed the Committee the orchard and garden; the crop of fruit is excellent, and the soil seems well adapted for fruit culture. Of apples, the principal varieties cultivated are Northern Spy, Baldwin, R. Island Greening, Ribston Pippin, and Fall Pippin. The trees appeared healthy, and the apples large and fine, and in fact, superior to most seen in this region. There are a few pear trees, but the quality of the fruit was very fine of Flemish Beauty, White Doyenne, and Bartlett; also, some very fine Duchesse D'Angouleme. The trees are mostly standards. The orchard is on an elevated situation, and they have no doubt that both pears and apples can be cultivated to good advantage, as the soil is well adapted to fruit culture.

Mr. E. Fear, an extensive gardener in Guelph, says that the varieties of apples that have done best with him, are, the Red Astrachan, Early Harvest, Roxbury Russet, Northern Spy, and St. Lawrence. Of pears, the only varieties he has had any success with are, Flemish

Beauty, Belle have perished near the river.

We visited the place, the young trees, which we note at the time of culture. The yielded good crop to market, the

Mr. Williams winter of 1874 experience. V to the ground, Greenings sufficient wholly or partly Flemish Beauty to Bartlett and that greater care known hardiness. He also suggests such hardy kind orchard of fine fruit fully two weeks to be more extensive for Prolific."

he is cultivated who said it was Northern Spy: rows as prolific send some samples

Mr. Noah the apples besides Gravenstein at Plums he class Peach-plum, J Bartlett.

Visited Melme pears. Eburgs he gathered bushes each.

The Committee found there are 1st, Snow; 2nd, R. I. Greening of plums. The mens. Pears,

Mr. John Pippin profitable

Mr. James Astrachan, Duc St. Lawrence, Greening and useful in dimin soil on his farm he lost a great crop of gooseberries,

Beauty, Belle Lucrative, and Lawrence, Standards. Dwarfs have done badly, and nearly all have perished. We may note that Mr. Fear's garden lays very low, and is an alluvial soil near the river.

We visited Messrs. Gilechrist's grounds, and found for the short time they have been on the place, that they have made progress. They have planted out a large number of fine young trees, which look well and healthy. They have a fine lot of young plum trees, among which we noticed some trees of Glass Seedling, in bearing; the fruit was fine, and about ripe at the time of our visit in the first week of October; the soil seems well adapted for fruit culture. They have two and a half acres of very fine healthy strawberries, which they say yielded good crops of fine berries last summer, and proved very profitable from their nearness to market, the garden being within the Town of Guelph.

Mr. William Stevenson, who owns a very extensive nursery in Guelph, reports that the winter of 1874-1875, was, in its effects, the most severe that he has known in twenty years' experience. Vast numbers of his pear trees and some of the tender sort of apples were killed to the ground, and not only young stock suffered, but large bearing trees; the Baldwins and Greenings suffered most, and perhaps next, the Early Harvest. In pears, the few that escaped wholly or partially were first, Clapp's Favourite, which stood the cold with impunity; next, Flemish Beauty; then Jaminette, Seckel and Oswego Beurree; and then on a descending scale to Bartlett and Duchesse D'Angouleme, which were nearly killed outright. He is of opinion that greater care is necessary in the selection of apples for this region, and that fewer kinds, of known hardiness, as Northern Spy, Greening, &c., would prove more profitable to the planter. He also suggests, and says that some discriminating planters are purchasing Johnaus Sweet and such hardy kinds, and top grafting at one year with choice varieties, and so obtaining an orchard of fine fruit. Respecting grapes, he considers the "Miles" the earliest grape we have, fully two weeks earlier than Hartford Prolific and Adirondac; he thinks the "Miles" deserves to be more extensively cultivated. It is a small black grape of about same quality as "Hartford Prolific." The Clinton is the only grape that will stand without protection. He says he is cultivating as rapidly as possible, an apple he obtained some years ago from a farmer, who said it was a seedling, he has never seen it at any exhibition. It is about the size of the Northern Spy and similar in appearance, of good flavour, bearing early, often in the nursery rows as prolific as the Duchesse of Oldenburg and as hardy. We trust Mr. Stevenson will send some samples of this variety to the Association for their examination and report.

Mr. Noah Sunley, of Guelph, who has also an extensive nursery, is of the opinion that the apples best adapted for this region are, for summer, Duchesse of Oldenburg; fall, Gravenstein and Colvert; winter, Rhode Island Greening, Baldwin, and Northern Spy. Plums he classes—Lombard, as first for cropping and profit, and next, Smith's Orleans, Peach-plum, Jefferson, Washington and Imperial Gage. In pears, Flemish Beauty and Bartlett.

Visited Mr. Birney's garden, near Guelph, and saw some very fine Duchesse d'Angouleme pears. He has some very fine apple trees, ten years old. From two Duchesse Oldenburgs he gathered sixteen bushels of apples this year, and from young Northern Spy four bushels each.

The Committee next visited the Agricultural Show of the township of Puslinch, and found there an excellent exhibition of fruit. For 12 fall apples the prizes awarded were—1st, Snow; 2nd, St. Lawrence; 3rd, Cranberry pippin. 12 winter—1st, Northern Spy, 2nd, R. I. Greening; 3rd, a pippin. There was also a very fine collection of 36 varieties of plums. The prizes were taken by Reine Claude de Bavay and Lombard, both fine specimens. Pears, Flemish Beauty and Duchesse d'Angouleme, both very good.

Mr. John Laing, Puslinch, finds Colvert, Northern Spy, R. I. Greening, and Ribston Pippin profitable varieties. He sold the latter variety for \$3 35 per barrel.

Mr. James Anderson, Township of Puslinch, about four miles from Guelph, finds Red Astrachan, Duchesse of Oldenburg and Early Harvest hardy and good bearers; for fall, Snow, St. Lawrence, good and very hardy; for winter, Golden Russet, Northern Spy, Rhode Island Greening and Baldwin; finds that the use of old carpet tied around the apple trees is very useful in diminishing the ravages of the codlin moth. He does not succeed with pears; the soil on his farm is generally too light. His young plum trees are coming into bearing, but he lost a great many last winter. Mr. Anderson has been very successful in the cultivation of gooseberries, raising the Whitesmith, Houghton Seedling, Downing Seedling. He has

been successful with Whitesmith, taking prizes the last eight years at the Guelph Horticultural Show.

The Committee went through the south part of the Township of Eramosa, saw Mr. Anstee's orchard, containing fine, healthy trees, in good bearing. The soil seems well adapted to the growth of the apple and plum. The varieties with which most success is obtained are R. I. Greening, Northern Spy, Colvert, Baldwin, Ripston Pippin and Snow.

Visited Rockton Show, Beverley. For a township show, found a fine display of fruit of the leading varieties. This township has been usually considered as very poor land; the fruit and other products exhibited would lead to a more favourable conclusion. The soil being in the north-west part of the township of a clay loam upon limestone rock, appears to be well adapted for fruit growing.

In the south part of the township pears grow well, as is evidenced by the samples of Flemish Beauty and Bartlet shown.

Thomas Cowell, St. George, Dumfries, has planted 130 R. I. Greening, which are in good bearing and do not winter kill with him; this variety succeeds best. Baldwin is healthy; Northern Spy very long in bearing, and Spitzenburg liable to winter kill.

Richard Lawson finds the Northern Spy best and most profitable; has lately planted an extensive orchard of this variety. Rhode Island Greening and Baldwin do well; Dwarf Pear are all dying out.

Henry Howell says Northern Spy, Baldwin, and Golden Spy are the best with him; Roxbury Russet does not do well; Spitzenburg is dying out at 15 years old; Colvert is the best fall apple. Of plums, Lombard do well.

Mr. Fairgreve, Galt, has an extensive orchard; ships a large quantity of apples; thinks that apples can be grown to profit; is of opinion that pears can be grown successfully, but that a great deal of time has been lost in the cultivation of Dwarfs, which are generally a failure, and that pears on their own root will do well.

Your Committee, in conclusion, would remark that, of the section visited, the whole region is well adapted for the cultivation of the apple, and, to some extent, the pear. The size and quality of the apple and general thriftiness of the trees show that if the growers confine themselves to a few varieties of well known excellence and hardness, apples can be grown to profit. From their observations they would recommend for summer apples, Red Astrachan, Early Harvest, Duchess of Oldenburg; for fall, Colvert, St. Lawrence, Snow and Gravenstein; winter, Rhode Island Greening, Northern Spy, Golden Russet, Ribston Pippin, Swaar. Pears are not extensively planted, so as to give the Committee an opportunity of expressing an opinion of any value; the most planted are dwarfs, and they are generally in bad condition and dying out. The opinion prevails among many that pears of hardy varieties on their own roots can be successfully cultivated, but the experiment has not yet been tried on a scale of sufficient extent to form a reliable opinion; however, the Flemish Beauty seems to be *the pear* for this region, from the fine specimens seen. Plums are extensively cultivated in gardens and nursery orchards, and reach a high state of perfection in this district, particularly in the neighbourhood of Guelph and the surrounding Townships of Eramosa and Puslinch, in fact there is no better locality, as is evinced by the plums shown from that quarter at the Exhibitions, both local and Provincial. The varieties most grown are Lombard, Yellow Egg, Smith's Orleans, Pond's Seedling, Washington, Jefferson, Imperial Gage, Green Gage, Columbia, and Lawrence's Favourite. It was reported to your Committee that peaches were grown in the neighbourhood of Branchton, but on enquiry they found such was not the case; a few trees of an almost wild variety were found; in fact the spring frost, that sometimes appears as late as the 10th of June, entirely precludes all possibility of cultivating the peach.

Before closing this Report there is one thing in the observations of your Committee worthy of remark, that they found in all cases the finest and most thrifty trees, and best specimens of fruit, where the orchards are on high, dry land, and exposed to the north and west, and the soil rich loam, with fine clay loam subsoil.

All which is respectfully submitted.

GEORGE ELLIOTT,  
DAVID CALDWELL,  
*Committee.*

February 10, 1876.

If a specimen constituent by heat, will only those who have statement may ment. In order the composition admixture of ve The vegetable n stances, and wit surface. Imme composed of par the earth's crust disintegrated pa account of their tices must exist that the water is

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When the v possession of by so that, if air occ changes of tempe ture of the earth' above. It is imj attraction of the essential to most below, the earth, vast amount of n it holds an excess

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## PAPER ON DRAINAGE.

BY S. B. SMALE, ESQ.

If a specimen of any native soil be subjected to analysis, it will be found that its chief constituent by weight is water, and the residuum of earthy matter, after the application of heat, will only be a small proportion of the whole mass as found in its natural condition. To those who have not given the subject of drainage more than passing attention, the above statement may excite surprise. Its correctness, however, can be readily verified by experiment. In order to render the assertion intelligible, it may be well to consider for a moment the composition of soils in general. The soil of our gardens and fields is made up of a due admixture of vegetable mould and certain loose and unconsolidated materials called earths. The vegetable mould, so called because it is composed of decayed vegetable and animal substances, and without which vegetable life could not exist, is always found at or very near the surface. Immediately underlying the surface mould are the earths. These are principally composed of particles which have been worn away from the various rocks, which constitute the earth's crust, usually called a process of disintegration. In the accumulation of these disintegrated particles to form earths, their arrangement must, of necessity, be such, on account of their angularity, that their surface cannot be in contact throughout, but interstices must exist between them, accounting for the porosity of all soils. It is these interspaces that the water in a soil occupies.

Nearly all soils naturally contain more water at certain seasons of the year than is necessary for or consistent with the perfect development of plant life. Drainage is the only effectual means of regulating the quantity of water in a given piece of land—that is, the land is kept in a more equable state as regards moisture than could be done by any other procedure. You will often see land naturally so retentive as to resemble a soft mortar-bed after a wet spell, which, if a few hot days succeed, will be thoroughly baked, and vegetation in such cases will either be stunted or cease entirely. Drains change this state of affairs altogether; by their aid the water is easily and quickly conducted away, and the soil rendered dry and friable, so that the roots of trees, &c., readily permeate it.

When the water is drawn off by drainage the space which the water occupied is taken possession of by the air. Now the air transmits the heat and cold more slowly than water, so that, if air occupies the place of water in the interstices of the soil, the latter will feel all changes of temperature less rapidly. Deep drainage therefore tends to equalize the temperature of the earth's surface and to neutralize the effect of great and sudden changes in the air above. It is impossible to drain a subsoil too thoroughly from beneath, because the capillary attraction of the earth is always sufficient to draw up from beneath all the moisture that is essential to most forms of vegetable life, and in addition to the moisture thus drawn from below, the earth, when the air can freely circulate in it, has the power when dry to absorb a vast amount of moisture from the air as well as to yield it up to the air by evaporation when it holds an excess.

Drainage not only dries the soil but it at the same time has the effect of warming it, as will be seen from the foregoing. The importance of this to plant life can hardly be over estimated, for if the soil is wet it will be at the same time cold, water possessing the faculty of parting with its caloric with rapidity to surrounding objects. And it is well to bear in mind that it is not only in the summer season that the ground is warmed by being drained, but at all seasons of the year. Earth that has been thoroughly drained will not freeze to the same depth or extent during winter as undrained land will, so that there will be less liability of young trees or other tender plants being winter-killed by the action of frost. Plants are "heaved up" by the freezing of wet land from necessity, in accordance with a well understood law of nature, that water, being reduced to a solid state by the application of cold, expands. All trees and shrubs maintain a certain amount of heat even in the depth of winter, and if reduced to a temperature below what is essential to their vitality for any great length of time, they die, as witness the destruction of fruit trees, &c., during the severe winter of 1874-5. Deep drainage is a means of furnishing heat to the tree or shrub during the cold season, by encouraging it to take deep root in the soil. Roots, occupying the subsoil which

is below the frost line, and only exposed to the even warmth of the unfrozen subsoil where the temperature is little influenced by the extremes of heat and cold above ground, are constantly conducting heat to the trunk and branches of the tree which are exposed to the freezing blasts of winter's wind. The greater the cold, the greater the call on these roots to maintain the equilibrium, and their ability to accomplish this will be in proportion to their number and the encouragement they have received to penetrate deeply into the soil. Thorough draining will enable us to plant, with a reasonable expectation of success, fruit trees and shrubs of the more tender sorts, in higher latitudes than would be considered safe without it.

Another advantage to be derived from drainage is that it increases the fertility of the soil, by allowing the air to circulate freely through it, a vast amount of plant food being brought into direct contact with the roots, which would, under other circumstances, never reach them. The three most essential elements of plant food are carbon, hydrogen and oxygen, and these elements, to be assimilated by the plant, must first reach it by being absorbed from the air. This work of absorption is performed, to some extent, by the leaves, but to a far greater extent by the roots. These elements are always found in the atmosphere. It may, therefore, be regarded as the great storehouse of organic fertility. The rain, in falling, carries these elements with it into the soil, bringing them into direct contact with the roots, so as to be easily absorbed. If the ground is saturated with water beforehand, the rain, after descending, simply washes the surface, without penetrating to any depth, and vegetation is deprived of this source of nourishment. How important then is it that the air should have free access to the soil, in order that it may carry these important elements of fertility within easy reach of the absorbing rootlets.

Draining also adds to the length of the growing season; if the land be not aided to rid itself of the great quantity of water poured into it during the wet season, growth will be late to commence in the spring, and will cease correspondingly early in the autumn. Some have put forward the idea that the growing season can by this means be lengthened three or four weeks. Should only half of this time be gained, it would be well worth contending for.

One of the greatest advantages to be derived from thorough drainage, is the improvement it produces in the sanitary condition of a district where it is put in operation. If the land contains an excess of water, the air above will be damp and cold, and a humid atmosphere is very retentive of miasmatic and other poisonous or noxious matters. Malarious fevers are notably more prevalent in the low and swampy parts of a country; and when these low lands have been improved by drainage, diseases which were common in the locality previously have either ceased to exist, or have prevailed to a much less extent.

Drainage, to be effectual, must be done in a systematic manner. To dig a ditch here and there in low places, leaving it open, as is often seen done, is not only a careless and slovenly method of procedure, but will by no means accomplish the end in view. Constructing covered drains, and plenty of them, is the only advisable course to pursue, in order that the work may be done with efficiency. In these the channel for the water in the bottom of the drain is sometimes provided for by forming it of timbers; at other times by means of stone, such as are found on the surface of cultivated fields; but, better still, by drain tiles. Those made with wood or stone require a good deal more labour in their first construction, the ditch having to be dug much wider, &c., are apt to get out of order, and, besides, being unfit for mucky soils, do not at the best last very long. On the other hand, tiles are suitable for the purpose in all soils, require less labour, and, if laid in the drain in such a manner as to maintain their proper connection with each other, form a channel for the water at once capable and permanent. The tile drain is probably more expensive than the others, in localities where tiles are not easily obtained; but, when once down, it is preferable to the others in every point worthy of consideration. A deep main ditch should be dug through the lowest land, following the natural water-shed, and having a continuous fall. Short side ditches should be dug directly down the slopes to connect with the main ditch, but of a less depth, their distances apart depending upon the natural condition of the soil as to the amount of water it contains, varying from five to ten yards.

Wroxeter, Nov. 29th, 1876.

## REPORTS

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 REPORTS ON TREES AND PLANTS RECEIVED FROM THE ASSOCIATION.

*Report from Jonas Ness, Port Colborne.*

The Wagner Apple bore some fine fruit.

Hale's Early Peach grows well.

Beurre Clairgeau Pear is doing well.

McLaughlin Plum is doing well.

Clapp's Favourite Pear is a fine grower.

Salem Grape does not seem very promising.

Goodale Pear is a fine grower.

Glass Seedling Plum is growing nicely.

There is a new disease that has appeared in my orchard affecting the apple trees. It seems to be a sort of blight, which I first noticed on the Baldwin trees when in full bloom. The entire crop of R. I. Greening was destroyed by it. The blossoms and leaves had the appearance of having been scorched with fire. The Baldwin trees suffered the worst, but no variety escaped entirely. There were no signs of blight on my pear trees.

*Report from H. C. Finch, Brampton.*

The Salem Grape has not made very much growth, although it looked healthy last year. This variety does not seem to do well in this part of the country.

The Gooseberry died.

The trees of 1873 have grown well; in fact Clapp's Favourite is a most vigorous grower, and has stood the winter without the slightest injury. It has bloomed for two seasons. The apple has not yet shown any sign of bloom.

*Report of Abishai Morse, Smithville.*

1870. The Eumelan Grape does well, bears bountifully, good.

1871. Beurre d'Anjou Pear, good, bears well.

Dr. Reeder Pear, thrifty, no fruit yet.

1872. Othello Grape, bears well, fruit poor.

Coe's Golden Drop Plum, thrifty, no fruit.

McLaughlin Plum, thrifty, fruit fine.

Beurre Clairgeau Pear, good, first quality.

1873. All dead.

1874. Grimes' Golden Pippin, one tree, still living.

Clapp's Favourite, one tree, living.

Brandywine, one tree, living.

1875. Salem Grape is doing well.

Gooseberry is dead.

*Report from William Copeland, Hespeler.*

1873. Became a member this year.

The apple tree died, but two grafts which I cut off when I planted the tree and grafted, are living.

Clapp's Favourite Pear grew, and appears to be very hardy, and stands the winters well.

1874. The Downing Gooseberry sent up a number of shoots four or five inches long, but the mildew damaged it badly during the summer of 1875.

Salem Grape grew five or six inches, but the winter of 1874-5 killed it to the ground, in spite of a thick covering of moss I gave it.

1875. The apple and pear trees are both looking healthy.

Our soil here is light and sandy, but trees grow well. The apple is much injured by the codling moth. The Baldwin is a little tender here. Plum trees do well, but

the curculio takes rather a big share to himself if not looked after. The currant measuring worm has nearly destroyed our currant bushes.

*Report of Thomas Cruse, Frontenac Co.*

The fruit trees and grape vines sent to me, since 1870, have done well, with the exception of the Eumelan Grape, Grime's Golden Pippin, and Clapp's Favourite Pear; these did not survive the first winter. Delay on the way to my farm, in the rear of the county, may have been the cause of failure.

*Report of Walter Hartman.*

Clapp's Favourite is thrifty and growing well. Grime's Golden Pippin sprouted from the root. I think it will make a tree yet. Salem Grape and Downing Gooseberry, both dead. Swayzie Pomme Grise made a good growth. Flemish Beauty Pear made very little growth, but seems healthy; both of them were received in good condition.

*Report by J. Morrison, Moore.*

Of the Exotic grapes received by me from the Association in 1874, five have made an immense growth this year, and the other seven have done very well. Although received in 1874, I count nothing on their growth till 1875, as the first year they received very improper treatment and made no progress. This year the Muscat Hamburg bore a small bunch, and I was very much pleased with the quality of the fruit, although by the way I am no judge, if spared till this time next year I hope to report a very good crop.

The Salem grapes received in 1874, have not done well with me as yet; the first year they did very well, but on 16th April, 1875, a very severe frost occurred, and they never seemed to get over the shock. This season, on 29th same month, a severe frost occurred also, giving a great check to some of my raspberries, but the grapes seemed to take the heat and have done pretty well. The gooseberry died about last July, it never did well somehow.

The apple and pear trees sent here last year, arrived in very bad condition, very much broken and bruised, so much so that I failed to get but one member for the Association this year, in place of twenty-five the previous one. My own pear and apple trees have done very well, I pruned them severely before planting, and am well pleased with them, although they partook of the same bruises as the others.

The Codlin Moth has done great damage in this section this season, and the currant worm is making great inroads every season. I treat my bushes with Chinese Garden Powder which is an *effectual remedy* for the worm. I planted my orchard in 1874, and I have adopted the system of close pruning, much to the amusement of many of my neighbours, but the result is satisfactory to me, and I shall pursue it. My trees send out beautiful tops compared with those left to grow naturally, as is too much the practice here.

The plum tree received by me this year died spite of all attempts to save it; the roots were very much dried up when I got it. I have never given any winter protection to grapes or raspberries, and they have never suffered from winter killing. Spring frosts are our great bane; last winter, on three occasions, the thermometer marked 30° below zero. The first frost this fall cutting Dahlias, Balsams, &c., on 2nd October; again on 6th, another taking fruit tree and grape leaves.

*Report by Peter Gilbert, Simcoe.*

The Pomme Grise apple I got from the Association last year did not grow. I think it was quite dead when sent. The pear has done splendidly. I was disappointed in not getting the Goodale pear instead of the Flemish Beauty, as I have got several of them growing already.

The Glass Seedling Plum which I got this spring, is doing well; has already grown shoots eight inches long. The other trees sent to members about here are all growing, as far as I have learned.

We have a good section of country for fruit, and I think the Fruit-Growers' Association only needs to become better known to be largely supported in this county.

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*Report by Francis H. Hora, Kingston.*

Glen Lawrence, near Kingston.

I send my report (if of any use to you). The reports do not seem to be in vogue with the members of our Society.

PEARS.

Josephine de Malines—received 1871—has done very badly; nearly every year it has blighted. Bore three or four pears this year, but they were very gnarled and stunted.

Buerrè Clairgeau—received 1872—has been killed down every winter; is still alive, but looks most miserable.

Bartlett—received 1873—Died the first season.

Goodale—received 1875—made no growth the first, but this season it has sent out three small shoots, which look healthy, and it will, I think, live after all.

APPLES.

Grimes Golden Pippin—received 1873—has grown beautifully, and is by far the handsomest young apple tree I have; but it has not yet borne any fruit; was covered with blossoms in the spring, but shared the fate of most of the apple trees about here, not one blossom set.

PLUMS.

Glass's Seedling—received 1876—is alive, and apparently doing well.

VINES.

Eumelan—received 1871—does not improve on an acquaintance; is by far the earliest of my vines, ripening fully a fortnight or three weeks before any other. Flavour of the fruit is decidedly good, but the stones are too large. It is a poor bearer; bunches very open and straggling. It may be relied on for ripening, without fail, every year, in this locality. It was the only variety that ripened with me last year.

Othello—received 1872—grows well and luxuriantly, but ripened here even later than the Isabella; is very prolific, bears a fine handsome berry and bunch, but of an inferior acid flavour, and is scarcely eatable until very ripe; evidently not worth cultivating in this district.

Salem—received 1874—ripened its fruit well this year; but, whether owing to any peculiarity in my soil, I cannot tell, but mine leaves a very peculiar and unpleasant flavour in the mouth after eating it, which is very disagreeable and disappointing.

REMARKS.

Apples have failed completely around here this year.

All my vines ripened their fruit fully, and bore abundant crops, except the Sweetwater, which are badly injured by the Phylloxera. The varieties I have at present are the Eumelan, Delaware, Black Cluster, Sweetwater, Isabella, Concord, Othello, Salem—which ripened in the order here enumerated. Of all these, the Isabella is my favourite, being very vigorous, an enormous bearer, and the flavour of the fruit fine enough to suit my taste. It also makes an excellent wine. Only once (last year) in ten years has it failed to ripen.

My vines under glass were a complete failure. They, as well as the Sweetwater above-mentioned, are badly affected by the Phylloxera.

The pears that hitherto have done best with me are the Clapp's Favourite, which, up to the present stands alone as never having shown any signs of blight; Beurre D'Anjou, next. Louise Bonne de Jersey, Vicar, Doyenne D'Etè, Ananas D'Etè, Glout Morceau, Duchess, Tyson, have also shown no blight this year, though they suffered badly last season. Flemish Beauty, Belle Lucrative, Josaphine de Malines, and Beurre Clairgeau have all blighted.

I think it was last year I saw a report of some very beautiful pears shown in England, grown in Carmarthenshire, South Wales. The exact locality was not mentioned; but as I was a resident of that county for several years, and had fine pear trees in my own garden, I

can corroborate the statement of their growing there in perfection; some of them of an age and size I will not attempt describing, only saying they would make very respectable forest trees here. But what I wish to allude to is, that the climate there is not only a very "weeping" one, but in my own garden and neighbourhood the trees actually grew *in water*, the soil all around being only elevated about two feet above the water level. I do not for a moment suppose pears would thrive here under similar circumstances; but I feel satisfied that the pear is a very thirsty feeder, and without plenty of moisture it is needless attempting to grow them. They evidently require a very moist and retentive soil. Are we not carrying drainage to an extreme? and is not the blight owing in a measure to an insufficiency of moisture to the tree just when it is most required?

I am sorry to see, in last year's Report, our President advocated the growth of grass around pear and apple trees, feeling confident such treatment is very injudicious, though I have hitherto advocated the system, and steadily persevered in it for the last ten years, and if any one can beat me in the number of trees I have succeeded in killing, I can only say I pity him. In a moist climate, like England, it may and does answer well enough, but if any one will only take the trouble in the height of summer, or even later in the fall, after the soil has been well refreshed with rain, to turn over some of the sods and see how every particle of moisture is taken up by the roots of the grass, I think he will easily be convinced none is left for the nourishment of the tree. For my part, I will take no longer to encourage grass. I have "paid too dearly for my hobby"—added to which, I am convinced, it also encourages the "Borer."

A few words regarding the "Borer." I have before given my opinion that we are greatly indebted for the attentions of this persevering, troublesome visitor, to the fact that the seedling stocks, upon which the nursery now grafts, are, in most instances, quite unfit for the purpose, being tender; and, consequently, disease-takes place at the junction, and then the Borer steps in, finding suitable food for its larvæ. I think the following bears upon the point:—Ten years since, I planted, amongst others, "a Russet," which soon became infested by the Borer. By carefully cutting them out, however, it lived for five years, and bore a few apples. The fifth year the Borers were worse than ever, and the tree seemed about to succumb to their attacks. There was one small branch, low down, still alive, this I bent down and made a layer of it. It rooted, and the next year I took it off (the parent tree dying quite out the same season) and planted it within thirty feet of the parent tree, and now it is a fine, handsome, vigorous young tree, four years from its separation, and has never had a sign of a Borer upon it.

The Yankee Tree Pedlers have done a roaring trade around here the last summer. Besides disposing of quantities of apple and pear trees at prices ranging higher than the local charges, under the plea of some peculiar mode of grafting on a certain quality of stocks, they have succeeded in bleeding the farmers (I know of several instances) to the tune of \$3 each for a vine, which they profess to be the earliest and hardest known, guaranteeing its requiring no covering for the winter, of fine berry and flavour, called the "White Empress." Is anything known of this by the Association? Is there any truth in their statements, or is the whole thing a hoax? Perhaps the Association will let us know something about it at their next meeting, if there is anything in it.

It is hard trying to hammer into my farming neighbours the advantages of becoming members of the F. G.'s Association. They prefer being victimized by travelling agents, who place before their eyes gaily-coloured prints of enormous apple trees, or huge specimens, preserved in spirits, in handsome glass vases, apples the size of turnips, plums as big as apples, and grapes that will require two bites to get through a berry. I fear our Association does not offer sufficiently tempting baits to catch new members. And, of all things, raspberries are the most contemptible around here; in fact, the only fruit that is at all valued, except by a few, is the apple.

*Report of Charles E. Brown.*

Yarmouth, Nova Scotia.

Our Fruit Grower's Association held a very successful Exhibition at Annapolis, Oct. 19th, the finest display of Apples they have made, the season having been favourable to size and colour.

I enclose a leading varieties writer, to illustrate quality and small patient years of and thrive in a

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Mr. R. W. tion, is making a vince for publica a copy.

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I enclose a slip from the *New York Tribune*, reporting details of weight of some of the leading varieties. Yarmouth County, in a small collection of 23 varieties, exhibited by the writer, to illustrate our poverty and our progress, was fairly entitled to first prize for poor quality and small size—We shall never merit honours save for zeal and perseverance; if after patient years of experiment, some dozen or two of varieties may be found that will prosper and thrive in adversity, we shall reap our reward.

Alexander, Bishop's Bourne, early Strawberry, Grimes' Golden Pippin and King of Tompkin's County have borne fruit this year for the first time in this county, inland, at Carleton, and are all good for us, the first and third remarkably so.

Mr. R. W. Shaw, Secretary and Treasurer of the Nova Scotia Fruit-Grower's Association, is making a laudable effort to get detailed fruit reports from each county in our Province for publication in his next report; if any valuable results are elicited, I will send you a copy.

The Swayzie Pomme Grise Apple and the Goodale Pear received by us through the liberality of the Ontario Fruit-Grower's Association are doing well, all that I have seen, on both trees, in my own ground, the new growth is from two to three feet and several shoots on each, having done better than any other trees planted this spring, perhaps because younger.—The Downing Goseberry received last year, has also done well. I have two good sized bushes that will fruit next season—The Carleton Club strawberry plot (Wilson Albany), measured  $\frac{5}{16}$  of an acre, net sales in Yarmouth at 20c. per quart, \$195.00 in addition to consumption upon the place, not estimated.

#### A FRUIT SHOW IN NOVA SCOTIA.

The annual exhibition of the Fruit-Growers' Association was held October 19th. Apples were the principle articles shown, and, perhaps, there was never seen a finer display. Some may not know that the finest apples raised in the world grow in Nova Scotia, but so it is. Five collections were shown, each containing ten varieties, two dozen of each sort grown by the exhibitor. Besides these collections, 462 dozens of some fifty kinds were exhibited by more than a hundred persons, each showing one dozen of each sort.

The largest apple (Chebucto Beauty) weighed  $18\frac{1}{2}$  ounces; the second largest (Cayuga Red-Streak) 17 ounces. The best dozen shown (Emperor Alexander) weighed 10 pounds 6 ounces. The fruit was placed upon tables 45 inches in width, each dozen arranged across the table. In very many cases but 10 or 11 could be placed in a row; the other one or two had to be placed on top. First, second, third, and, in some cases, fourth prizes were given to the best dozens, the Association retaining the ones which took prizes. Those, I believe, it is intended to have exhibited in the United States. The weight of other kinds was:—

	Pounds and ounces.	Single apple.
Gravenstein, dozen .....	6 7	13 ozs.
Yellow Bellefleur, dozen .....	5 14	10 "
Ribston Pippin, dozen .....	5 10	9 "
Nonpareil, dozen .....	5 9	9 "
King of Tomkins Co., dozen .....	7 11	12 "
Blenheim Pippin, dozen .....	8 8	12 "
Northern Spy, dozen .....	7 0	12 "
Rhode Island Greening, dozen .....	6 8	12 $\frac{1}{2}$ "
Blue Pearmain, dozen .....	6 9 $\frac{1}{2}$	11 "
Esopus Spitzenburg, dozen .....	5 0 $\frac{1}{2}$	7 $\frac{1}{2}$ "
Gloria Mundi, dozen .....	9 12	13 $\frac{1}{2}$ "
Chebucto Beauty, dozen .....	9 15	18 $\frac{1}{2}$ "
Calkin's Pippin, dozen .....	5 14	9 "
Porter, dozen .....	4 15	6 $\frac{1}{2}$ "
Yellow Newton Pippin, dozen .....	4 4	6 "
Clyde Beauty, dozen .....	9 1	13 "
Baldwin, dozen .....	6 8	9 $\frac{1}{2}$ "

In pears, 85 dozens were shown, the largest collection containing 20 kinds. In Crab apples, six varieties in dishes. In plums, 13 sorts, one dozen of each. The largest dozen of these (Bradshaw) weighed 27½ ounces. In grapes grown in the open air, 12 varieties. The largest two bunches (Isabella) turned the scale at 15 ounces.

## REPORT OF OUR FRUIT PROSPECTS FOR THE YEAR 1876.

By B. GOTT, ARKONA.

Never did a season open to us so propitiously, and the fruit-grower's heart was enlarged and delighted at the sure and bright prospects of abundance of rich and delicious fruits. The illusion, however, soon began to burst, and sober realities began to appear. It is seldom that extremes prevail in this department; on the whole one year with another, the final results are wonderfully equalized. We are never totally destitute, and we never have an unprofitable abundance of fruit; and this promising and deceptive year is no exception to this grand economic rule. I say deceptive, for although the forces of nature, when intelligently and understandingly interpreted, never positively deceive us, yet we very frequently appear and feel as though we were so acted upon. And so we feel with respect to some of our choice and valuable fruits this year. We require an almost inexhaustible supply of the grace of patience, and a deep investigation into the essential nature of things, lest we should grow weary and faint by this work. With respect to the present year, however, I do not wish to be understood that we are wholly disappointed in our cherished expectations; very far from it. We have a large and fine crop of most of our fruits, but the product unfortunately is not so abundant as the appearance in early spring led us to expect. Our peaches this year, especially the finer sorts, will be very scarce, notwithstanding their superabundant and excellent spring display. Hale's Early are just ripening their fruit, and are quite showy, and would be very profitable were they not quite so soft. Crawford's Early and Late are the best of all the improved peaches for this country, if we could only get an abundance of fruit. But when we look through as fine trees as ever stood, or peach-grower could desire, and count the half-dozen or dozen on a tree, and reflect that these are sold by the bushel, we feel the satisfaction is too small. Suppose we got \$10 per bushel for them, where is the equivalent for all our fond care and anxiety, our labour and pain? We get by far the best satisfaction from our home-grown seedlings. They are hardy, and the fruit is good; mostly white-fleshed, dark red-checked, large and luscious, and ripening about the first week in September. Our crop this year of these will be considerable, and some of them are as large and handsome as Mountain Rose, and last year sold readily from the orchard at \$3 per bushel. Peach-growing is very promising in this section, and along our neighbouring lake shores.

Our plums, I must say, cannot be depended upon as an annual paying crop, especially for the past few seasons, not that the country or the climate are wholly to be blamed for this, for there cannot be a better plum region than we have here, where they grow and thrive, and blossom to one's heart's content; but the fruit, where does it go? We used to have our trees breaking down with their ripening treasures; but now it disappears as if by magic at a very early stage. Our enemies seem to have the best of the bargain; it is a one-sided contract; they get the whole, and we look disappointed and vexed, and get none. "Only leaves!" is written on the trees from year to year.

Our Apples are to us as our wheat among our grains—most desirable; or, as the gold among the metals—most precious and most valuable. They are among the fruits the first in importance, and a necessity in every family. Fortunately for us, we can raise as choice, handsome, and as perfectly developed specimens (and in the greatest possible variety) as any country can produce. Our list of varieties that grow and flourish here would take in dozens of the best of Pomona's treasures for summer, autumn and winter use. 'Tis true, here also eternal vigilance is the price of apples;—careful planting, constant watching, unceasing warfare with insect enemies, must be done before we can get apples of our own raising fresh from the trees. Our insect enemies to this fruit are very numerous and very voracious, seemingly increasing every year, both in variety and in quantity—several leaf-eating insects

appearing this year, the tent caterpillar, and destruction, as well as whole. They did not w fences, looking far on into July and entirely reliable was not a total country are well supply the needs able and highly year were the firm was perfect forms. The supply in this section plentifully gladden the heart.

It is very interesting to see the extent of the last spring country, and the fulness that would seemingly just a crab-apples, however. Pears and cherries, but what we have laid out upon the required for. We in this excellent especially, I am sure the Dukes and Mountain Rose, &c. The satisfaction to the the growth and eagerly sought after not as yet entered.

Grapes are awakened up to can be grown in and paying quantities possible specimen crop by the practice a number of difficult it would seem from most profitable of rampant grower, The fruit also is when the appetite readily pass off at its fruit, when our qualities. The v have also a fine appear to behave Rogers' best Hybrid Seedlings, and many.

The importation

appearing this year that I have never noticed before. During the first part of this spring the tent caterpillars appeared in such enormous numbers as to threaten a sweeping desolation and destruction, not only to our apples but to all our broad-leaved trees; even forest trees, as well as whole orchards of very large trees, were stripped as by a sudden withering scourge. They did not wait to tent, but seemed in perpetual motion, over trees and bushes, fields and fences, looking for feedings fresh and pastures green, and kept up their constant coming until far on into July. From this cause many of our trees and best bearing orchards are denuded and entirely relieved of all their precious and much desired burden of fruit. But even this was not a total and general unmitigated destruction; some good orchards all through the country are well loaded with fruit, keeping up an admirable and generous equilibrium to supply the needs and urgent wants of dependent man. We have had a foretaste of this valuable and highly relished crop in our early Harvests and Red Astracans. These varieties this year were the finest and best developed specimens I ever remember seeing; their development was perfect, without a spot or a blemish to mar their regular, rounded and beautiful forms. The supply was large, but the demand was also large. Autumn and winter apples in this section promise to be extremely fine, and a very abundant and profitable gathering, to gladden the heart of the patient and careful apple grower.

It is very interesting to the observer of the progress of the fruit interests of this country, to see the extent and the carefulness with which new plantations are constantly made. During the last spring planting season the quantities set were enormous in every part of the country, and the planting was done in most cases with an interest and an intelligent carefulness that would go very far to ensure their living, and after well being. Our people are seemingly just awaking to the full realization and importance of this matter. Dwarfs and crab-apples, however, do not seem to be much in favour, and not many are planted or grown. Pears and cherries among us have not received the amount of attention their merits deserve; but what we have planted and judiciously cared for, have returned well for the expenditure laid out upon them. I am glad to see these fruits becoming more interesting and more enquired for. We believe they would do remarkably well on our varied and well adapted soils in this excellent fruit section, and hope they will be planted much more freely. In cherries especially, I am more and more convinced our main dependence in this country must be upon the Dukes and Morellos, May and Royal Duke, English Morello, Montmorency, Late Richmond, &c. These do most remarkably well, are easily transplanted, and give good and early satisfaction to the intelligent and careful grower. Our soil and climate are well adapted to the growth and excellent development of this early and delicious fruit, and it is much and eagerly sought after at good prices in our markets. Quinces, Apricots and Nectarines have not as yet entered into our calculations.

Grapes are comparatively a new idea to us, and in this section we are not as yet properly awakened up to it in all its importance and bearings on our fruit wealth. That they can be grown is already sufficiently tested; and it is our opinion they can be grown in large and paying quantities, for we have the soils and locations in abundance, all along our lake shores and river townships, where grapes would luxuriate and produce enormously the finest possible specimens; and as for rigorous climate, it can be frustrated in its effects upon this crop by the practice of laying down for winter protection. On my own grounds I am trying a number of different varieties, some of which I have tested to my entire satisfaction; and it would seem from this experience that Hartford Prolific is one of the best and one of the most profitable of all our hardy and popular varieties. The vine is the most indomitable and rampant grower, producing the most perfect, hardy and well-ripened wood in abundance. The fruit also is in the greatest profusion, coming in in the last weeks of August, at a time when the appetite is keen and the market is spare; its large, black, well-ripened bunches readily pass off at remunerative prices. Its praises are in every mouth, and so might be also its fruit, when our people are properly waked up to its everywhere excellent and worthy qualities. The vines are hardy and good growers, and its fruit is simply delicious. We have also a fine show of Delaware and Ionas, loaded with fine bunches of fruit. These appear to behave with us remarkably creditable. We are also trying some five or six of Rogers' best Hybrids; these are good and so far satisfactory, and in a short time we hope to be able to report upon Marthas and Rebeccas, Salems and Israelas, Eumelans and Ive's Seedlings, and many others of undoubted excellence.

The importance of our Strawberry crop, I am pleased to report, is gradually and slowly

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developing itself from year to year, and although growers in this section are few, its value seems to be very generally attested. The variety mostly grown is Wilson's Albany, which is considered the best and most readily managed; and the method of cultivation is a sort of slip-shod mass practice, allowed to bear as long as it will, and then turn down. The market is keen, at remunerative prices, and never overstocked. The industry is worthy of better skill and better attention, for its early and luscious fruits are everywhere prized.

Raspberries and Blackberries are not as yet much planted among us, the natural growth being considered more than abundantly sufficient for all family purposes. But as this supply is growing wondrously less every year, the intelligent and practical cultivator will soon have to take the matter in hand, as we cannot well afford to do without this seasonable and salutary product. I have planted several best American tested and Canada tested varieties, and their behaviour is satisfactory and very pleasing.

As for Gooseberries and Currants, the product is everywhere abundant. They are nature's own free bountiful offerings, almost independent of man's recklessness and carelessness. The mode of cultivation is the old original plan of rowing between the apple trees or along the fence, without any further attention. The varieties are—of Currants, Red and White Dutch; and of Gooseberries, Houghton's Seedling. Black Currants are not much grown, although very scarce in the market.

Cranberries, Huckleberries, Dewberries or Mulberries in this section are not as yet touched by our fruit-growers. These must be reserved for generations yet in the distant future.

Thus I have attempted very briefly and imperfectly to glance at the various fruit interests of this new and promising country in their various prospects at the present time. I am pleased to see a growing and improving attention and intelligence given to these things. Interest and earnest inquiry is everywhere being awakened into life and determined activity; and barriers are being resolutely removed from the onward progress of this interesting work. And the time may not be very far in the distant future when the whole surface of our fair country shall be made to bloom and blossom as the rose, and the most perfect and luscious fruits be everywhere developed in greatest profusion for the healthfulness and pure enjoyment of all our people.

Arkona Nurseries, August 15th, 1876.

#### CANADA ORLEANS.

There is a Plum that has been known in and around Hamilton for a long time by the name of German Plum, a very indefinite name for so good a plum. It is believed to have been raised by the old settlers, and has been grown by them and their friends from suckers. I have never seen the plum at any Exhibition, save in Hamilton. The tree grows stout, and makes short jointed wood with very prominent buds and bears well. The finest is very handsome, far surpassing McLaughlin in appearance and flavour. The colour is a purplish red, covering nearly the whole fruit. If I were confined to one variety, I should choose "Canada Orleans" for profit and satisfaction. I have grown the plum for over twenty years.

Hamilton, 2nd September, 1876.

JOHN FRIED.

Some hardy varieties of Apple mentioned in the Report of the Fruit Committee of the Montreal Agricultural and Horticultural Society, 1876 :—

#### BLINKBONNY.

Raised by the late Robert Cleghorn, in Blinkbonny Garden, between Sherbrooke and Berthelot Streets, Montreal. Tree thrifty grower, forming a spreading open head of medium size, as hardy as the Farmeuse, and bears well every year. Fruit medium to small, oblate or roundish oblate, basin very shallow, calyx closed, coxe small; skin whitish-yellow, often

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prettily blushed on the sunny side ; flesh white, rather firm, moderately juicy, pleasantly sub-acid. Its use is for the table only, not profitable for market. Season from 25th August to 15th September.

The Early Harvest begins to ripen about the 10th of August, so that this variety is about fifteen days later.

#### PEACH OF MONTREAL.

Imported by the late Francis des Rivières from France, and named by his gardener "Irish Peach;" but it is not known by that name, nor is it the "Peach," "Irish Peach," or "American Peach" described by Downing. The tree is extra hardy and long lived, grows freely in the nursery, and in the orchard forms a large spreading head ; it bears early and alternate heavy and moderate crops. Fruit above medium, oblong conic ; skin greenish yellow, with reddish blush where exposed to the sun ; flesh white, tender, juicy, sub-acid, pleasant ; quality, second-rate, some think first-rate ; use, table, kitchen and market ; season, beginning of September. It bruises easily and shows its bruises ; yet, if carefully handled, may be grown very profitably for a near market.

#### JOHN RICHARDSON.

This large handsome fruit was imported from England or Scotland more than forty-five years ago. The original name was lost, and it was called after the importer. The tree is strong and thrifty in growth, with an upright, though gradually spreading head ; not early to bear, but bearing a more than moderate crop regularly every year. Fruit large, at times very large, but mostly even in size, roundish oblong ; colour, greenish-yellow, mostly covered with stripes and splashes of red ; flesh, yellowish, fine grained, tender, juicy, mildly sub-acid and pleasant in flavour ; use, kitchen, market, and perhaps the table ; season, September 15th till November.

### REPORTS ON SEEDLING FRUITS.

#### THE GATINEAU BELLE.

Amongst the novelties sent to Philadelphia was a seedling apple, called the "Gatineau Belle." It was of good size, with a dull, dark red skin, yellow fleshed. The specimen shown came from a graft obtained by Mr. Bell from the original stock, grown about twenty miles north of Ottawa City. The tree is perfectly hardy, bears early from the graft, and though the specimen fruit shown was not first-class in quality, it was considered very desirable for northern latitudes.

The Committee regret the fruit shown was, however, a little past ripe when it came under their notice. Its character will be better established on a further trial.

#### SEEDLING PEAR.

Inclosed you will find three pears of the same tree as those shown by me at Belleville one year ago, but they are not more than one-third as large. The tree was raised from a Flemish Beauty seed.

Yours truly,

JOHN MCGILL.

These pears are scarcely in such good order as those shown at Belleville. We are inclined to think that they do not attain to the excellence of the parent, the Flemish Beauty.

#### HISTORY OF MR. GREGORY'S SEEDLING APPLE.

(Reported on page 33, last year's Report.)

I see by the report of the Fruit-Growers' Association that the seedling apples that I sent to the Belleville meeting were received. I have been long looking for some word from them.

I thought they had gone astray, as the letter I sent with the description was returned from the Dead Letter Office some time after.

The apple I sent is a seedling. It attracted my attention when quite small. I planted it, and to-day it is the finest looking tree in my orchard, and is admired by every one that sees it. It is a strong, upright grower, and an early bearer, the fruit keeping until the middle of January. I am cultivating it in the nursery, and it is one of the finest nursery trees I have. The original tree is twelve years old. I am pleased to hear the Committee speak so favourable of it. Should you or any of the Committee happen this way, you are invited to call and inspect the tree, also the young stock.

The crabs I sent were also seedlings from the large yellow crab. My soil is a clay loam. I sent the fruit to compete for the prize. Hoping to hear from you,  
I remain, yours truly,

A. T. GREGORY

#### LETTER FROM DANIEL B. HOOVER, ALMIRA POST OFFICE.

To the President of the Fruit Growers' Association.

DEAR SIR,—I have the pleasure to send a few of my seedling apples to you for examination by the Committee. I am sorry they are almost too ripe. Origin of the tree:—The seed was brought from Dover County, Penn., U.S., in the year 1812, and is supposed to have been sown the following year, thus making the tree to be nearly 62 years old. It is very hardy, no blight, scarcely a dead limb on it. The small twigs are wiry, with a knob in the fork. I send a specimen enclosed. The small twigs grow in a weeping-willow style. The leaves are a pale green. It is a heavy bearer every other year; still it bears some every year. The soil is a heavy clay, fruit well flavoured, good for eating, fair for cooking; ripe in September. The tree is now standing on lot 34, Con. 6, in the Township of Markham, County of York, Ont.

The apples arrived, but were over ripe. It is a valuable seedling, not so much because of the excellence of the fruit, as from the hardihood and prolificness of the tree. The fruit is of fine form, medium size, and while the flavour is in no way distinctive, the apple will please a large number of people.

Mr. James Reid exhibited at the Provincial Show at Hamilton a superior seedling plum; mauve coloured, sweet, firm, and worthy of propagation and trial.

#### HYBRID SEEDLING GRAPES.

Mr W. H. Mills, of Hamilton, formerly President of the Fruit-Growers' Association of Ontario, presented a number of very remarkable seedling grapes of his own production, through the delightful art of hybridization.

Mr. Mills has been long and favourably known for his successful efforts in the production of new and valuable fruits. He has, with great prudence and discretion, never sent out any questionable products of his patient and persevering labour. The country has thus been a great gainer in that respect, as producers of new fruit, in too many instances, have often prematurely issued crude and unworthy fruits, as claimants on public favour. Mr. Mills has carefully avoided this rock, and in so far deserves every meed of praise.

First in order comes the "Augusta," a black grape of very large size, of Bowood muscat shape, immense cluster loose in the branch, and likely to prove a valuable grape under glass, or in more southern localities than ours.

The "Ella" is a small dark-coloured grape, a little larger than the Delaware, of superior flavour, free of pulp, early (we say very early), ripe now, and a most desirable grape, being spoken of most highly by the Judges at this Provincial Exhibition. Next in order comes the "Excelsior," which, compared with the Delaware, is larger in berry, and quite equal, if not superior, to the Delaware.

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"La Vega" is a red grape, medium berry, close in cluster, larger than the Diana in bunch, the sweetest known hardy grape, and most suitable for the production of wine, as it possesses as much saccharine matter as to afford alcohol enough to preserve it.

The "Sultana" is a grape about the size of Concord in cluster and berry; the parentage is Muscat Hamburg and Concord. This has a rich, aromatic and most pleasant flavour, showing its muscat origin, and so firm on the bunch that it may be freely handled without any fear of injuring or breaking off the berries.

We understand Mr. Mills is preparing to disseminate these fruits, and we are satisfied our country will be greatly benefited, when they have been fairly tested, throughout the Province and the United States.

Signed on behalf of the Committee appointed by the President of the F.G.A., to examine and Report on Mr. Mills' hybrids.

ROBERT BURNET.

Hamilton, 22nd September, 1876.

The *Times* says of the above hybrid grapes: "We notice that the hybrid grapes so favourably spoken of by the Committee appointed by the President of the Fruit Growers' Association, the report of which appeared in yesterday's issue, has received an Extra Prize by the judges on Fruit. In respect of fruit of superior excellence, which we understand Mr. Mills' to be, it perhaps might be as well that the Agricultural and Arts Board should give a diploma, which would be a guarantee to buyers, that the variety so distinguished was indeed of superior quality and excellence.

This Diploma was, we understand, presented to Mr. W. H. Mills, by the Agricultural and Arts Association of Ontario, for successful hybridation of grapes.

The *Spectator* says of these hybrids: Mr. W. H. Mills, of this city, exhibits several new varieties of hybrid grapes. Mr. Mills has been working for ten years at the production of these hybrids and has brought them to a degree of perfection which must commend them to public approbation. The variety which he has named "Augusta" is one of the largest out-door grown grapes, which we have seen, and has an excellent flavour. The 'Ella,' is a small black grape with a peculiarly sweet flavour. Besides these, are the "Excelsior," red and of moderate size. The "Muscatella" white, the "La Vega" red, "Sultana" black. The "Pomona," which in appearance and in all its qualities very much resembles the "Diana." The production of new varieties of any fruit is a work of great labour and of unwearying diligence. If the success of Mr. Mills is as great as it appears to us to be, his new productions deserve the attentive consideration of all horticulturists.

#### ONTARIO APPLES IN NOVA SCOTIA.

The following extract from a letter received from a gentleman in Yarmouth, N. S., will show the estimation in which our apples are held.

YARMOUTH, N. S., 20th November, 1876,

GAGE J. MILLER, ESQ.

DEAR SIR,—The 20 barrels of apples came safely to hand on Saturday, 18th inst., by steamer from Halifax, all in perfect order, and I have no hesitation in saying that no such packages of apples were ever seen in this market. American apples are usually put up in old barrels of all descriptions, and are usually rough in appearance and very insufficiently coopered. It was refreshing to look at the barrels merely, generous in size, bright and new, and staunch and strong, not a hoop or a nail started, and not a shake to the contents. The apples contained therein are in keeping with so attractive an exterior. I have opened and have ready for inspection one barrel of each variety, to show my friends what Ontario fruit and men are like. However much I was pleased with the lot sent me last year, through Mr. Beadle, I am more than pleased with these of yours, which

are, I think, all finer, with the single exception of the Swaar, not so large this year. The Fameuse are fine and delicious, the Swayzie Pomme Grise are the same, Northern Spy, very fine and fragrant, indeed all are fine, and I have no doubt will give perfect satisfaction in the using, and prove good all through. You may count upon me for a customer hereafter, and as many of my friends as agree with me in thinking well enough of the best to be willing to pay only a fair price for it. I shall send specimens of all the varieties to a large and wealthy grocer in Halifax, from whom you may hear.

Have you not the Ribstone Pippin? Those sent last year were perfect. The expenses on this lot were to Montreal \$8.40; through from Montreal to Yarmouth, \$9.02; cartage and wharfage in Yarmouth, \$1.40; total, \$18.82, making the expenses about 94c. per barrel, and the total cost a trifle less than \$4 per barrel, at which I consider these apples cheaper than any other in the market.

The foregoing letter has been kindly placed at the service of the Association by Mr. Gage J. Miller, of Virgil, Niagara Township, County of Lincoln; but as your Secretary had no permission from the writer of it to give his name to the public, he has withheld his name, yet at the same time would assure the members that he is an earnest and painstaking member of our Association, and has done much to bring the transactions of our Society and the fruits of our Province to the notice of gentlemen resident in Nova Scotia. We are indebted to him for much valuable information concerning the fruit productions of Nova Scotia, which has appeared in our Report, and if our fruit-growers are wise, they will avail themselves of the information contained in this letter, and profit by the lessons it teaches on the subject of sending to market only perfect fruit, neatly put up, in clean and tidy packages.

#### REPORT OF THE COMMITTEE ON ESSAYS.

To D. W. BEADLE, Esq.,  
Secretary of the F. G. Association,  
St. Catharines, Ont.

DEAR SIR,—We agree upon the awards to the Essays as follows:—

SHELTER.—First Prize, "A Shelter from the Storm;" Second Prize, "Shelter or no Shelter."

FRUIT EXHIBITIONS.—First Prize, "Strive to Excel;" Second Prize, "Est natura hominum novitatis avida."

UTILIZING SURPLUS FRUITS.—On this subject there is only one essay, and it is not sufficiently comprehensive. We therefore judge it worthy only of a second prize. The essay bears the motto, "He who successfully plants a new industry, or restores an old one, is a benefactor to his country."

Yours truly,  
HENRY MACPHERSON,  
GEO. LESLIE, JR.

#### REPORT OF THE SECRETARY ON PRIZE ESSAYS.

To the Directors of the Fruit-Growers' Association.

GENTLEMEN,—I find on opening the envelopes bearing the several mottoes, that the essay bearing the motto "A shelter from the Storm," was written by John M. McAinslie, St. Mary's, Ont. The essay having for its motto, "Shelter or no Shelter," was written by George Peacock, Mount Salem, Ont.; the one with the motto, "Strive to Excel," was

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written by A. Hood, Brussels, Ont. ; and that accompanied by the motto "Est natura hominum novitatis avida," was written by George Mill, Warwick, Ont. The essay on the best methods of utilizing our surplus autumn fruits, and which had for its motto, "He who successfully plants a new industry, or restores an old one to vigour, is a benefactor of his country," was written by P. E. Bucke, Ottawa, Ont.

All of which is respectfully submitted.

D. W. BEADLE,  
*Secretary.*

St. Catherines, 30th December, 1876.

## FIRST PRIZE ESSAY ON SHELTER FOR FRUIT-GROWING

MOTTO—"A shelter from the storm."

BY JOHN M. McAINSH, ST. MARY'S.

Shelter for fruit-growing is a subject which is pressing itself upon the attention of Canadian fruit-growers more forcibly year after year. In years gone by the almost unbroken forest with which the country was then covered formed a sufficient shelter for fruit trees, but now the necessity of sheltering them from the fierce, sweeping, frosty winds is becoming greater every year, just in proportion as the country is being cleared up. For it is a well known fact that the degrees of cold are greatly increased in those situations which are exposed to the cold, sharp, biting winds which so frequently sweep through the country during the winter season. And it is another well known fact that we have many fine varieties of fruit, which in various parts of the country are just a little too tender to stand the severity of our winters unprotected, but if sufficiently sheltered would do well. Among apples in the colder sections of the country, the Baldwin, Rhode Island Greening, and Swaar, are found to be tender, but in the milder sections they thrive well and bear abundantly. The large majority of our good pears, the peach, quince, and most of the finer varieties of cherries, can only be grown in the milder parts of the country. Now, although we cannot expect that the successful cultivation of these fruits can be extended into the coldest sections, yet if they were properly sheltered, they could be grown with success a considerable distance further north than they are when they are left unprotected.

Protecting fruit trees from the fierce cold winds of winter is not the only benefit to be gained by shelter. Another very important advantage ought not to be overlooked. During the autumn and fall of the year we have often high wind storms, which blow down the unripe fruit. Apples and pears, especially winter apples, are often seriously damaged by being blown down and bruised, instead of being properly hand-picked, which they require to be so that they may keep well either for home consumption or for shipping to distant markets. Where fruit trees are properly sheltered this damage will be to a large extent prevented.

There is another point in connection with this question of shelter which deserves, at least, a passing notice. By some the idea will be discarded as useless, while by others it will be highly appreciated. As evergreens are generally used for shelter, they can be arranged so as to adorn and beautify our country homes. They make a beautiful appearance, especially during the winter months when the garden, fields, and everything else present a bleak and naked appearance.

In some cases a few fruit-trees can be planted so as to be sheltered by buildings. Peaches are sometimes grown in this way, thrive and bear fruit, where, if they had been planted in the open orchard, they would have perished.

The proper way to protect the grape of winter is different from that of other fruits. The trunk or stem being unable to support the weight of its branches, it requires to be trained and fastened to a trellis of some kind. This flexible nature of the vine is taken advantage of to take it down from the trellis, lay it on the ground, and cover it over with a few inches of earth. The best time to perform this operation is during

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the month of November, just when the ground begins to freeze. This covering requires to be taken off and the vine again tied up to the trellis in the spring, as soon as all danger of hard frosts is over. Treated in this way it can be safely wintered without injury. Care, however, should be taken in laying down the vines to have them where they will not be soaked in standing water, which would seriously injure them. Covering them with brush, old straw, and such like is objectionable on account of the danger of harbouring mice.

With the exception of sheltering a few trees or bushes with buildings or high board fences, and the grape, which can be sheltered by laying down as already described, the best way of sheltering fruit trees, which are planted out in regular orchard form, is by planting a belt of evergreens on the most exposed sides. Deciduous trees, which shed their leaves in the fall of the year, answer very well for autumn or fall shelter, but in winter one evergreen is worth a great many trees with only naked branches.

We have several species of native evergreens which are found growing wild in the woods in some parts of the country, which will serve a good end for purposes of shelter. The chief of these is the common *White Pine*. When found growing in the forest it is generally a tall tree, the trunk being mostly destitute of living branches. But when it is transplanted young it throws out branches quite low and forms a tolerable good shelter. The *Balsam Fir* is a very handsome tree while young and makes good shelter, but as it grows older its lower limbs decay, which greatly impairs its beauty and usefulness as a screen. The common *White Cedar*, if planted out young, can be trained to form an excellent hedge. In planting out a belt of native evergreens it would be a good plan to have it composed partly of *White Pine* and *Balsam Fir*, and partly of *Cedar*. The *Cedar* could be trained to form a screen low down near the ground, while the *Pine* and *Balsam* would throw out their branches higher, and thus increase the height of the screen.

In some parts of the country a belt of evergreens, composed of the species which I have described, could be procured and planted at a trifling cost. It must be borne in mind, however, that they cannot be so successfully transplanted as trees which are properly grown in the nursery. This is on account of being shaded with larger trees, and also not being transplanted in the nursery, they are sparingly supplied with fine fibrous roots, which makes their chance of living less certain. If they are dug up and planted in a careless manner, a large proportion of them will be almost certain to die out. But where they are dug up carefully and properly planted, a good proportion of them may be expected to live.

But while a belt of our native evergreens will answer a good purpose for shelter, and be not altogether destitute of beauty, they are every way inferior to the popular *Norway Spruce*, which is a hardy and very handsome tree, a good grower, and, as a windbreak, is not surpassed by any. If properly trained, it throws out branches close to the ground, which do not die out like the *balsam* and some other evergreens, and where shelter only is required, there is no other which can surpass it for general utility. But where beauty and ornament, as well as shelter, is desired, it will be well to plant different species and varieties, which will contrast finely with each other. The *Austrian*, or *Black Pine* is a very robust, hardy tree, of rapid growth, with very dark green leaves, which presents a beautiful appearance when planted in close contrast with other more lightly coloured evergreens. The *Nordman's Silver Fir* is said by those who are acquainted with it to be of a majestic and symmetrical form, very hardy, and retaining the dark green colour of its foliage throughout the year. These three varieties will be found the best, but those who desire a more extensive assortment can consult the nurserymen's catalogues, where they will find a large and varied collection to choose from.

As to the best time to transplant evergreens, the general opinion of our best Canadian horticulturists is in favour of spring planting. They can be transplanted later in the season than deciduous trees which shed their leaves in the fall of the year. The middle of May will as a general thing be found to be a very suitable time. An idea seems to prevail with some that evergreens will succeed with very little care, either in transplanting or in their after cultivation. Now, although they are hardy, and will sometimes make a little growth in spite of neglect and poor cultivation, yet, like other plants and trees, they will thrive just in proportion as they are properly attended to. In digging up the trees care should be taken not to mutilate the roots. Many trees die every year from having the young, fine fibrous roots cut off in transplanting. After being dug

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up, until they are again planted, the roots should be carefully kept moist and protected from the influence of the sun and wind. In planting they ought to get just as good care and attention as fruit trees. The first season after transplanting they will be greatly benefited by mulching the ground around the roots with a covering of half rotten straw or other material. Mulching will be especially beneficial if the season is dry and hot. The after cultivation consists in keeping the surface of the ground around the roots loose and mellow. Care however should be taken not to extend this cultivation deeper than two or three inches, as the roots of evergreens naturally run near the surface. But where material can be procured, mulching from time to time as required will answer as well or perhaps better than cultivation. If they are properly trained to throw out branches close to the ground, those branches will soon shade the ground so that cultivation and mulching can gradually be dispensed with. An occasional top-dressing with manure around the roots will add greatly to the health, growth, and beauty of the trees.

Evergreens require to be pruned in an entirely different manner from fruit trees. Fruit trees require to have the tops kept open, so as to freely admit the sun and air, in order to bring the fruit to perfection. Evergreens, on the contrary, require the tops to be kept as close and compact as possible. An error, which some fall into, in trimming the trunk to a height of three or four feet before allowing them to branch out, should especially be avoided. This gives them a naked appearance, and greatly impairs their beauty and usefulness. They ought to throw out their branches as close to the ground as possible, being there the widest, and gradually narrowing to a point at the top.

In planting out a belt of evergreens for shelter, it will be necessary to plant them in a double row. The trees ought to be about ten feet apart in the rows, and the rows about eight feet apart, each tree being opposite the space in the other row. In planting out a young orchard this belt ought to be planted at the same time as the fruit trees. In fact, if it were planted out two or three years previously, it would be so much the better, and perhaps, in some of the coldest sections of the country it may be necessary to have this belt well established in the soil and grown large enough to afford shelter before fruit trees can be planted. Experience, however, in any locality, will determine whether or not this is necessary. The cost of planting out a belt of evergreens is an item of considerable importance. An orchard 20 rods in length each way would contain 400 square rods or two and a half acres, which would make a very good sized orchard. If this were sheltered on two sides it would take a belt 40 rods in length. With a double row and the trees ten feet apart in the row, it would take about 135 trees. Where trees are bought in small quantities, nursery men usually charge 50c. for good sized, well grown evergreens. But if a large quantity were taken they could be got at a reduced rate, probably at the rate of 30 or 35c. each. 135 trees at 35c. each would be \$47.25, or nearly \$1.20 per rod in length. Calculating at the same rate, an orchard of one acre would be about 12½ rods on each side. To shelter two sides of it would require about 85 trees, costing about \$30.00. I notice, however, that some nurserymen offer Norway Spruce about two feet high at \$20 per hundred. In some cases these, for various reasons, would be preferable to the larger sized and higher priced trees. The cost of preparing the ground and planting out the trees would vary according to the individual circumstances of the planter. These figures will give only a general idea of the cost, which will often vary a good deal according to times and circumstances.

Wherever it can be conveniently done, I would advise intending tree planters to go to the nursery, inspect the stock, and select a good article for themselves. In many cases they will be amply repaid for their extra trouble. But above all things avoid buying poor, inferior trees, which are dear at any price.

A good deal of censure has been passed on our Canadian Farmers and fruit-growers for not paying more attention to the planting out trees for shelter. It ought to be borne in mind however, that in settling a new country a great deal of labour is required, to clear the land, erect buildings and fences, plant orchards, and do many other things too numerous to mention. Many things have to be left undone, for a time, for want of the time and means to do them. In many parts of the country, I think the time has come when more attention can be given the subject of shelter. Probably the time is not far distant when our fruit-growers especially, will wake up in earnest, and practically give attention to this subject.

## SECOND PRIZE ESSAY ON THE BEST SHELTER FOR FRUIT-GROWING.

MOTTO.—"Shelter or no Shelter."

BY GEORGE PEACOCK, MOUNT SALEM.

**No SHELTER.**—We have neither time nor money to waste in purchasing and planting trees for shade, and shelter and ornament, which produce nothing; we must plant corn and potatoes from which we receive a profit every time we plant.

**SHELTER.**—Shelter is found to be profitable inasmuch as crops are increased in quantity and improved in quality, often in proportion to the shelter applied.

We have a King of Tompkins tree which was severely injured by exposure to high cold winds. It has fruited twice since, and has not borne half a peck of apples in two years. Another tree, of the same sort and age, was in a sheltered situation, and it has, in the same time, produced six bushels of nice fruit. A strawberry bed nicely sheltered with straw or other material will frequently produce four or even ten times as much fruit as a bed exposed to frost and wind. This we all know who have tried it. Grape vines will yield abundance of fruit in autumn if sheltered in winter, and so on with all our fruits. He who spends time and money for shelter will receive a handsome profit every year.

**No SHELTER.**—We frequently have frost in the spring during calm nights, just when apples and pears and peaches and plums are in blossom, which annually destroys one or more of these kinds of fruit. But should there be a light breeze when these spring frosts occur, the fruit is saved. Will not a sheltered orchard be deprived of the benefit of the welcome breeze.

**SHELTER.**—These destructive spring frosts are mostly local and very variable in extent and destructiveness, happening most frequently on cold soils and low situations. But to guard against fencing out the gentle and beneficial breezes, we would leave open spaces in the shelter belts on the north and south sides of the orchard. On the east and west we would have continuous wind breaks for the garden and orchard.

**No SHELTER.**—Shelter encourages birds to come, which eat the fruit. This year the birds ate and carried off and otherwise destroyed a bushel or two of cherries from my few trees. The canary birds picked the seeds out of my strawberries, completely spoiling a bushel or more of nice fruit. The sorts most attacked were those whose fruit were most exposed to view, growing on long stems; and those whose seeds are prominent on the berry. Russell's Prolific suffered most from these little yellow birds, which came in great numbers in early spring to shelter in my evergreen trees.

**SHELTER.**—O yes, birds come. Evergreens have a peculiar attraction for small birds who need shelter in the spring. Our young pines and cedars are frequently crowded with little birds—all of them insectivorous—many of them remaining through the summer.

We must here give a brief account of our bird farming.

About eleven years ago we planted a small orchard, but for some years we had scarcely any or no birds in it. Why? There were no shelter trees—no evergreens. Birds will not build on a rail fence no more than men will build on the sand of the sea shore, it is unsafe. They cannot find a place to build a nest in, therefore they seek a sheltered location and leave the orchard to be devoured by worms.

After some years we planted evergreens for shelter to the orchard, the migrating birds gave us a call, some remaining a few hours, others a few days. They were gone; did not return. There were neither sufficient shelter nor protection to induce them to stay. By and by when a few remained they were exposed to cats, skunks, snakes, birds of prey. They were continually harrassed and hunted, eggs and young ones were destroyed. After some observation it was deemed advisable to use special means with all these enemies of the birds. We have now increased our stock to upwards of one hundred and twenty nests in one season, all counted, and in the orchard of about four acres. The young ones in the nests vary from two to nineteen, suppose five to each nest with the old ones, will give us upwards of eight hundred birds. A large majority of them never eat fruit, live on insects.

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**NO SHELTER.**—Shelter is favourable to noxious insects. They attack roots, stems, bark, leaves, buds, blossoms, and fruit, and do great damage to every garden and orchard. With the increase of insects by shelter the fruit will all be ruined.

**SHELTER.**—Some useful traps of rags, paper, ropes, boards, have been attached to the stems of apple-trees, and have done good service in taking the Codling worm (*carpocapsa pomonella*). A lighted lamp placed in a tub half filled with soap suds, and left among the trees, on a calm night in June, is a servicable trap for nocturnal insects. We have by this simple means taken 150 moths in one night. Hand picking is a sure method of destroying many insects such as caterpillars, rosebugs, curculios. But to all the traps and contrivances let us add, bird farming; by the former methods we take insects by hundreds, by the latter, by tens of thousands. Let us have shelter and birds.

**NO SHELTER.**—Shelter increases mice which destroy both trees and fruit. Who has not lost some of his highly prized apple trees and pear trees by these little pests of the orchard. Nor are they satisfied with the destruction of trees and fruit, the grain, the vegetables, the trees planted for shelter or for hedges suffer severely by the continued gnawing of these little quadrupeds.

Some people say a naked orchard, surrounded by a wire fence, is the best preventative against mice.

**SHELTER.**—Mice have to be seen to by fruit-growers, or young orchards suffer much some seasons.

Clean cultivation is one of the means of prevention. Washing the stems of young trees in the beginning of winter, with a putty made of lime, sulphur, and cow dung, has proved a good protection against mice. Make the mixture thin enough to be applied with a white-wash brush. Place sheaves of corn or oats or any grain on which mice delight to feast in various parts of the orchard; they will collect under the sheaves where they can be dispatched at pleasure. We have taken twenty mice in half an hour from sheaves placed in various parts of the orchard where they were most likely to run. By practising these three methods our mice have been kept in check so that very little damage has been done to trees or fruit.

**NO SHELTER.**—It is said that thievish boys, as well as larger "boys" hide in shelters around orchards. Some of the latter selling quantities of dried fruit without possessing a single tree.

**SHELTER.**—Nice fruits have ever been desirable to all, and tempting to those who have not been properly trained in youth. Good evergreen hedges will hide an orchard, the temptation will be removed and more honesty will be practised by orchard robbers.

**NO SHELTER.**—Large trees for shelter will cast a gloomy and pernicious shade over the fruit trees during the morning and evening. Shaded apples and pears are spotted, and greenish and dwarfish, and almost tasteless.

**SHELTER.**—Large spreading trees if planted too close to orchards would soon have limbs hanging over the fruit trees, and the fruit would be spoiled.

Shelter belts should consist of Norway spruce, Scotch pine, native pine, European larch, or mainly of such trees as grow in a conical shape, having no extending limbs to hang over other trees.

**NO SHELTER.**—Who has planted trees for orchard shelter? And what are the benefits derived from such shelter?

**SHELTER.**—Mr. Ezekiel Chute of the first concession, Malahide, has an orchard sheltered mostly with native pines, planted on the south and west sides.

The pines grew more rapidly than the orchard trees, and have proved to be an effectual wind break, although consisting of only one row of pines planted 6 or 8 feet apart. The orchard bears well and often. The fruit is not blown from the trees. The fruit not injured by insects remains on the trees till ripe. The pine hedge with picket fence is counted a profitable investment. The main objection, insects are numerous more so than in unsheltered orchards. Bird farming is entirely neglected; their enemies have free access to the orchard at all times, hence the wormy fruit.

Mr. Maw, of Luton, has an effectual hedge of Osage Orange. It serves as a good wind-break for a small orchard and keeps out all intruders. He never thought of caring for birds, hence trees and fruit suffer from worms.

On Joseph Harvey's place is a thriving young pine hedge, already affording shelter to

the house, the garden and the orchard, causing the snow to blanket the ground where it was formerly swept away by the wind.

**NO SHELTER.**—What trees should be planted to serve at once for a shelter, to keep out thieves, and return a profit to the planters.

**SHELTER.**—Shelter for gardens and orchards should possess ornament, utility and profit. Let gardens of less than two or three acres be surrounded with cedars, Highland cranberries (*viburnum oxycoccus*) and Berberry bushes, and planted close enough to make a good hedge. The cranberries are sold at 10 cents a quart. They make nice jelly, and deserve more attention by fruit-growers.

To shelter larger orchards tall trees are required. Let ten acres be surrounded with a row of Norway spruce, six or eight feet apart, and a row of sugar maple, the same distance apart, and one row of buckthorn (*rhamnus catharticus*) planted one foot apart for hedge.

Four hundred maple trees would be needed. They would yield from five hundred to fifteen hundred pounds of sugar at ten cents a pound. For the space occupied and the time of coming in to profit, the maple trees would be but little, if any, behind some popular apples and pears; of course yielding lightly at first. The sugar season interferes with no other work, but, as it were, apart from all other crops, a pleasant and bountiful gift from our wonderful climate.

An orchard of fifty acres encompassed by a double row of maples six or eight feet apart and two double rows passing through the middle of the fifty acres, and dividing into four twelve and half acre lots, would require about twenty-five hundred maple trees, from which seven hundred dollars might be obtained for sugar in one season. Outside of the maples should be planted Scotch pine and Norway spruce to complete the shelter. Scores of trees may be used for shelter, so every person may choose for himself the kinds most suiting to his fancy.

Shelter often does great benefit to the fruit garden by causing snow to remain longer on the ground.

Four years ago we had a peach limb partly split from the tree; the part of the limb resting on the ground was covered with snow during a part of the winter, and in spring it was covered with blossoms. The remaining portion of the tree, with the others in the orchard, had very few blossoms. A similar circumstance took place with a tree resting on the shingles of a building ten feet high. This was on a previous winter.

My young peach trees are now allowed to send out limbs close to the ground. They are not trimmed up, but trimmed down or shortened in, and when in leaf have the appearance of flat bottomed hay-cocks, that the lower branches may have the benefit of snow shelter. The canes of some tender raspberries and blackberries require to be laid on the ground and covered with a few inches of earth.

Grape vines should be similarly treated and delayed a little in the spring till danger of frost is past.

All the sorts of strawberries should be covered in the fall; fortunately the strawberry flourishes under sheet or blanket or quilt, for it matters not what the covering is, only it gives shelter. The tops of carrots, turnips, mangles, potatoes, tomatoes, cabbages, asparagus, or any kind of straw, or corn stalks, all or any of them, afford successful shelter for the "queen" of berries. But she delights most in a covering of forest leaves, and if mixed with a little black muck scraped from the surface of the woods, the succeeding crop will be all that can be desired.

Special shelter should be provided in certain cases for nice or desirable fruit when there is danger of spring frost. This may be done by covering a few blossoms or a few small branches with two or three thicknesses of paper; a paper flour bag of about a bushel is handy for this purpose. Be careful to tie the bags nicely after placing them on the tree. Gratifying success will often follow this little trouble.

We have saved melons by placing shingles over them when there was danger of frost. Hundreds of hills may be shingled in half an hour.

The objects to improve their motto encourage the effort new varieties superior than we now possess samples of the different merable varieties:

The first two the most successful achieving the best that are offered; it means through what (stant) that of education the fruits produced plant, so as to accommodate kinds of trees to the very imperfectly a

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The more a large number of and the larger will money value of the other crop; the number always supposing, value of a more extensive all land owners, so the best kinds of

With the present desirous of planting suitable for the purpose, for cooking; fruit answer may be; find cultural magazines and general appeal select from half-a-dozen name. All that as to that which could show him so the information from Fruit Exhibition, imagined.

The question cannot a plan be devised

FIRST PRIZE ESSAY ON "FRUIT EXHIBITIONS, AND HOW TO SECURE FROM THEM THE BEST RESULTS."

Motto :—" Strive to Excel."

BY A. HOOD, PRUSSELS, ONT.

The objects of Fruit Exhibitions are three-fold :—First, to stimulate producers to improve their modes of cultivation so as to grow superior samples of fruit. Second, to encourage the efforts of those engaged in endeavouring to produce, impart or propagate new varieties superior in quality and productiveness, and better adapted to our climate than we now possess; and thirdly, to place before intending planters and purchasers, samples of the different kinds of fruit, so that they may be able to select from the innumerable varieties in cultivation, those which they would prefer to grow or use.

The first two of the above objects are to a great extent attained by offering prizes to the most successful; though it may be questioned if the distinction acquired by success in achieving the best results, is not a much more powerful incentive than any money prizes that are offered; be that as it may, the object is attained, and Fruit Exhibitions are the means through which that attainment is effected; but the object (perhaps not less important) that of educating intending planters, of enabling them to judge for themselves of the fruits produced by the different varieties of trees, to learn what are the best kinds to plant, so as to accomplish the objects they have in view, the adaptability of the different kinds of trees to the soil they possess, and the climate in which they have to operate; is very imperfectly accomplished.

That Ontario is well-adapted for fruit-growing has been already proved; that a great extension of this industry will take place can scarcely be doubted; and that the successful development of the fruit-growing interests very much depends on the dissemination of sound practical knowledge will not be questioned; how far Fruit Exhibitions may contribute to this success, and the best means of accomplishing this object it is the aim of this essay to inquire.

The more a knowledge of fruits and fruit-growing is disseminated, the greater will be the number of individuals entering into that field of industry as a means of livelihood, and the larger will be the aggregate crop of fruit raised in the country; therefore, as the money value of the fruit produced on an acre of land is greater than that of almost any other crop; the more extended the cultivation, the more the country will be enriched; always supposing, of course, that a market can be found for all that is produced; but the value of a more extended knowledge is not confined to those who raise fruits for market; all land owners, small or large, who wish to plant for home use, are as desirous of planting the best kinds of fruit trees as those who grow for profit.

With the present accessible sources of information what means has an individual desirous of planting an orchard of learning the right kinds of trees to grow so as to be suitable for the purposes for which he requires the fruit, whether for market, for domestic use, for cooking, for eating, and in the case of grapes, for preserving, or for wine? The answer may be; from books, from Reports of the Fruit Growers' Association, from horticultural magazines, &c., but none of these will give him an exact idea of the size, colour and general appearance of the fruits described, and no description will enable him to select from half-a-dozen plates of apples or pears, any one to which he could give the correct name. All the reading then that he could command would leave him in the dark, as to that which he most particularly wishes to know; and unless he had a friend who could show him samples of different fruits he might turn in vain to any other quarter for the information he requires; where then is he to learn what is so important unless at a Fruit Exhibition, and what more appropriate place for furnishing such knowledge can be imagined.

The question is, have Fruit Exhibitions in the past furnished such information, and cannot a plan be devised for the future that shall be better adapted for disseminating among

the people a knowledge of the fruits that are successfully grown in this Dominion, than any that has yet been tried ?

What is it then that the people desire to know, and how can Fruit Exhibitions assist them in attaining this knowledge ?

We answer, that an individual intending to plant an orchard, wishes to know a great many things, which he finds considerable difficulty in learning: he desires to know which are the summer varieties of apples and pears, which are the fall and which are the winter; he desires to know the qualities of each of these varieties;—that is, the size, colour, flavour and keeping qualities; whether suitable for dessert, for cooking, or for both; the position they hold in the market; the productiveness, hardness and healthiness of the trees on which they grow; the earliness or lateness of coming into bearing; and the kind of soil in which each variety is supposed to attain the greatest perfection;—this information might be furnished as far as at present known, by a printed card being attached to each variety, giving the name and qualities of that particular kind as above enumerated; and another card might be attached to the specimens shown by each exhibitor, naming the place where grown, stating the quality and kind of soil and sub-soil; whether under drained, subsoiled or both; how manured, cropped and cultivated; if fruit forced by thinning out; if sheltered from prevailing winds; age of tree, and whether dwarf standard or half-standard. This last card would be the means through which the information is to be obtained or completed that may be communicated in the first.

The desirability of some such method of obtaining more precise information than is at present possessed, has been suggested by reading reports of the Fruit-Growers Association of Ontario and the Fruit-Growers Society of Western New York, in which it is impossible not to notice the wide difference of opinion expressed by orchardists, nurserymen, amateurs; men who stand first and foremost in their respective departments; men who are looked up to as the best judges in anything relating to fruit; men whose opinions and judgments are not given without due consideration; and the truthfulness of whose utterance cannot be called into question: as an instance it may be mentioned that two members of the Western N. Y. F. G. A., stated that the Delaware grape does not keep well; another member is surprised to hear that it is not a good keeper, he had kept it firm till the middle of January; a third stated that the Delaware mildews; a fourth that it had no mildew; and so on till there is scarcely any fruit on the merits of which all are perfectly agreed.

Now each of these gentlemen might have been quite correct in stating their own experience, the difference in results in each case being attributed to difference of soils; but such conflicting statements are very embarrassing to learners, and renders it impossible for them to arrive at any certain conclusion respecting the attributes of any variety of either apples, pears or grapes. This uncertainty is very deplorable and can only be overcome or removed by a more accurate knowledge of the precise kind of soil that suits each variety, and the precise latitude in which it attains the greatest perfection; such knowledge may be obtained, it is believed, by the plan proposed.

We would have suggested the desirability of discontinuing altogether the practice of giving prizes for collections of fruits; as such prizes are more calculated to stimulate the cultivation of a large number of varieties than to the attainment of particular excellence in any; this we think, it should not be the object of the Association to promote, and besides it has the effect of rendering impossible that uniformity in exhibitions which we think very desirable. It would be a very great improvement if all the specimens of each variety could be placed together, and the summer, fall, and winter apples and pears placed in rotation according to the time of ripening, which would have been indicated by the position on the table; and all that is to be seen of any variety could then be seen at once, the soil and condition of growth of the best specimens could be noted by any observer, and the labour of the judges would be much simplified. Should it be thought objectionable to discard altogether the practice of giving prizes for collections, this might still be done without interfering with the plan proposed, by giving an extra prize to the exhibitor securing the greatest number of individual prizes.

There are, of course, works to be had which contain all the information as far as is at present known connected with the subjects referred to; but we aim at having the virtues

of the different fruit books, but to what end? of information through will enable future varieties of constitution, than is at present.

An individual in the western portion of Canada, whether the trees he intends to plant there, different sections to report. Suppose the trees; he will find that he would consider perhaps of where he lives in other places north than by any more precise that the tree in question treatment, but know it might be that the well drained, and in other exposed; or but not knowing what value, and the man in kinds or not.

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The best sample conditions, and it is to be favourable condition possession of a number where these facts are subjects.

The same defect deavouring to point to the farmers of this unless they are allowed a first prize being taken farming community the prize wheat was

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of the different fruits placed before the public in a more popular form, not to supersede books, but to whet the appetite for their perusal; and we also wish to gain such a mass of information through the medium of the particulars to be furnished by exhibitors, as will enable future writers to give a very much more complete description of the peculiarities of constitution of the different trees and vines, as regards climate, soil, and treatment, than is at present possible.

An individual living in the colder sections of the Dominion, or in the interior of the western portion of Ontario, who contemplates planting an orchard, is anxious to know whether the trees he might prefer are sufficiently hardy to succeed on the soil in which he intends to plant them; and to learn this, he perhaps turns to the reports sent in from different sections to the Fruit-Grower's Association, and published in their Annual Report. Suppose the trees he wishes to learn about are the Baldwin, or R. I. Greening apples; he will find in those reports that in some localities they have failed, and in others, that he would consider more rigorous, they have succeeded; that in some places south perhaps of where he lives the trees are reported as sickly or injured by the winter; while in other places north they are doing well; this conflicting evidence unaccompanied as it is by any more precise information, is not only useless but embarrassing, it proves certainly that the tree in question will succeed further north on certain soils and with particular treatment, but knowing nothing of the soil, or the treatment, that fact is of little use; it might be that the soil is deficient in lime, and in the other not; in one case it may be well drained, and in the other wet; in one case the tree may be sheltered, and in the other exposed; or there may be fifty other things that would make the difference, but not knowing what these fifty things are, the other part of the information loses its value, and the man is left in doubt as to whether it would be safe for him to plant those kinds or not.

A pomological map has been suggested; but the habits and requirements of the different kinds of trees must be better understood before such a map could be made. Strong clay loams are said to be the best soils for the pear, and yet some kinds will flourish in almost pure sand; which are the kinds that suit each particular soil? May not some kinds that do best on heavy soils in a southern latitude do better on light soils further north? May not some grapes that do not ripen well on clay loams, become perfectly ripe in the same latitude on sandy loams? May not the best wine grape in the south give place to some sweeter variety for the same purpose in the north? if so, in what latitude can each kind be successfully ripened on clay, and what on sand, and which kind of soil gives the best flavour for the table or for wine? Considerable information might be gained in the way suggested on all those topics.

The best samples of fruit that can possibly be grown are to be found at fruit exhibitions, and it is to be presumed of course that the best samples are grown under the most favourable conditions; let those conditions be made known and the public are then in possession of a number of valuable facts to be used as guides for future operations, but where these facts are not made known, nothing is added to our knowledge on those subjects.

The same defect may be noticed in other exhibitions for which we are now endeavouring to point out a remedy in regard to fruit. What benefit, for instance,—is it to the farmers of this Province, to know that Mr. So and So took the first prize for wheat, unless they are allowed to know a great many other things at the same time? the fact of a first prize being taken, adds nothing to the fund of agricultural knowledge, and the farming community are not in the least benefited; but let the conditions under which the prize wheat was grown be made known, and some useful knowledge may be gained.

There is another advantage attending the plan proposed, and that is, that consumers of fruit may learn what are the best kind for domestic purposes, and will be able to ask for the kinds they wish to buy by name, instead of (as is too much the case) buying from appearance, without knowing anything of qualities. They might learn by looking at the descriptions attached to the specimens, that the Baldwin, R. I. Greening, Northern Spy, or any of the Russets, are apples that will keep well through the winter, and may then procure those kinds for that purpose, instead of suffering the disappointment that often arises from buying more showy but less durable varieties, or getting an apple only fit for

cooking when one for dessert is wanted ; the consumption of fruit too, might in this way be considerably increased, for what family is there that would not use more and lay in a larger supply, when they know they are buying the kinds that will suit ; and who that ever buys Concord grapes for their fine appearance and large bunches, would not buy of tiner and consume more, did they but know the delightful qualities and excellent flavour of the small but delicious little Delaware.

There is another way of exhibiting fruit that might be attended with good results and that is, exhibiting to those who may become our customers. The apple in South America, or even in the West Indies may be as great a luxury as oranges or pine apples are with us, and would most likely sell for as high prices as oranges do here. Why then might they not be exported to those places and sold at remunerative prices ? The apple is perhaps the only fruit that we can successfully export, and our climate is undoubtedly so well suited to its production that there is no reason why a large business of that kind should not be done ; could this business be increased by making our productions better known in the way suggested, it would be a result well worthy of an effort for its attainment.

It is a matter of regret that so many of our fruits cannot be shown in perfection at the time Agricultural Exhibitions are usually held, such as Strawberries, Raspberries, Gooseberries, Currants, Cherries and Plums, and the earlier varieties of Apples and Pears, which must therefore ever be absent or only present in a very imperfect state, at those annual gatherings ; and thus the whole interest in Fruit Exhibitions is made to centre in fall and winter Apples and Pears, Grapes and Peaches ; these latter may be the most important of our fruits, but most of the former can be cultivated by thousands who have too little ground for the latter, and they are perhaps more important from a domestic point of view as including all the principal preserving fruits ; and if there be any advantages in the way of improved cultivation, and production of new varieties (as we believe there are) connected with Fruit Exhibitions, the small fruits above enumerated are deprived of those advantages altogether ; this, we repeat, is matter of regret, but we hope not without remedy.

It has several times been suggested that the Fruit-Growers' Association might enlarge the sphere of its usefulness, by including the Horticultural as well as the Pomological field in which to conduct their operations, and we are very much disposed to regard such a change with favour, as promising to extend the sphere of usefulness of the Society as well as to create a greater interest in their discussions and reports. There is of course always something new, something interesting, to engage the attention of members at their meetings, but this new matter cannot fully occupy the whole of the time at disposal, consequently the same subjects are brought forward and discussed over and over again, with very little edification to members, or information to the public ; but should they be allowed to introduce Horticultural as well as Pomological subjects, the field of inquiry would be so extended that new and interesting questions for discussion would be practically inexhaustible, and the reports of such discussions doubly interesting.

Another advantage of such a union would be, that members who have not room to plant trees, might be allowed to select certain shrubs, bulbs, or seeds, in lieu of the trees usually distributed.

Now as regards the small fruits referred to, although we doubt the success of any exhibition that might be held for their special benefit, we have no doubt of the success of an Horticultural and fruit show combined, and of such there might be one or two held during the season, to suit the times of ripening of, say, Strawberries and Plums, under the auspices of the combined Association, without interfering in the least with the present fall exhibitions, in connection with the various Agricultural Societies ; with a great deal of benefit to the small fruit class referred to, and a great deal of pleasure to the lovers and cultivators of flowers and vegetables.

We are of opinion that could such a change as is here suggested be made in the constitution of the Society, the number of members would be more than doubled, and the funds correspondingly increased ; and were this to be coupled with a proper method of classification, and with explanatory cards as proposed much more information would be diffused, and much greater benefit derived from such exhibitions than is at present the case.

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SECOND PRIZE ESSAY ON "FRUIT EXHIBITIONS, AND HOW TO SECURE FROM THEM THE BEST RESULTS."

MOTTO—"Est natura hominum novitatis avida."

BY GEO. MILL, WARWICK, ONT.

Fruit Exhibitions when properly conducted are of great utility, in more ways than one. The desire to excel in our profession is quite laudable when kept within due bounds, and a little friendly competition with those of our own calling is a spur to exertion and perseverance. Exhibitions also bring fruit-growers together, and make them better acquainted, and when men who follow any particular profession become acquainted, they begin to be communicative, and by and by they discover that even the best informed have still something to learn. Fruit-growing in this Province engages the attention of a large number of first-class men, consequently it is highly important for mutual instruction that those men come together to ask and answer questions, to criticise and to be criticised.

But the benefit of Fruit Exhibitions does not end with bringing the Brotherhood together for mutual instruction. They help to draw the attention of the public to the importance of fruit-growing, to convince our landholders, large and small, that they have an exhaustless mine of wealth lying at their feet, comparatively undeveloped. It is true that the Fruit-Growers Association has done, and is doing much to promote a taste for fruit-growing throughout the Province, but at the same time there is still much to be done, in getting the public thoroughly interested in the matter. And although at present we have a sufficient amount of intelligence and enthusiasm in our ranks to keep the ball rolling, yet fruit-growing cannot make progress, and be permanently successful unless the community are more enlightened concerning its importance.

Fruit Exhibitions have a good effect on the intelligence of the community in general. We all require recreation, and the examination of an assortment of well-grown fruit is certainly a recreation of the purest kind. It is a fact worthy of consideration, that few, if any, of our criminals come from the ranks of those who take delight in growing fine fruit. Of all hobbies, fruit-growing is one of the most innocent and beneficial. A fruit exhibition is calculated to awaken curiosity and stir up a spirit of inquiry, and wherever these exist, intelligence will invariably follow to a greater or less extent. When there is no elevating recreations to break the monotony of life, people will sink into listless indifference, if not something worse, and progress will be at an end.

In offering a few suggestions on the proper manner of conducting Fruit Exhibitions, so that the aforementioned and other beneficial results may be secured, it may be remarked that institutions of all kinds are considerably influenced by local circumstances and national peculiarities. As we are a mixed population in this Province, it is necessary that we should endeavour to manage our Fruit Exhibitions in such a manner as to make them popular with all classes. Consequently, everything connected with them should be managed with the strictest integrity. The confidence of the public can neither be gained nor retained if there is the least suspicion of unfair dealing. The judges ought to be men thoroughly qualified for their work. It is generally understood that the man who grows good fruit gives tangible proof that he is better qualified to judge the productions of his neighbours than the man who does not grow good fruit. And here, by the way, we would respectfully suggest that it would be well for the F. G. A. to adopt a criterion of what a first, second, and third-class apple, pear, or other fruit ought to be, so that our judges would have some definite standard to guide them in their decisions. The opinions of judges are often exceedingly varied in what constitutes first-class fruit. Some consider that the largest fruit is the best, others think that flavour is before size, and some maintain that size, flavour, form and colour ought all to be taken into consider-

ation. We hope that a Committee of some of our most experienced fruit-growers will be appointed to give a certain sound on this matter. Judges at Fruit Exhibitions should be men of sterling character who will deal out even-handed justice to everyone. If there is reason to suspect that the Judges and Directors of Fruit Exhibitions are in the practice of "having men's persons in admiration because of advantage," that Exhibition will go down. Everything connected with a Fruit Exhibition should be done in such an open straightforward manner as to gain the confidence of every worthy person in the community, and render suspicion almost impossible.

The prosperity of an exhibition does not depend altogether on any particular cause, but on various causes, and each of them requires a due share of attention. Notwithstanding the advantages of Horticultural Societies, it is a fact that they have often been total failures. Sometimes this has been occasioned through jealousies among exhibitors, disagreement among managers, dissatisfaction with the judges, &c. Now although we may not get things absolutely perfect, yet it would be well to try and avoid those dangerous reefs on which so many societies have been wrecked. In framing rules for a Fruit Exhibition everything ought to be specified with the greatest clearness, and committed to writing. To keep a Fruit Exhibition prosperous, much depends on the vigilance, punctuality, good sense and courtesy of the Secretary. When an exact account is kept of all the affairs of an exhibition and everything done up in thorough business style, there will be no opportunity for grumbling.

When Fruit Exhibitions are conducted in one unvarying course, however excellent it may be, year after year, they are apt to become insipid. As the matter stands at present our local Fruit Exhibitions are connected with Township and County Agricultural Societies. This is no doubt for various reasons as good an arrangement as could be made. Still there might be a little more variety in the management of the fruit department, both at Township and County Shows. In every County and Township throughout the Province, we have men from different parts of the world who are frequently in possession of a large amount of information on fruit culture in all its branches. Now if the information of those men were utilized it would give more variety and zest to our exhibitions than they possess at present. We respectfully suggest that the Directors of our County and Township Fruit Exhibitions devote a portion of every show-day for the purpose of reading papers and discussions on fruit cultivation, and that parties in the neighbourhood who possess a fair amount of talent and information be induced to prepare something for every exhibition. It is true that we are now in possession of many important facts, and that these facts are generally the result of long experience in fruit-growing. It is well to bear in mind however, that we are more likely to make judicious experiments and observations when we are thoroughly acquainted with the physiology and vital actions of plants, and the external forces by which they are regulated. Consequently it would be well to try and make our local exhibitions schools to a certain extent for teaching vegetable physiology and cognate subjects. A synopsis of the more valuable matter might be inserted in the Annual Report of the F. G. A., and thus much useful talent now dormant would be brought into exercise, and many important facts, hints and suggestions, through the medium of the press, would be made patent to the world.

Fruit Exhibitions should be attractive. If we had Fruit and Flower Exhibitions combined, it would add considerably to their attractiveness, and the fascinating science of floriculture would be more appreciated. By giving special prizes for the best collections of indigenous plants and insects, correctly named, the study of Botany and Entomology would be encouraged, and these twin sciences be generally recognized as valuable auxiliaries to the fruit-grower. Finally, let every member of our Fruit Exhibitions endeavour to do his best to make them interesting and attractive, and they will without doubt be a success.

## PRIZE ESSAY C

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 PRIZE ESSAY ON "METHODS OF UTILIZING OUR SURPLUS AUTUMN FRUITS."
 

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Motto.—"He who successfully plants a new industry, or restores an old one to vigour, is a benefactor to his country."

BY P. E. BUCKE, OTTAWA.

Of late years much attention has been turned to some practical method of preparing fruits which cannot be disposed of at the time of ripening, so that the time of selling and using them may be prolonged, and also that it may be made transportable to distant markets, where from climatic influences—too much cold or too much heat—they cannot be grown.

The earliest method, and indeed the only one known for many years, was the art of boiling fruit in sugar, about pound for pound, which was found to keep it so perfectly from decay, that it was called "preserved." More recently other modes have been discovered, such as excluding the atmosphere by means of air-tight glass jars or tin cans, and the different methods of drying.

As a matter of commercial convenience, the drying process appears likely to take the lead, as the smallness of the bulk and the less liability there is in the breaking of the package greatly reduces the expense in putting up and conveying to distant markets. Drying has many advantages over the exclusion of air, amongst these I may mention the expense of sugar is saved, and the trouble of drying is not so great as canning. Having made many inquiries and examined several of the newest inventions, I find that "Old Sol," for the purpose of drying has been greatly improved upon, and that even the string of apples, nicely pared and covered by deft hands at an evening bee, and hung around the kitchen stove, there to be covered with flies, dust and smoke whilst drying, is fast becoming one of the practices of the past, as improved methods of expelling the moisture from the fruit are being introduced. The Alden process is considered one of the most perfect, but the apparatus is only suitable for a large city, or some centre accessible by conveying railways. This method is in practical use in New York City, and I understand the machine cost \$2,000. From all I can learn, it scarcely pays to keep it going. Other machines are constructed on a principle somewhat similar to a separator attached to a threshing machine; the trays containing the fruit are placed on a platform which gradually moves from the fire at an angle of nearly 45 degrees, the heat ascending with it. The construction is simple, and probably it performs its work satisfactorily, but it is bulky, and the mode of working it by no means compact. The "Pacific Fruit and Vegetable Dryer," from all I can learn, and from samples of dried substances made by it, which I have secured, appears to me to comprise all the efficiency of any of the drying machines yet introduced into the market, and is neither bulky nor expensive. This machine can be built of any size suitable to the locality where required, one drying fifteen bushels per day may be constructed for thirty dollars, whilst one having a capacity of six hundred bushels per day will cost one thousand dollars. One of these machines will dry meat in from nine to ten hours, and will desiccate vegetables as well as fruit. Peaches in halves, or tomatoes, take nearly five hours in drying—these latter make a good imitation of the dried fig of commerce. The inventors claim for this machine that it will dry more fruit, with less labour or fuel, than any other dryer or evaporator. It will dry fruit, meat, fish, tobacco and lumber, and all animal and vegetable substances, and will make conserves, raisins, and candied fruits equal to the best imported, it will dry green corn, string beans, squash, pumpkins, Irish and sweet potatoes, and, in fact, any other vegetable can be rapidly and perfectly cured, so as to keep in any climate for any length of time. So clean and free from dust are the articles operated upon when finished, that they can be cooked at any time without washing. The amount of moisture contained in the article dried, of course, affects the time of drying. Apples can be dried in from one and a half to two hours, and other articles according to quality. The dryer is so arranged that the moisture is conducted to the outside without allowing the heated air to escape or the cold air to enter, this alone enables a uniform temperature to be kept up, and greatly economises fuel. Coal, coke or wood can be equally well used in it, and

no special furnace is required. An ordinary stove, when used, can be easily disconnected from the dryer and removed for other purposes. The heated compartments are so under control that it is impossible to burn or scorch the fruit, as the heat in the different chambers can be increased or decreased at the will of the operator. All the work is done within easy reach of the attendant whilst standing on the ground. The sides are partially made of glass, so that the fruit is readily examined without opening and closing the doors, thereby economising fuel and heat. It is claimed also it is the only machine that can make raisins. Its cheapness of construction and simplicity of operation certainly ought to win favour for it. There are no pipes to burst, and no boiler to explode, and there is no danger from fire. Enclosed herewith are samples of the work performed, from which the Committee can judge for themselves of its efficiency, for my own part, I am quite satisfied, from personal examination of the apparatus, that most of the points claimed may be relied upon as correct, though I did not see it actually at work.

Another method of curing apples only, has come under my notice, it is much practised in Europe, and the article produced is called the Normandy Pippin or Biffin. These are of considerable commercial value, and the mode of preparation is as follows:—The fruit after being pared—not cored—is placed in a cool oven, and as it begins to soften, is removed six or seven times in succession, and is flattened each time by a gentle pressure gradually applied, so soon as it becomes soft enough to bear it, after which it is set aside to cool, when cold it is put into clean dishes or glass plates.

The sour, or tart varieties, are the most esteemed. If the process is well managed, the appearance of the fruit is much superior to the dry leathery chips usually seen here in groceries, and the flavour is very delicious. These apples may be prepared for the table in a variety of ways, simply soaking them in water twenty-four hours, and using a little powdered white sugar and cream over them, they make a very nice dish, but they may be cooked with sago, stewed, or made into pies. They keep their flavour for years in any climate, and are in every way a thoroughly remarkable commodity, as they can be packed in boxes or barrels and transported equally as easy as any of the dried fruits. They can be prepared in an ordinary stove oven, or on a large scale in a fruit-dryer. Their introduction into England from the continent has already met with success, so that it is no new venture; all we have to do is to compete with those already in the market. I enclose samples of the fruit for trial by the committee, expressly procured from England for this occasion, and I should see the reason why our surplus apples should not be treated in this way, as well as by the ordinary drying process. I should have mentioned the retail prices of these dried apples in England is 10d. sterling per pound, equal to 21 cents, it will therefore be seen there is a large margin for profit.

#### REPORT FOR 1876.—TO THE FRUIT ASSOCIATION OF ONTARIO.

This season's fruit in the neighbourhood of Almira, Markham Township, is not good, apples not half a crop, poor quality. I suppose it is owing to the great heat and drought of this past summer. The trees are also failing very fast, the limbs are dying in all directions on the trees. The black spotted disease has nearly ruined my three large golden russet trees. The Tolman Sweets are fresh and healthy. Some of my old seedling trees are also healthy. The trunks of the most of my old trees are of sound appearance, but the limbs get affected with black spots, say from four to fifteen inches long, all cracked open, which will in all cases cause death.

No tame plums this year. Trees are doing well again. The black knot is leaving again. Young sprouts came through safe the two last seasons.

No cherries. The black knot has destroyed nearly all the common kinds.

Gooseberries bore abundantly. Raspberries, both black, red and orange, bore heavily.

Currants a good crop. No trouble growing gooseberries and currants if hellebore is applied.

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## REPORT OF TREES RECEIVED FROM FRUIT-GROWERS' ASSOCIATION FOR THE LAST THREE YEARS.

The Salem Grape and Downing Gooseberries I received in the spring of 1874, are doing well. The gooseberry is a good grower, and bore the second year half dozen berries. This year a good quantity, fair size, free from mildew. The Salem Grape did very little the first two summers, but this summer made up lost time. It grew four or five feet, which I cut back; about one-half did not bear yet.

The trees for 1875 I did not get till some time in June. They were sent about twelve miles away from my place to a railroad station, but still I got them and threw them in water, root and branch, to swell for half a day, then I planted them carefully. The F. Beauty pear tree soon started growing; it made a good growth this year. The Swayzie Pomme Gris apple was nearly dead. Put out a few sickly leaves, last spring it sprouted near the ground. I reckon it a gone case.

The Glass seedling plum for 1876 (by rail), came in splendid condition, accompanied with some cuttings, I suppose from the same tree, which I thank you for. The tree made a good growth, in spite of the great heat and drought. The cuttings I grafted on tame plums; they nearly all grew, some of them two feet.

I remain, yours, &c.,  
D. S. HOOVER,  
Almira P. O.

Markham, January 17th, 1877.

## PREMIUMS FOR ESSAYS FOR 1877.

The Directors offer the following premiums:

*First.*—TWENTY-FIVE DOLLARS for the best Essay on Hybridization, and its Canadian results.

*Second.*—FIFTEEN DOLLARS for the second best Essay on the same subject.

*Third.*—TWENTY-FIVE DOLLARS for the best Essay on the most profitable fertilizer for fruit-growing.

*Fourth.*—FIFTEEN DOLLARS for the second best Essay on the same subject.

*Fifth.*—TWENTY-FIVE DOLLARS for the best Essay on the results accruing from the trees and plants distributed by the Association.

*Sixth.*—FIFTEEN DOLLARS for the second best Essay on the same subject.

*Seventh.*—TWENTY-FIVE DOLLARS for the best Essay on the best mode of acquiring statistics with regard to the quantity of orcharding in Ontario, and the average annual product.

*Eighth.*—FIFTEEN DOLLARS for the second best Essay on the same subject.

## MEETINGS FOR 1877.

The winter meeting will be held in Hamilton, on Wednesday, the 7th February, 1877, at ten o'clock A.M.

The Summer Meeting will be held at Stratford, on Wednesday the 18th July, 1877, at ten o'clock A.M.

The Fall Meeting will be held at Port Hope, on Wednesday the 31st October, 1877, at ten o'clock A.M.

## PRIZE LIST.

## PERMANENT PRIZES,

*First.*—AN HONORARY MEDAL to the originator of any new fruit, which, having been thoroughly tested for a series of years, is found to be worthy of being placed among the fruits of its class for cultivation in Ontario.

*Second.*—FIFTY DOLLARS for the best Canadian Seedling Late Winter Apple, to be at least equal to the old popular varieties now in cultivation.

*Third.*—THIRTY DOLLARS for the best Canadian Seedling Harvest Apple, of like merit.

*Fourth.*—TWENTY DOLLARS for the best Canadian Seedling Autumn Apple, of same excellence.

## ANNUAL PRIZES.

## PRIZES FOR 1877.

*First.*—Awards may be made by the Committee on Seedling Fruits of sums *not exceeding Ten Dollars* for any seedling fruit that may be submitted to them during the year, which they may deem worthy, although they may not yet be prepared to advise the directors to bestow either of the permanent prizes. Such award shall not in any measure disqualify the exhibitor from eventually receiving, for the same fruit, one of the permanent prizes.

*Second.*—FIVE DOLLARS for the best Winter Seedling Apple, fruit to be grown in 1877 and exhibited at the succeeding Winter Meeting of the Association.

*Third.*—FIVE DOLLARS for the best Autumn Seedling Apple, to be shown at the next Autumn meeting of the Association.

*Fourth.*—FIVE DOLLARS for the best Summer Seedling Apple, to be sent, when in condition for examination, to the President, Rev. R. Burnet, London, all charges prepaid, and to be by him submitted to the Committee on Seedling Fruits.

*Fifth.*—FIVE DOLLARS for the best Seedling Winter Pear, fruit grown in 1877, and exhibited at the succeeding Winter Meeting of the Association.

*Sixth.*—FIVE DOLLARS for the best Seedling Autumn Pear, to be shown at the Provincial Exhibition.

*Seventh.*—FIVE DOLLARS for the best Seedling Summer Pear, to be sent, when in condition to be examined, to the President, Rev. R. Burnet, London, carriage prepaid, for submission to the Committee on Seedling Fruits.

*Eighth.*—FIVE DOLLARS for the best Seedling Plum, to be sent to the President, when in season.

*Ninth.*—FIVE DOLLARS for the best Seedling Peach, to be sent to the President, when in season.

*Tenth.*—FIVE DOLLARS for the best Seedling Grape, of any colour, to be sent to the President, when ripe.

*Eleventh.*—FIVE DOLLARS for the best Seedling Strawberry, to be sent, if possible, to the Summer Meeting; if not possible, then to the President.

*Twelfth.*—FIVE DOLLARS for the best Seedling Raspberry, to be sent, if possible, to the Summer Meeting; but if that be impracticable, then to the President when in season.

*Thirteenth.*—FIVE DOLLARS for the best Seedling Gooseberry, that is not subject to mildew, whether of European or American parentage, or a cross between them; to be sent to the Summer Meeting, if possible, otherwise to the President.

*Fourteenth.*—FIVE DOLLARS for the best Seedling Blackberry, sufficiently hardy to endure the climate of Ontario. Fruit to be sent to the President when ripe.

Should two or more Seedlings of equal merit be shown, the prize shall be awarded to each. The Committee shall in all cases withhold the prize altogether, if they do not deem the fruit worthy.

A Seedling to which one of these annual prizes has been awarded cannot compete a second time in this class, but may compete in the class of Permanent Prizes.

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A Seedling Apple which has received one of the money prizes in the class of Permanent Prizes, cannot again receive a money reward, but may be offered in competition for the Honorary Medal.

#### CERTIFICATES OF MERIT.

Seedling fruits which have received any of the foregoing money prizes may be offered in competition for certificates of merit.

The Committee on Seedling Fruits will report to the Directors those fruits which they think to be worthy of a Certificate of Merit. The Directors will then make full inquiry and examination concerning the character of the fruit, including size, appearance and quality, the habit, vigour, health, hardihood and productiveness of the tree or plant, and its general adaptation to the climate of Ontario, and bestow such Certificate, if any, as they may think it worthy to receive.

A fruit which has received a Certificate of Merit may be offered in competition for the Honorary Medal.

The Honorary Medal may be given any number of times to the same person for different fruits, but only once for any one fruit.

#### CONDITIONS OF COMPETITION.

Seedling fruits offered in competition for these prizes must be shown in quantities of not less than *half a dozen of specimens* of each sort, if they be Apples, Pears, Plums or Peaches; of Grapes, not less than *three bunches*; if Berries, not less than *one pint*. Each sort or variety must be accompanied by a statement, signed by the person sending the fruit, setting forth the origin of the tree or plant, if known; if the origin be unknown, then so much of the history of the tree or plant yielding the fruit sent, as may be ascertained—its vigour, hardihood and productiveness, the character of the soil in which it is growing, and what, in the estimation of the sender, are the peculiar excellencies of the fruit. This rule *must be observed in all cases*, whether the fruit be shown at the meetings of the Association or sent to the President for the examination of the Committee.

#### CONDITIONS OF MEMBERSHIP.

The annual fee is ONE DOLLAR, payable on the first day of January in each year, and may be sent to Secretary-Treasurer, D. W. Beadle, Esq., St. Catharines.

Any person remitting the fees of old or new members, with their names and post-office address, may retain ten per cent. of the amount for his trouble. This arrangement is in lieu of the extra allowance in trees formerly given for each club of five members.

### THE FRUIT-GROWERS' ASSOCIATION OF ONTARIO

It is the duty of the Association to collect, arrange, and disseminate information on the subject of Fruit Culture.

These objects are secured in the following manner:—

By holding meetings every year in different localities, of which all members receive notice by circular; by reporting and preserving discussions; by procuring and publishing valuable essays by skilled fruit-growers; by appointing committees to make personal examinations of different sections of the Province, and report upon the peculiar characteristics of the soil, climate, and special conditions of fruit culture therein; by illustrating the annual Report with coloured lithographs, drawn from nature, of the new fruits raised by our Canadian hybridists; by disseminating among the members trees or plants of the new fruit that promises to be valuable throughout the Province, only exacting from the members will make a report for a few years to the Secretary, as to the man-

ner these succeed with them ; by rewarding essayists, and, as far as practicable, the efforts of our hybridists.

In calling the attention of your neighbours to the advantages and benefits derived from becoming a member of this Association, you will confer a favour on your friends, and receive ten per cent. of the amount you may collect as a recognition of your services.

R. BURNET,  
*President.*

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## EXPLANATION.

*To the Members of the Fruit Growers' Association of Ontario.*

GENTLEMEN,—It has been impossible for the Directors to procure plants of Mr. Saunders' Hybrid Raspberry to send to you this spring, as was expected and promised. Mr. Saunders placed his stock in the hands of Mr. Charles Arnold to propagate. Mr. Arnold found that the variety was very stubborn, and would not propagate readily in the open air, and he therefore placed the plants in the hands of a skilled propagator, under glass, and he undertook to propagate them by means of bottom heat. He failed to make them root, and succeeded in furnishing Mr. Arnold with a few dozen plants, when it was expected that he would have raised one or two thousand. In consequence of this failure, the Directors have arranged with Mr. Arnold to send you his "Diadem" Raspberry (figured in the last Report, 1875), and a couple of plants of some of his new and promising seedling Strawberry Hybrids. The Directors regret the disappointment you will feel in not receiving what you expected, but you will see that it was unavoidable.

Your most obedient Servant,

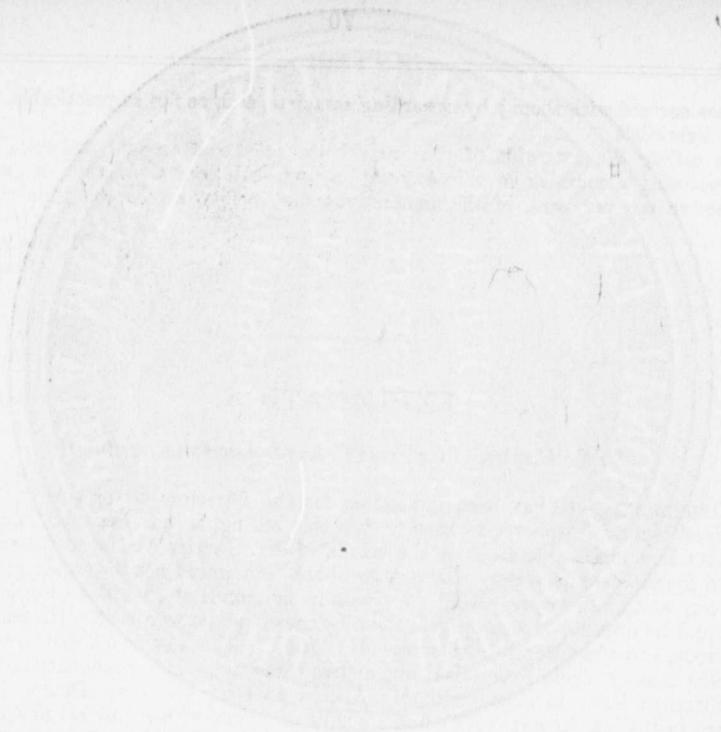
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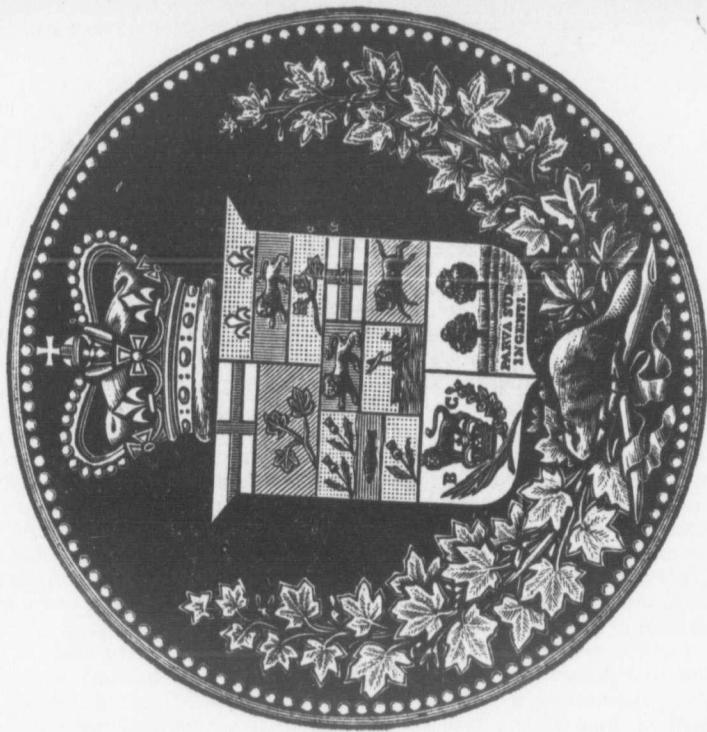
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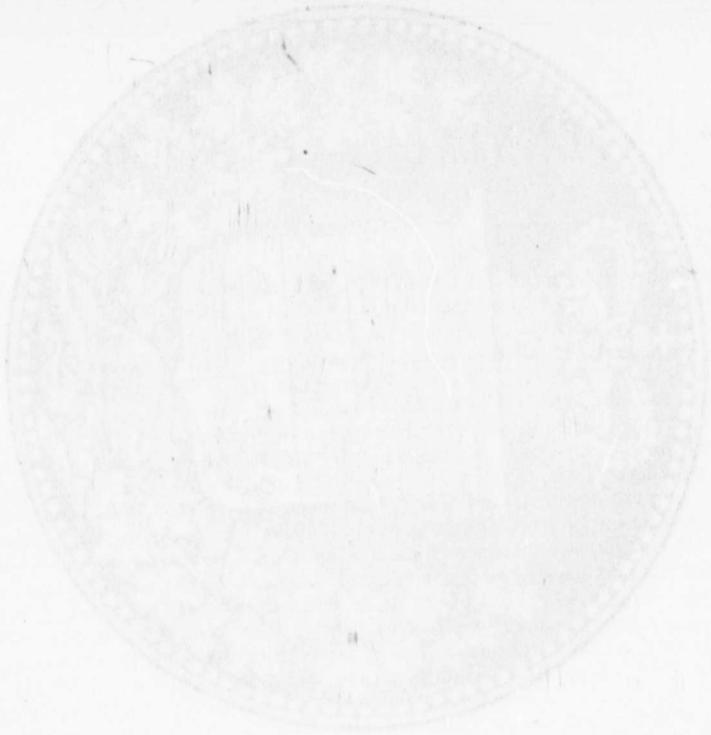
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## CENTENNIAL EXHIBITION.

It was not until near the end of June, 1876, that the directors were informed that the Government of Ontario desired the Fruit-Growers' Association to make an exhibit of the fruits of this Province, at the International Exhibition, which was then being held in Philadelphia. The directors had been requested during the winter to favour the Advisory Board with their suggestions, and several interviews had transpired upon the subject, but it was not until the Honourable the Commissioner of Agriculture seriously took the matter in hand, that any definite action was taken by the Government.

The delay thus caused was a serious hindrance to the successful carrying out of so great an undertaking. Time, that should have been used by the directors in maturing plans and devising the best ways and means, had been lost through indecision, and the opportunity for thinning of fruit, and for careful attention during the growing season, by the members who could raise specimen fruits, had gone by. It was possible now only to prepare and send out, as speedily as possible, circulars, informing the members that it had been determined to make an exhibit of our fruits, and requesting them to contribute the best they could. Special circulars were sent to gentlemen of known zeal in fruit culture, asking them to make active exertions in their several neighbourhoods to secure a fair representation of the fruits of their several localities, and to act as forwarders for any who were willing to send fruits. These gentlemen were supplied with fruit-labels, address-cards, and all necessary instructions when and how to pack and forward the fruit. In addition, articles were prepared and published in the newspapers, inviting all to contribute whatever they might have in the way of fruits. By these methods the directors sought to secure such a collection of all kinds of autumnal fruits from every county as would be a fair representation of the fruit productions of the whole Province.

To these requests most cordial responses were received from every quarter, with the assurance that every thing that could be done, should be cheerfully done to further the undertaking. The Owen Sound Horticultural Society offered special prizes of ten dollars for the best collection of apples, and five dollars for the second best, the two collections taking prizes to become the property of the Society, for the purpose of being sent to the Centennial Exhibition. But the replies that came in to these requests soon made it manifest that the Centennial had fallen upon a season that was, in many respects, exceptionally unfortunate. From Goderich, Owen Sound, Meaford, Clarksburg, and Guelph, came the very disheartening report that the plum crop, usually so abundant and of such fine quality, was a total failure throughout all that section; while correspondence from all points between the Great Lakes and the Detroit and Niagara Rivers, revealed the fact that the pear crop was unusually light, and that in many places the extreme heat and drought had very seriously affected the apple crop. This unfortunate state of things, however, could not be changed, and the directors took the only course open for them, they increased their efforts to secure specimens of such fruits as were to be had, and succeeded in obtaining them from so many different parts of the Province, from Ottawa to Windsor, from Niagara to Owen Sound, that the whole Province may be said to have been fairly represented.

The Niagara District has been so long noted for the beauty, excellence and variety of its fruits, that great expectations were entertained, both in regard to the quantity and quality of the samples that would be sent from that section. But even that favoured district seemed to be suffering from a great variety of ills, which most seriously injured many of the fruits; so that but very few growers found that they had anything that could be considered worthy of exhibition. Six contributors at Niagara sent twenty plates of apples, eight of pears, sixteen of plums, two of peaches, and three of grapes. At St. Catharines, five contributors sent eight varieties of apples and two of pears. One con-

tributor sent from Port Dalhousie five plates of pears, five of gooseberries, and five of raspberries. Three contributors at Jordan sent two varieties of pears, three of plums, one of peaches, two of gooseberries, and three of currants. One contributor sent thirteen varieties of apples from Beamsville, and three contributors at Drummondville sent one plate of peaches, twenty-four of grapes, and two of currants. Three contributors at Grimsby sent forty plates of apples, eleven of pears, and nine of peaches. It is worthy of mention that the grapes sent from Niagara were those known as Exotic grapes, and that these were grown by Mayor Paffard in the open air, although in this climate they are usually grown only under glass. Mr. Paffard has been able to raise them in the open air with marked success for a number of years, in part because of the very favourable climate, and the influences of the lake and river upon the humidity and temperature of the atmosphere, and in no small part because of his own skill and attention. For these grapes Mr. Paffard was awarded the International Medal and Diploma. There was nothing else to note specially in the samples from this district, save that some of the gooseberries were very fine seedling varieties, raised by Mr. W. H. Read, of Port Dalhousie.

The collection of fruits from the Hamilton district was very fine indeed. The variety of articles sent was very great, and the quality of the samples unsurpassed. For the fullness, variety and quality of the exhibit from this district, the Association owe much to the untiring efforts and good judgment of Mr. John Freed, of Hamilton. He was indefatigable in his exertions, and personally superintended the packing and forwarding of the samples which the members in Hamilton and vicinity contributed in most generous profusion. Sixty-seven contributors sent from Hamilton one hundred and eighty plates of apples, sixty-three of pears, sixty-two of plums, eight of peaches, four of cherries, ninety-one of grapes, twenty-one of currants, twenty-eight of gooseberries, thirteen of raspberries, one of quinces, one of black walnuts, one of hickory nuts, and one of pea-nuts. Two contributors at Nelson, and two at East Flamboro' sent sixteen plates of apples, and one at Saltfleet sent a plate of pears.

One of the varieties of plums shown from this district, and called the Canada Orleans, is a variety not generally known nor disseminated, but one that is held in high estimation, particularly as a very profitable market plum, by those who have grown it. The collection of apples sent by Mr. Warren Holton, of Hamilton, was one of more than ordinary interest on account of the number of new and interesting varieties it contained. The grapes from this district were remarkably fine and interesting. The collection included five new hybrid grapes, raised by Mr. W. H. Mills, of Hamilton, whose skill as a fruit-raiser and hybridist is well known to the members of the Association. These new grapes possess many very interesting and valuable qualities, and some of them seem destined to attract the attention of Canadian grape-growers. Two of the exhibitors of grapes from this district were honoured by the Centennial Commissioners with the International Medal and Diploma; namely, Mr. William Young, of Hamilton, for his splendid sample of Salem grapes, and Mr. W. N. Taylor, of Hamilton, for his unusually fine specimens of the Clinton grape, and Mr. Donald Smith, of Hamilton, for extra fine samples of apples. The samples of pea-nuts sent by Mr. Wm. Hill, of Hamilton, attracted no little attention, from the fact that the plants were sent entire, with the pods of nuts adhering to the roots.

Although the Exhibition from the Brantford District was not as large as was expected, nor indeed as large as it ought to have been, yet the samples sent were among the very best, and in many respects it was one of the most instructive. There were many interesting and valuable new hybrid apples, shown by Mr. Chas. Arnold, of Paris, one of which, the Association propose to disseminate, by sending a tree to every member of the Association, in 1879. There was also exhibited a most singular sport from the *Esopus Spitzenburg*, grown by Mr. H. Moyle, of Paris. Mr. Arnold's collection of hybrid grapes was very attractive, and received much attention, especially from those gentlemen who knew how to appreciate the labours of such a distinguished and careful hybridist, whose skill in this peculiarly delicate and difficult art, has won for him a world-wide reputation. The Commissioners conferred the International Medal and Diploma upon Mr. Arnold, for his excellent and instructive collection of apples, and a second medal and diploma for his seedling Grapes; and upon Mr. Thomas H. Parker, of Woodstock, for his most magnificent samples of grapes grown under glass. The exhibit from the Brantford District, com-

prised thirteen plates of plums; nine plates of pears, five of raspberries, one plate of apples, were sent from to grow as fine

From the butors at Galt grounds thirty specially welcomed scarcity of this Association to favor of this fruit was a fine plate of so many good. It is a matter of Roy for his very only upon the grapes grown by one of

The London greater number his assistants for so large a quantity. Two of the exhibit Medal and Diploma samples of Nova variety called to from this district Caradoc Favourite of a Centennial ling peaches sent that section of rants sent by Montreal fruit exhibit.

There were fifty-four plates seventeen of currants of hazel nuts, There were ninety-fourteen of peaches of butternuts, and who sent fifty-seven four varieties Grovesend, and one of pears, and Glanworth, Wy Stanley, Elgin, these sent ninety-eight varieties of

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prised thirteen contributors at Brantford, who sent eighty-two plates of apples, and eight of plums; nine contributors at Paris, who sent thirty-seven plates of apples, seventeen plates of pears, twenty of plums, thirteen of grapes, seven of currants, ten of gooseberries, five of raspberries, and two of cherries; and four contributors at Woodstock, who sent one plate of apples, one of pears, two of plums, and two of grapes. It is noticeable that no fruits were sent from the County of Norfolk whatever, though that county claims, and justly, to grow as fine fruit as any other in Ontario.

From the Galt District, there came to the Centennial, apples and plums. Six contributors at Galt sending fifty plates of apples, and one at Berlin, sending from his own grounds thirty varieties of plums. The plums were very fine samples indeed, and were specially welcomed by those having the charge of the Exhibition, because of the great scarcity of this fruit in Ontario, this year. Mr. Simon Roy, who so very generously helped the Association to make a creditable exhibit of plums, is well known as an enthusiastic cultivator of this fruit, and has himself produced some valuable new varieties. In his collection was a fine plate of the "Glass Seedling," which proved to be a fruit of such large size, and of so many good qualities, that the Association last year sent a tree of it to every member. It is a matter of surprise that the Centennial Commissioner did not award a medal to Mr. Roy for his very instructive and valuable collection of plums, and it can be accounted for only upon the ground that the judges did not notice the fact, that this fine collection was grown by one exhibitor.

The London District contributed a very large and varied collection, representing a greater number of localities than any other. Thanks are due to Mr. Wm. Saunders and his assistants for their unwearied attention to the collecting, packing, and forwarding of so large a quantity of fruits, and which contributed so largely to the success of the exhibit. Two of the exhibitors in this district were distinguished by the award of the International Medal and Diploma. These were Mr. Hugh Scott, Jr., of Delaware, for his unusually fine samples of Northern Spy apples; and Mr. James McKay, Masonville, for a fine new variety called the London Pippin. There were a number of new varieties of apple sent from this district, such as the Canadian Pippin, Col. Talbot's Canadian, London Beauty, Caradoc Favourite, and other varieties not yet named, some of which may yet prove worthy of a Centennial Medal and Diploma. There were also some very fine looking, showy seedling peaches sent by Mr. Charles Gustin, of Forest, which may prove to be of great value in that section of the country. The new hybrid raspberries, gooseberries, and black currants sent by Mr. Wm. Saunders, of London, added very much to the interest of the small fruit exhibit.

There were thirty-six London contributors, who sent eighty-eight plates of apples, fifty-four plates of pears, twenty-five plates of plums, five of cherries, sixteen of grapes, seventeen of currants, nineteen of gooseberries, six of raspberries, one of butternuts, one of hazel nuts, three of black walnuts, one of berberries, and one of English medlars. There were nineteen contributors at Westminster, who sent seventy-four plates of apples, fourteen of pears, eight of plums, one of cherries, four of peaches, one of raspberries, one of butternuts, and one of black walnuts. In Delaware there were thirteen contributors, who sent fifty-seven plates of apples and three of pears. Four contributors, at Arva, sent four varieties of apples and one of gooseberries. Caradoc, Talbotville, Mount Salem, Grovesend, and Strathroy, had each two contributors, sending sixty-two plates of apples, one of pears, and two of plums. Lambeth, Thorndale, Masonville, Petersville, St Marys, Glanworth, Wyoming, Pondmills, Dulwich, Komoka, Byron, Mount Bridges, Union, Port Stanley, Elgin, Yarmouth, McGillivray, Kertch, and Forest, had each one contributor, and these sent ninety plates of apples, eight of pears, five of plums, and four of peaches. Eight varieties of apples were sent by three contributors at St. Thomas.

The Toronto District suffered so severely from extreme heat and drought that but few persons had the courage to send fruits to the Exhibition. One gentleman in reply to our inquiries remarked that there was literally nothing to send, that the whole country was dried up to mere dust and ready to be blown away. For the fruits that were sent from this district we are indebted to the efforts of Mr. Geo. Leslie, Jun. There were only four contributors in this district, but these sent thirty-seven varieties of apples, twenty-three of pears, fifteen of plums, thirteen of grapes, besides a variety of currants, gooseberries, raspberries, peaches, and nectarines. A plate of the Lord Palmerston Peach, sent by

the Honourable D. L. Macpherson, attracted much attention, on account of the great size and beauty of the fruit, and because it was one of those new varieties recently sent out by Mr. Rivers, of Sawbridgeworth, England, which has rarely been fruited in this country. The exotic varieties of grapes, grown under glass, were very much admired, rivalling in size and beauty the fairest productions of California.

The Windsor District was represented by only one contributor, Mr. James Dougall, of Windsor. From Mr. Dougall's well-known zeal and interest in all matters relating to the welfare of the Province, and his enthusiasm in the culture of fruit, to say nothing of his untiring efforts to extend the sphere of the usefulness of this Association, it is safe to say that the number of exhibitors from the fine fruit-growing County of Essex would have been largely increased, had Mr. Dougall's health permitted him to take that active part in securing collections of fruit that he would have gladly done. As it is, the collection sent from his own grounds was a noble representation of the fruit-growing capacities of that district, and most justly merited the high distinction conferred upon it by the award of the International Centennial Medal and Diploma. For full particulars relating to the varieties shown by Mr. Dougall reference is made to the list of exhibitors and the varieties of fruit sent from each district that accompanies this report. The new varieties of French apples grown upon trees imported directly from France were examined with much interest, and pronounced by competent judges one of the most instructive exhibits in the whole of the fruit exhibition.

Although the Owen Sound District was not able to contribute plums in the profusion, variety, and excellence for which that region is so worthily noted, yet there came from those parts a most splendid collection of apples. There were at Owen Sound nineteen contributors, who sent eighty-nine plates of apples; at Derby, there were thirteen, who sent eighty-eight plates of apples; from Sydenham, three contributors sent thirty-seven plates of apples. Kincardine, Kilsyth, St. Vincent, Meaford, Sarawack, and Tiverton, had each one contributor, who sent in all, seventeen plates of apples and nine of plums. On referring to the list of varieties sent from this district, it will be seen that a very large number of our most valued standard sorts are grown there, to which are added a few varieties, which, from their names, seem to have originated there. The action of the Owen Sound Horticultural Society, already mentioned, is deserving of great praise, for to them in large measure, is to be attributed the fulness of their contribution.

The Belleville District also made very liberal contributions. Thanks are justly due to Mr. P. C. Dempsey, of Albury, who gave much valuable time to the careful selection, packing, and forwarding of the fruits from this district. At Belleville, five contributors sent seven varieties of apples and three of grapes; five at Albury sent thirty-five plates of apples, eight of pears, ten of grapes, and six of currants; there were at Wallbridge, four contributors, who sent nineteen plates of apples and six of grapes; Trenton and Rednorsville had each two contributors, sending six varieties of apples and four of pears; Ameliasburg, Frankford, Bloomfield and Colborne, had each one contributor, and these sent fifty-six varieties of apple and four of pear. The large collection sent by Mr. John P. Williams, of Bloomfield, is deserving of special mention, creditable alike to his skill as a cultivator, and his judgment in the selection of varieties. In the list of varieties from this section, will be found some names of sorts which have probably originated in this district, and proved to be of such value, that they have been preserved, and more or less widely disseminated. Such are the Seedling Red, and Seedling Yellow Apples, Seedling Snow, Redner's Seedling, Baxter Seedling, Bay of Quinté Favourite, Albury, &c., which may prove to possess qualities that make them worthy of being more widely disseminated. From this district comes the famous "Burnet" Grape, a fine coloured engraving of which illustrates this report. An unfortunate accident destroyed all the good samples of this variety on their way to the Centennial, and consequently, only a bunch of small size, grown upon a layer, was left to be exhibited. The thanks of every member of the Association are due to Mr. P. E. Dempsey, the raiser of this beautiful and excellent variety, for placing it at the disposal of the Association, so that the members can all receive a plant of it in the spring of 1878.

In the Ottawa District, Mr. P. E. Bucke, was at considerable pains to secure such a collection, as would convey a correct impression of the fruit products of that valley. Ten contributors sent in all twelve plates of apples, five of plums, nine of grapes, twelve of

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currants, six of gooseberries, and a plate of butternuts. A glance at the list of varieties of apple will show that only the most hardy sorts will thrive in this district, and that the attention of cultivators must be turned to the selection of those kinds which can resist great extremes of cold. Dr. Bell deserves much from his neighbours, for calling their attention to a variety which he noticed growing upon the Gatineau, fruiting abundantly, and bearing with impunity the rigours of the climate. This apple he has rescued from oblivion by grafting it upon trees in his own garden, and giving it the name of the Gatineau Belle. Much, beyond question, may be done in this direction, to obtain a selection of sorts that will be valuable in the valley of the Ottawa, and places of similar climate.

After mature deliberation, the Directors decided to send to the Centennial Exhibition some samples of our summer fruits. The object they had in view was two-fold. The first, to call attention to our Province, and make visitors to the Centennial acquainted with the fine quality of our small fruits; the second, to prepare the way for the grand display in the months of September and October, and to profit by the experience that would in this way be gained, so that there might be no blundering or disappointment when the burden of the great display was to be borne. Accordingly, consignments of cherries, currants, gooseberries and raspberries were forwarded from Ottawa, Belleville, Paris, London, St. Catharines, Toronto, Hamilton and Drummondville. These arrived in good condition, with the exception of some of the cherries and the softer varieties of raspberries, and attracted much attention from their fine size and beautiful appearance. As soon as the fruit began to fail from exposure, under the intense heat of last July, it was replaced by fresh arrivals, so that for about a fortnight the tables were kept constantly supplied with fresh samples, which gave the display a neat and attractive appearance. For this exhibit of cherries and early fruits, the Association received from the United States Commissioners the International Medal and Diploma.

It will thus be seen that the first and most important object which the Directors had in view in making this midsummer exhibit, was fully realized; as to the advantage gained from the experience thus obtained, the magnitude and beauty of the autumn display, which elicited so much praise from every appreciative visitor, and such encomiums from the press, doth fully testify.

The time fixed for the grand display was from the 4th of September to the 14th of October. A large building was devoted exclusively to the exhibition of fruits, known as Pomological Hall. Here were displayed the finest fruits of many of the States of the Union. California sent her magnificent grapes, rivalling in size and beauty the productions of sunny Italy, and, with them, her showy pears and plums, with figs and pomegranates. Kansas and Nebraska sent from their virgin soils and western climate apples that, in size and general appearance, could hardly be excelled. Iowa was there with the fruits of her prairie soil, and Michigan made a beautiful display of apples, pears and peaches. Wisconsin sent apples and grapes, and Minnesota sent from her cold climate some sixty varieties, some of which, from their great hardihood, have received the title of iron-clads. Ohio made a fine display of her fruits. Massachusetts sent three hundred varieties of pears. Pennsylvania and New Jersey contributed far less than would have been expected, considering their proximity to the place of exhibition. New York, as a State, was very poorly represented, though some fine fruits were shown by some of her nurserymen and amateurs. Some very nice grapes came from Connecticut, and peaches from Delaware and Virginia. The fruit was arranged upon tables stretching out fully two hundred feet in length, and when these were loaded with all these various fruits the sight was beautiful beyond description; the place seemed like the garden of the Hesperides, bright with every tint of colour, and redolent with the most ravishing perfume.

In this great exhibition the display of this Association covered two tables extending the entire length of the hall, and comprised fourteen hundred and eighty plates of apples, two hundred plates of pears, two hundred and ninety plates of plums, one hundred and seventy plates of grapes, twenty-six plates of peaches, eighty-six plates of crab apples, and some twenty plates of miscellaneous fruits, nuts, &c. And this display was kept up as far as practicable by shipments of fresh specimens, so that our exhibit remained substantially the same until the close of the fruit exhibition on the 14th of October. It so happened that the space allotted to Ontario was upon the north side of the building, the walls of which were tastefully decorated with flags bearing the Cross of St. George, and the entrance to our section

festooned with our colours; while upon every panel and upon every post was blazoned in large capitals the words "CANADA—FRUIT GROWERS' ASSOCIATION OF ONTARIO." After the Pomological Hall was closed, the Superintendent of this department requested that a selection of our fruits be made and placed on exhibition in Agricultural Hall. This selection covered a table about fifty feet long, and remained for examination until the close of the exhibition.

The members of the Association have reason to feel proud of the part we took in this most magnificent gathering of fruits that the world has ever seen. We have no need to speak in terms of praise of our exhibit of fruit; others in no way interested have spoken for us. If the remarks of visitors and the exclamations of passers-by may be taken as an indication of the impression produced upon the public mind, then was our exhibit a great surprise and gratification. Again and again were the gentlemen in charge assured by the visitors to our tables, that they had no idea that fruits of such beauty and excellence could be grown in Canada, and that it was especially astonishing to them to find that they were, at least, equal to their own. And as often did gentlemen who were interested in the success of the fruit display as a whole, express their thanks for the contribution that Ontario had made, esteeming it alike creditable to ourselves and complimentary to them. The reports of the Association for 1875, of which a thousand copies were sent to the Centennial, were eagerly sought after, and given as freely to all who took an interest in them. In this way our Society, and somewhat of our capacity for fruit-growing, will become known to many kindred societies and individual pomologists, not only in every State in the United States, but in Spain, Russia, France, Portugal, Germany, Brazil, and indeed in nearly every country represented at this great exhibition.

Nor were the praises bestowed upon our fruits left to die upon the air, but they are to be found in many of the reports which were written for other than Canadian readers by journalistic correspondents, and most satisfactory of all, in the recommendations of the judges, and the awards of the Centennial Commissioners. A distinguished western pomologist, Mr. G. C. Pearson, writing at Danville, Illinois, gives a comparative view of the fruits from the different parts of the States and Canada. Of the fruit from California he says, "the quality of the grapes and pears is excellent, but the apples are second and third-rate, and the peaches are not extra. Kansas is not excelled in the size and general appearance of the apple, but the quality of such large apple is never high. Nebraska has a fine show of really good apples, pears and grapes. Iowa has also a large show of many varieties. Wisconsin shows nice apples and fair grapes. The most interesting and instructive display of apples is from Minnesota, embracing sixty varieties, though only a few are to be commended. Ohio has a good exhibit of pears, apples, and other fruit. Pennsylvania has a fair show of pears, that of apples is not large. New Jersey has a few individual exhibits which are scattered here and there. Massachusetts presents three hundred varieties of pears, probably the best in quality in the Exhibition. Connecticut has a good show of pears and apples, and samples of the best Delaware grapes. The District of Columbia has a first rate show of pears. From New York, Ellwanger and Barry, presents a variety of all kinds of apples and pears. Michigan has the best show of winter apples, as it well may, for it has the most extensive apple orchards in the world. *Decidedly the best show, taking into consideration variety, quality, number and taste, is from Ontario, Canada.*"

A writer in the New York Graphic of October the 11th, says:—"Probably the finest show of various fruit is made by the Fruit-Growers' Association of Ontario, Canada. The present display occupies the entire north side of the Pomological Building, and is composed of apples, plums, pears, crab-apples, grapes, and a variety of nuts, including walnuts, butternuts, hickory-nuts, hazel-nuts and pea-nuts. The same Association in July last, made a display of gooseberries, currants, raspberries and cherries. These were highly commended by the Judges." After speaking in detail of some of the fruits that attracted his attention, he adds:—"it would be impossible in a notice like this to do justice to the entire collection. As a representative collection it could not be surpassed. The arrangement and classification, reflect much credit upon the officers of the Association, and especially upon the gentlemen who are in charge. *It must be doubly gratifying to them that this very beautiful display of the fruits of the Province attracts such universal attention.* Their exhibit has contributed much to the beauty and attractiveness of the Pomological Department, and they are

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to be congratulated upon the fruit-producing capabilities of their soil and climate, and the taste and enterprise of their fruit-growers."

A Correspondent of the *Detroit Press*, writes:—"Pomological Hall is now a scene of beauty and activity difficult to describe. We cannot claim exclusive honour for the United States in this magnificent exhibition of the fruits of the earth. *Our neighbours north of the great falls and the great lakes actually led off in this friendly rivalry.* Canada has commanded our respect and challenged our admiration in nearly all the departments of the great International Fair. The display is under the methodical management of the Fruit-Growers' Association of the Province of Ontario. It consists of Apples, Pears, Plums, Peaches, Grapes and Nuts. One beauty of the Canada exhibit is, that there are several plates of a kind from different parts of the Province, showing the variations in the same variety caused by differences in climate and soil."

Mr. Thomas Meehan, a gentleman of the very highest ability in all fruit matters, thus speaks of our exhibit in the *Gardeners' Monthly*, during the great week ending September 16th, "Canada received great praise. She has made continuous exhibits from the opening through the Fruit-Growers' Association of Ontario, and *on this occasion excelled even herself. The Plums especially attracted universal praise.*" In a letter to one of our Directors he said, "The collection of fruit from the Fruit Growers' Association of Ontario is very fine, and will receive the highest commendations of the Committee in their preliminary reports."

This is the testimony that is given by our neighbours to the excellence of our exhibits, a generous acknowledgment that in the Centennial Fruit Exhibit Ontario took the lead in the extent of her exhibition, and in the variety, quality and flavour of her fruits. But the testimony does not end here. The awards that have been made by the Centennial Commissioners tell of the opinions of gentleman selected for their knowledge of fruits and qualifications to judge of their merits, and these able and experienced judges have awarded to our display no less than fifteen Medals and Diplomas. These are as follows:

1. Fruit Growers' Association of Ontario, early berries and fruits.
2. " " " " collection of fruit.
3. " " " " pears.
4. " " " " grapes.
5. " " " " apples.
6. Charles Arnold, Paris, collection of apples.
7. James Dougall, Windsor, collection of apples.
8. Hugh Scott, London, apples.
9. James McStay, London, apples, the London Pippin.
10. Charles Arnold, Paris, seedling grapes.
11. William Young, Hamilton, Salem grapes.
12. W. F. Taylor, Hamilton, Clinton grapes.
13. Thomas H. Parker, Woodstock, grapes grown under glass.
14. H. Pafford, Niagara, Exotic grapes, grown in open air.
15. Donald Smith, Hamilton, apples.

Without question, it is but just to say that the display from Ontario was the most comprehensive and the most instructive exhibit of fruits that was made by any State or Province at the Centennial. Our collection of plums, notwithstanding the unfortunate failure of our plum crop, was the largest and most complete of any. Indeed, if all the plums sent by other exhibitors were gathered into one collection, it would not have equalled in merit that from Ontario. Our apples did not, as a whole, equal in size those that came from the richer soils and brighter skies of the south-western states, nor at the commencement of the exhibition (in the beginning of September) were they as highly coloured, but they far excelled them in flavour, and in keeping qualities; and as the season advanced, and the middle of October drew on, our display of apples stood confessedly at the head, both in the beauty of the specimens and in their intrinsic worth, while at no time were they surpassed in the variety, value, and completeness of the collection. In pears and peaches we were excelled by only a few collections, notwithstanding the fact already mentioned that the season proved very unfavourable in Ontario to these fruits, and the further fact that but a portion of our Province is adapted to the growing of many varieties of peaches or pears. Our display of

grapes was also, the most complete. In open air culture, we could not equal the grapes from California, but our exotic varieties, grown under glass, were fully up to them in size of bunch and berry and beauty of colouring. The specimens of hardy grapes grown in the open air in Ontario, were as fine in appearance as those shown from the States, where the climate is supposed to be more favourable to their culture than ours, and it may safely be stated that no State of the Union exhibited so full and exhaustive a collection of hardy varieties of grapes. Again, our midsummer collection of berries were not only not equalled, but no such collections were exhibited that could at all compare with ours in quality.

Of the individual contributors, who without any expectation of personal honour or distinction have contributed so generously of whatever they might have that seemed likely to enhance the beauty, or the value, or the instructiveness of our Provincial exhibit, it is impossible to speak in sufficient terms of acknowledgment. Every consideration of an individual or selfish character was wholly forgotten in the one desire to make the fruit exhibit of Ontario a faithful and worthy representation of the products of our soil and climate in the hands of energetic and intelligent cultivators. The success that has crowned their efforts is their reward. In addition to the awards made by the United States Commissioners, the Canadian Commission have awarded to the Ontario Fruit-Growers' Association the CANADIAN GOLD MEDAL, in token of their recognition of the value of the exhibit of the Association. Thus, it seems, that notwithstanding the many untoward circumstances with which the Directors had to contend, our display has been able to secure most honourable recognition both at home and abroad.

The members of the Association may justly congratulate each other and the Province on the great success of our display. It has done much to enlighten the people of other lands, and even many of our neighbours over the border, in regard to the true character of the productions of our Province. It has served to dissipate a very prevalent impression that we dwell in a most inhospitable region of snow and ice; one in which the tiller of the soil may hope indeed to be able during the short summer to wrest from the ungenerous earth enough to maintain life during the long, dark, dreary winters; but where he may never hope to taste fruit, much less to raise for exportation the luscious fruits of temperate climes. By the wise and liberal determination of the Commissioner of Agriculture, to make, through the Fruit-Growers' Association of Ontario, a display of the various fruits of the Province, more has been done to break down unfounded prejudices, and to disseminate throughout the world correct information with regard to the true nature of our climate and soil, and the excellence and beauty of its productions, than could have been done by an army of Emigration Agents, or by a whole circulating library of books of information on the climate and productions of Ontario.

The following is a list of the exhibitors, showing the District in which they reside, and the fruits contributed by them, together with a list of varieties of the different fruits sent from each district.

#### NIAGARA DISTRICT.

1. J. Niven, Niagara, Apples, 11 varieties.
2. Nathan Pawling, St. Catharines, Apples, 4 varieties; Pears.
3. A. M. Smith & Co., Grimsby, Apples, 30 varieties; Pears, 7 varieties; Peaches, 9 varieties.
4. David Bradt, Stamford, Apples.
5. Gage J. Miller, Virgil, Apples, 9 varieties; Pears, 4 varieties; Plums, 6 varieties; peaches, 2 varieties.
6. Thos. Farmer, St. Catharines, apples, 2 varieties.
7. Jas. W. Johnson, St. Catharines, apples.
8. Thos. Keyes, St. Catharines, apples.
9. Geo. Walker, Beamsville, apples, 13 varieties.
10. Robert Best, Niagara, apples, plums.
11. J. G. Teneyek, Grimsby, apples, pears.
12. J. B. Bowslaugh, Grimsby, pears.
13. A. H. Pettit, Grimsby, pears.
14. Allen Moyer, Jordan Station, pears, 2 varieties; plums, 2 varieties; peaches, gooseberries, 2 varieties; currants, 2 varieties.
15. John Crysler, Niagara, pears.

16. R. I.
17. W.
18. Dr.
19. J. M.
20. D. I.
21. Her.
22. A. I.
23. C. I.
24. W.
25. R. I.
26. Sol.
27. Geo.

The foll

- Swayzie  
Snow A  
Rhode I  
Baldwin  
Twenty  
Norther  
Roxbur  
Seek-nc  
King of  
Esopus  
Montre  
Alexan  
St. Lav  
Hubbar  
Swaar,  
Talmar  
Twenty  
Newtor  
Rambo  
Flushin  
Yellow  
Golden

- Seekel,  
De To  
Duche  
Louise  
Tyson,  
Gansel  
Winte  
Beurre  
Beurre

16. R. N. Ball, Niagara, pears, 3 varieties.
17. W. H. Read, Port Dalhousie, pears, 5 varieties ; gooseberries, 5 varieties of seedlings, and raspberries.
18. Dr. Comfort, St. Catharines, pears.
19. J. McKenzie, Niagara, plums.
20. D. Swinton, Niagara, plums, 2 varieties.
21. Henry Paffard, plums, 4 varieties ; grapes, 3 varieties.
22. A. E. Thomas, Jordan, plums.
23. C. H. Biggar, Drummondville, grapes, 12 varieties.
24. W. S. Corwin, Drummondville, grapes, 6 varieties ; peaches.
25. R. Currie, Niagara, peaches.
26. Solomon Misener, Jordan, currants.
27. Geo. Biggar, Drummondville, currants, 2 varieties.

The following varieties of the different fruits were sent from this district ; namely :

*Varieties of Apples.*

Swayzie Pomme Grise,  
Snow Apples,  
Rhode Island Greening,  
Baldwin,  
Twenty-ounce Apple,  
Northern Spy,  
Roxbury Russet,  
Seek-no-further,  
King of Tompkins County,  
Esopus Spitzenburg,  
Montreal Pomme Grise,  
Alexander,  
St. Lawrence,  
Hubbardston Nonsuch,  
Swaar,  
Talman Sweet,  
Twenty ounce Pippin,  
Newton Pippin,  
Rambo,  
Flushing Spitzenburg,  
Yellow Belleflower,  
Golden Russet,

Duchess of Oldenburg,  
Gloria Mundi,  
Transcendant Crab,  
Montreal Beauty Crab,  
Yellow Siberian Crab,  
Chenango Strawberry,  
Gravenstein,  
Peck's Pleasant,  
Fall Pippin,  
Vandevere,  
Cranberry Pippin,  
Colvert,  
Blenheim Orange,  
Wagener,  
Red Russet,  
American Mother,  
Virginia Sweet,  
Ribston Pippin,  
Early Strawberry,  
Hyslop Crab,  
Soulard Crab,  
Red Siberian Crab,

And several Seedling varieties of promise.

*Varieties of Pears.*

Seckel,  
De Tongres,  
Duchesse d'Angouleme,  
Louise Bonne de Jersey,  
Tyson,  
Gansel's Bergamot,  
Winter Nelis,  
Beurre Bosc,  
Beurre Clairgeau,

White Doyenne,  
Belle Lucrative,  
Bartlett,  
Grey Doyenne,  
Flemish Beauty  
Buffam,  
Beurre d'Anjou  
Beurre Diel.

*Varieties of Plums.*

Bradshaw,  
Green Gage,  
Blue Plum,  
Imperial Gage,  
Lombard,  
Red Egg,  
Wild Plums,

Yellow Egg,  
Sugar Plum,  
Smith's Orleans,  
English Damson,  
Shropshire Damson,  
Pond's Seedling.

*Varieties of Grapes.*

White Chasselas,  
Black Hamburg,  
Creveling,  
Delaware,  
Concord,  
Lindley,  
Salem,  
Wilder,

Sweet Water,  
Hartford Prolific,  
Agawam,  
Rebecca,  
Isabella,  
Maxatawney,  
Tokalon,  
Merrimack.

All of these were grown in the open air.

*Varieties of Peaches.*

Early Crawford,  
Large Early York,  
Royal Kensington,  
Early Barnard,  
Sweet Water,

Ikler,  
Lemon Cling,  
Jacque's Rareripec,  
Old Mixon Free,  
Honest John.

*Varieties of Gooseberries.*

Downing,  
Read's Gem,  
Read's Prolific,  
Read's Pear-shaped,

Houghton,  
Read's Yellow,  
Read's Canada.

*Varieties of Currants.*

Black Naples,  
Cherry Currant,

La Versailles,  
White Grape.

*Varieties of Raspberries.*

Franconia,  
Philadelphia,  
Read's Prolific,

Clarke,  
Brinkle's Orange,  
Mammoth Cluster.

## HAMILTON DISTRICT.

28. Joseph Cline, Hamilton, apples, 6 varieties; plums, hickory nuts.  
29. Duncan Lamonte, Hamilton, apples, 6 varieties.  
30. L. P. Stipes, Hamilton, apples, 8 varieties; pears, 3 varieties, plums,

31. Wm. J. rasp  
32. J. Har  
33. R. M.  
34. M. Aik  
35. E. Blag  
36. Thos. B  
37. Samuel  
38. William  
39. E. Bro  
40. Wm. C  
41. Wm. C  
42. P. W.  
43. S. J. T  
44. J. Ansh  
45. John A  
46. A. E. V  
47. J. H. I  
48. Rev. J  
49. Lewis S  
50. Wm. L  
51. Warren berr  
52. Wm. R  
53. John F rasp  
54. E. C. I ties  
55. J. Bow  
56. W. Mo  
57. D. Ash  
58. Joseph  
59. W. P.  
60. Mr. Fr  
61. Geo. K  
62. A. W.  
63. John P  
64. A. J. E  
65. George  
66. Philip  
67. David  
68. M. Wa  
69. Mrs. D  
70. E. Cor  
71. J. Tan  
72. Mrs. G  
73. Mrs. S etier  
74. Mr. EL  
75. Donald  
76. Thos. I  
77. Lyman  
78. J. Stew  
79. Wm. I  
80. A. Gro  
81. Geo. R  
82. Joseph

31. Wm. J. Young, Hamilton, apples, pears, 4 varieties; plums, grapes, 4 varieties; raspberries, cherries, gooseberries and currants.
32. J. Harvey, Hamilton, apples, 9 varieties; pears.
33. R. M. Wanzer, Hamilton, apples, 3 varieties; pears, 10 varieties.
34. M. Aikman, Hamilton, apples, 4 varieties.
35. E. Blagden, East Flanboro', apples, 10 varieties.
36. Thos. Harper, Hamilton, apples, 2 varieties.
37. Samuel Smith, Hamilton, apples, 11 varieties.
38. William Hill, Hamilton, apples, 18 varieties; peaches, 5 varieties; pea nuts.
39. E. Brown, Hamilton, apples, 2 varieties.
40. Wm. Calder, Hamilton, apples, 3 varieties.
41. Wm. Cline, Hamilton, apples, 4 varieties.
42. P. W. Dayfoot, Hamilton, apples, 7 varieties.
43. S. J. Tovill, Hamilton, apples.
44. J. Ansley, Hamilton, apples.
45. John A. Bruce, Hamilton, apples, 8 varieties.
46. A. E. Van Norman, Hamilton, apples, 2 varieties.
47. J. H. Biggar, Hamilton, apples.
48. Rev. Jas. Shaw, Hamilton, apples, 5 varieties; plums.
49. Lewis Springer, Hamilton, apples, 5 varieties.
50. Wm. Lottridge, Hamilton, apples, 2 varieties.
51. Warren Holton, Hamilton, apples, 20 varieties; pears, 3 varieties; peaches, raspberries, cherries, gooseberries and currants.
52. Wm. Raynor, Hamilton, apples, plums.
53. John Freed, Hamilton, apples, 11 varieties; pears, 9 varieties; grapes, 26 varieties; raspberries, cherries, gooseberries, currants, quinces.
54. E. C. Fearnside, Hamilton, apples, 8 varieties; pears, 3 varieties; plums, 8 varieties; raspberries, cherries, currants and gooseberries.
55. J. Bowman, Hamilton, apples, 3 varieties.
56. W. Molyneaux, Nelson, apples, 3 varieties.
57. D. Ashbaugh, Hamilton, apples, 2 varieties.
58. Joseph Rymal, Hamilton, apples, 6 varieties; black walnuts.
59. W. P. Moore, Hamilton, apples, 3 varieties.
60. Mr. Freeman, Hamilton, apples.
61. Geo. Kilvington, Hamilton, apples, 3 varieties; pears, grapes, 2 varieties.
62. A. W. Taylor, Hamilton, apples, 5 varieties.
63. John Proctor, Hamilton, apples, 3 varieties; peaches, grapes.
64. A. J. Binckley, Hamilton, apples.
65. George Rutherford, Hamilton, apples, 2 varieties.
66. Philip Gage, Hamilton, apples, 4 varieties.
67. David Bradt, Hamilton, apples.
68. M. Waterbury, Hamilton, apples.
69. Mrs. Drew, Hamilton, apples, 2 varieties.
70. E. Corbett, Nelson, apples, 2 varieties.
71. J. Tansley, East Flamboro, apples.
72. Mrs. Grant, Hamilton, apples, 4 varieties; plums, 2 varieties.
73. Mrs. Skinner, Hamilton, apples, 5 varieties; pears, 10 varieties; plums, 2 varieties; raspberries, cherries, gooseberries and currants.
74. Mr. Elliott, Hamilton, apples, 4 varieties.
75. Donald Smith, Hamilton, apples, 3 varieties.
76. Thos. Harper, Hamilton, apples.
77. Lyman Moore, Hamilton, apples.
78. J. Stewart, Hamilton, pears, 3 varieties.
79. Wm. Raynor, Hamilton, pears, 4 varieties.
80. A. Grossman, Hamilton, pears.
81. Geo. Roach, Hamilton, pears.
82. Joseph Lister, Hamilton, pears; grapes.

83. R. J. Howes, Hamilton, pears, 10 varieties; plums, 19 varieties; cherries, raspberries, currants, and gooseberries.  
 84. Thos. Campbell, Hamilton, pears, 4 varieties; plums.  
 85. W. P. Strickland, Hamilton, pears.  
 86. David Murray, Hamilton, pears; grapes.  
 87. G. Crossthwaite, Saltfleet, pears.  
 88. Samuel Burner, Hamilton, plums, 12 varieties; raspberries, currants, gooseberries, and cherries.  
 89. Ascot Williams, Hamilton, plums, 4 varieties.  
 90. H. W. Bull, Hamilton, plums.  
 91. Mrs. Yalding, Hamilton, plums.  
 92. A. Sutherland, Hamilton, plums, 4 varieties.  
 93. Matthew Bell, Hamilton, grapes, 17 varieties.  
 94. Wm. Taylor, Hamilton, grapes.  
 95. W. H. Mills, Hamilton, grapes, 5 varieties new Hybrids.  
 96. Wm. Young, Hamilton, grapes, 4 varieties.  
 97. Samuel Woodley, Hamilton, grapes, 6 varieties.  
 98. John Garrett, Hamilton, grapes, 5 varieties.  
 99. W. Haskins, Hamilton, grapes, 2 varieties.  
 100. H. Semmens, Hamilton, grapes, 10 varieties.  
 101. Col. Aikman, seedling peach.

From this District were sent the following

*Varieties of Apple.*

Blenheim Pippin,  
 Fallawater,  
 Roxbury Russet,  
 Swaar,  
 Early Strawberry,  
 King of Tompkins County,  
 Talman Sweet,  
 Northern Spy,  
 Snow Apple,  
 Hawthornden,  
 English Russet,  
 Black Gilleflower,  
 Sweet Bough,  
 Esopus Spitzenburg,  
 Twenty Ounce Pippin,  
 Monmouth Pippin,  
 Wagener,  
 Sops of Wine,  
 Gloria Mundi,  
 Vandevere,  
 Rhode Island Greening,  
 Montreal Pomme Grise,  
 Cayuga Red Streak,  
 Cooper's Market,  
 Franklin Golden Pippin,  
 Irish Peach Apple,  
 Rambo,  
 Fall Janetting,  
 Golden Sweet,  
 Hawley,  
 Borassau,  
 Duchess of Oldenburg,

Spur's Sweeting,  
 Maiden's Blush,  
 Golden Russet,  
 Baldwin,  
 Cheeseboro' Russet,  
 Gravenstein,  
 Red Astracan,  
 Swayzie Pomme Grise,  
 Barton Seedling,  
 Colvert,  
 Chenango Strawberry,  
 Red Quanenden,  
 St. Lawrence,  
 Land's Strawberry,  
 Seek-no-further,  
 Lowell,  
 Ribston Pippin,  
 Summer Pearmain,  
 Hubbardston None-such,  
 White Belleflower,  
 Jersey Blue,  
 Newton Pippin,  
 Grimes' Golden Pippin,  
 Porter,  
 Johnson's Sweeting,  
 Utter's Red,  
 London Pippin,  
 Perry Russet,  
 Jonathan,  
 Benoni,  
 White Pippin,  
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Black Apple,  
 Black Detroit,  
 Primate,  
 Twin Apple,  
 Jewett's Fine Red,  
 Niagara Russet,  
 Hortley,  
 Dominie,  
 Sherwood's Favourite,  
 Alexander,  
 Autumn Strawberry,  
 Garden Royal,  
 Orange Crab,  
 Transcendant Crab,  
 Large Yellow Crab,  
 Hyslop Crab,  
 Lady Apple,  
 Fall Pippin,  
 Hoary Morning,  
 Pumpkin Sweet,  
 Ohio Nonpareil,  
 Haas,

Ben Davis,  
 Blue Pearmain,  
 King of Pippins,  
 Early Red Streak.  
 Lacquier,  
 Virginia Greening,  
 Smoke-house,  
 Rymal's Favourite,  
 Cornish Gilliflower,  
 Dutch Mignonne,  
 Menagerie,  
 Norton's Melon,  
 English Codlin,  
 Flushing Spitzenburg,  
 Pennock,  
 Yellow Belleflower,  
 Pomme Royal,  
 General Grant Crab,  
 Lady Crab,  
 Golden Beauty Crab,  
 Purple Crab,  
 Large Red Siberian Crab

And several seedling varieties of promise.

*Varieties of Pear.*

Beurre d'Amalis,  
 Beurre Clairgeau,  
 Beurre Superfin,  
 Jalousie de Fontenay,  
 White Doyenne,  
 Louise Bonne de Jersey,  
 Flemish Beauty,  
 Buffam,  
 Beurre d'Anjou,  
 Belle Angevine,  
 Easter Beurre,  
 Napoleon,  
 Howell,  
 Urbaniste,  
 Duchesse d'Angouleme,  
 Winter Nelis,  
 Uvedale St. Germain,

Beurre Bosc,  
 Paul Ambre,  
 Bartlett,  
 Doyenne Boussock.  
 Seckel,  
 Grey Doyenne,  
 Passe Colmar,  
 Oswego Beurre,  
 Beurre Diel,  
 Belle Lucrative,  
 Washington,  
 Henry the Fourth,  
 Chaptal,  
 Gansels Bergamot  
 Steven's Genessee.  
 Clapp's Favourite.

*Varieties of Plums.*

Prince's Yellow Gage,  
 Coe's Golden Drop,  
 Lombard,  
 Dominie Dull,  
 Washington,  
 Yellow Egg,  
 Duane's Purple,  
 Victoria,  
 Bleecker's Yellow Gage,  
 Reine Claude de Bavay,  
 Imperial Gage,  
 Italian Prune,

Belgian Purple,  
 Smith's Orleans,  
 General Hand,  
 Peach Plum,  
 Sugar Plum,  
 Orange Plum,  
 Frost Gage,  
 Green Gage,  
 Red Gage,  
 Bradshaw,  
 Canada Orleans,  
 Damson,

Isabella,  
Jefferson,  
Lawrence's Favourite,  
Columbia,  
Bingham,

McLaughlin,  
Prince of Wales,  
Pond's Seedling,  
Purple Gage,  
Blue Plum.

*Varieties of Grapes.*

Gaertner or Rogers No. 14,  
Hartford Prolific,  
Senasqua,  
Iona,  
Lindley or Rogers No. 9,  
Othello,  
Ontario,  
Tokalon,  
Concord,  
Clinton,  
Essex or Rogers No. 41,  
Wilder or Rogers No. 4,  
Catawba,  
Adirondac,  
Merrimac or Rogers No. 19,  
Salem,  
Allen's Hybrid,  
Rogers No. 1 or Goethe,

Agawam or Rogers No. 15.  
Rebecca,  
Rogers No. 33.  
Croton,  
Isabella,  
Israella,  
Rogers No. 43 or Barry,  
Delaware,  
Diana Hamburg,  
Herbert or Rogers No. 44.  
Walter,  
Arnold's No. 2 or Cornucopia,  
Massasoit or Rogers No. 3,  
Martha,  
Arnold's No. 8 or Brant,  
Autuchon,  
Eumelan,  
Creveling,

And five varieties of new Hybrids raised by Mr. W. H. Mills. Also the following Exotic varieties grown under glass :—

White Nice,  
Mill Hill Hamburg,  
Muscat of Alexandria,  
Black St. Peters,  
Rose Chasselas,

Sweet Water.  
Muscat Hamburg,  
Golden Hamburg,  
Black Hamburg,  
Lady Downs.

*Varieties of Peach.*

Large Early York,  
Jacque's Rarripe,  
Cooledge's Favourite,  
Royal George,

Large Seedling,  
Crawford's Early,  
Honest John.

*Varieties of Raspberry.*

Franconia,  
Fastoff,  
Yellow Antwerp,  
Golden Thornless,  
Mammoth Cluster,

Red Antwerp,  
Large Red,  
Brinckle's Orange,  
Philadelphia,  
Doolittle.

*Varieties of Cherry.*

Tradescant's Black Heart  
Butner's Yellow,

Mayduke,  
Early Richmond.

Lea  
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*Varieties of Gooseberry.*

Leader,  
 Yellow Sulphur,  
 London Red,  
 White Smith,  
 Nelson's Wave,  
 Freedom,  
 Smith's Improved,

Companion,  
 Roaring Lion,  
 Warrington,  
 White Eagle,  
 Green Ocean,  
 Walter's Twig.

*Varieties of Currant.*

Cherry Currant,  
 La Versailles,  
 Black Naples,  
 White Dutch,  
 Champaign,

Red Dutch,  
 Victoria,  
 Black English,  
 White Grape.

*Miscellaneous.*

Peanuts, showing entire plant with  
 nuts,  
 Quinces,

Hickory Nuts.  
 Black Walnuts.

## BRANTFORD DISTRICT.

102. H. Moyle, Paris, apples, 3 varieties.
103. Chas. Arnold, Paris, apples, 28 varieties; pears, 17 varieties; plums, 19 varieties; cherries, gooseberries, 4 varieties; grapes, 5 varieties; currants, 6 varieties.
104. A. H. Baird, Paris, apples, 4 varieties.
105. J. Little, Paris, apples, 4 varieties; grapes, 4 varieties.
106. John Cowherd, Brantford, apples, 9 varieties.
107. Frank Irvin, Brantford, apples, 7 varieties.
108. Brantford Horticultural Society, apples, plums 2 varieties; and collection of wild plums; also two cases of summer small fruits.
109. George Pike, Brantford, apples.
110. R. Hamilton, Brantford, apples, 3 varieties.
111. Geo. Smith, Brantford, apples.
112. P. Turnbull, Brantford, apples, 15 varieties.
113. D. Osborne, Brantford, apples, 7 varieties.
114. James Cowherd, Brantford, apples, 31 varieties.
115. Thos. D. Crawford, Brantford, apples.
116. A. Ramey, Brantford, apples and plums.
117. R. Pierce, Brantford, apples, 3 varieties.
118. Thos. Charleton, Brantford, apples, 2 varieties.
119. W. H. Beatty, Woodstock, apples.
120. Richard White, Woodstock, pears.
121. C. Whitlaw, Paris, plums, 7 varieties; currants.
122. Andrew Newton, Woodstock, plums, 2 varieties.
123. T. H. Parker, Woodstock, exotic grapes, 2 varieties.
124. A. Hart, Paris, grapes.
125. J. Carnie, Paris, grapes, 2 varieties; currants, gooseberries.
126. Mrs. Menie, Paris, gooseberries, 2 varieties.
127. John Arnold, Paris, gooseberries.
128. John White, Paris, gooseberries.

The following are the varieties that were sent from this district.

*Varieties of Apples.*

Esopus Spitzenburg,  
 Pomme Royale,  
 Cox's Orange Pippin,  
 Arnold's Hybrid, No. 2,  
 Arnold's Hybrid, No. 5,  
 Norton's Melon,  
 Prior's Red,  
 Snow Apple,  
 Lady Apple,  
 Swayzie Pomme Grise,  
 Red Astracan,  
 Hawley,  
 St. Lawrence,  
 Early Red Hybrid,  
 Early Harvest,  
 Early Yellow Hybrid,  
 Yellow Belleflower,  
 Montreal Pomme Grise,  
 Fallawater,  
 Early Joe,  
 Alexander,  
 Rhode Island Greening,  
 Newton Pippin,  
 Talman Sweet,  
 Maiden's Blush,  
 Fall Pippin,  
 Flower of Genessee,  
 Baldwin,  
 Nonpareil,  
 Keswic Codlin,  
 Hubbardson Nonsuch,  
 Belmont,  
 Pound Sweet,  
 Blenheim Pippin,  
 Transcendant Crab,

Mother Eve, a singular sport from Esopus  
 Spitzenburg,  
 Ontario, hybrid of C. Arnold,  
 Ella, hybrid of C. Arnold,  
 Early Strawberry,  
 Golden Sweet,  
 Wagener,  
 Golden Russet,  
 Hawthornden,  
 Gravenstein,  
 Benoni,  
 Sops of Wine,  
 Arnold's Hybrid No. 6,  
 Sweet Rough,  
 Early Rose,  
 Grime's Golden Pippin,  
 Northern Spy,  
 Ribston Pippin,  
 Duchess of Oldenburgh,  
 Summer Queen,  
 Irish Peach Apple,  
 Chenango Strawberry,  
 Seek-no-further,  
 Borassau,  
 Swaar,  
 Christina Apple,  
 Cayuga Red Streak,  
 Rambo,  
 English Russet,  
 Wine-sap,  
 King of Tompkin's County,  
 Dyer,  
 Vandevere,  
 Fall Janetting,  
 Roxbury Russet,  
 Arnold's Beauty.

Eight varieties of Crabs raised by James Cowherd, and several promising seedlings.

*Varieties of Pear.*

Bartlett,  
 President,  
 Rousellet Stuttgard,  
 Negley,  
 Goodale,  
 Flemish Beauty,  
 Buffam,  
 Jealousie de Fontenay,  
 Winter Nelis,

Tyson,  
 Rutter,  
 Sheldon,  
 Louise Bonne de Jersey,  
 Seckel,  
 Belle Lucrative,  
 White Doyenne,  
 Brandywine.

*Varieties of Plum.*

Shropshire Damson,  
 Yellow Gage,  
 Wild Goose (wild enough),  
 Columbia,  
 Bradshaw.  
 Conger's Sweet,  
 Washington,  
 Smith's Orleans,  
 General Hand,  
 Late Damson,  
 Red Egg,  
 Green Gage,

Duane's Purple,  
 German Prune,  
 Monroe Gage,  
 Mirabelle,  
 Jefferson,  
 Imperial Gage,  
 Royal Hative.  
 Lombard,  
 Pond's Seedling,  
 Webster's Gage,  
 Collection of Native Wild Plums.

*Varieties of Grapes.*

Hartford Prolific,  
 Cornucopia,  
 Othello,

Brant,  
 Canada,  
 Antuchon.

And the following Exotic Varieties grown under glass :—

Black Hamburgh,  
 Black Prince,  
 Black St. Peter,

Golden Champion,  
 Sweet Water.

*Varieties of Gooseberry.*

Old English Red,  
 Hart's Seedling,  
 Downing,  
 Early Yellow,

Yellow Jacket,  
 Arnold's Seedling,  
 White Smith,  
 Phoenix.

*Varieties of Currant.*

Black Grape Currant,  
 Victoria,  
 Cherry Currant,

White Grape Currant,  
 La Versailles.

*Varieties of Raspberry.*

Arnold's Yellow Hybrid,  
 Clarke,  
 Mammoth Cluster,  
 Davison's Thornless,

Franconia,  
 Philadelphia,  
 Yellow Cap,  
 Arnold's Red Hybrid.

*Varieties of Cherry.*

English Morello,  
 Black Eagle,

Early Richmond,  
 Napoleon Bigareau.

## GALT DISTRICT.

129. Hugh Fairgrieve, Galt, apples, 7 varieties.  
 130. Geo. Jaffray, Galt, apples, 3 varieties.  
 131. John Lee, Galt, apples, 20 varieties.  
 132. David Gibson, Galt, apples, 5 varieties.  
 133. Rev. W. Andrews, Galt, apples, 2 varieties.  
 134. John Rutherford, Galt, apples, 13 varieties.  
 135. Simon Roy, Berlin, plums, 30 varieties.

*Varieties of Apples.*

Beauty of Kent,	Hawley,
St. Lawrence,	Sescafras Sweet,
Ribston Pippin,	Hubbardston Nonsuch,
Baldwin,	Northern Spy,
Canada Red,	Summer Pearmain,
King of Tompkin's Co.	Swaar,
Rhode Island Greening,	Seek-no-further,
Snow Apple,	Yellow Bellefleur,
Fall Pippin,	Alexander,
Early Joe,	Spitzenburgh,
Pomme Royal,	Swayzie Pomme Grise,
Rambo,	Hawley,
Gravenstein,	Norton's Melon,
Twenty Ounce Apple,	Pennock,
Green Pippin,	Lawrence Queen.
Borassa.	

*Varieties of Plums.*

Orleans,	Purple Magnum Bonum,
Victoria,	Columbia,
Shropshire Damson,	Marten's Seedling,
Bradshaw,	Hustave Blue,
Pond's Seedling,	Lombard,
Lombard Seedling,	Scarlet Gage,
Yellow Egg,	Glass's Seedling,
Bleecker's Gage,	American Magnum Bonum,
Damson,	German Prune,
Fulton,	Washington,
Bingham,	Imperial Gage,
English Damson,	Roy's Seedling Prune,
Mediterranean,	Quackenboss,
Reine Claude de Bavay,	Prince's Yellow Gage,
Roy's Seedling, No. 1.	Roy's Seedling, No. 2.

These Plums were all sent by Mr. Simon Roy, of Berlin.

## LONDON DISTRICT.

136. D. Burnham, Caradoc, apples.  
 137. G. Watson, London, apples, 3 varieties; pears.  
 138. W. Elliott, Arva, apples.  
 139. W. Bodkin, Delaware, apples, 8 varieties.

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 159. V  
 160. F  
 161. A  
 162. F  
 163. V  
 164. V  
 165. V  
 166. A  
 167. M  
 168. W  
 169. R  
 170. L  
 171. C  
 172. W  
 173. G  
 174. W  
 175. J  
 176. J  
 177. G  
 178. Jo  
 179. A  
 180. M  
 181. W  
 182. D  
 183. Ja  
 184. C  
 185. D  
 186. J  
 187. W  
 188. Jo  
 189. W

190. Rol  
 191. Mr  
 192. Ch

140. W. Biddulph, Westminster, apples, 6 varieties.
141. R. J. Wilkins, Westminster, apples, 2 varieties.
142. G. W. Calcott, Delaware, apples, 2 varieties ; pears, 2 varieties.
143. J. Piper, Westminster, apples, 2 varieties ; pears.
144. B. Paine, Delaware, apples.
145. J. Shore, Delaware, apples, 6 varieties.
146. H. Scott, Delaware, apples, 2 varieties.
147. Geo. Mahler, Delaware, apples.
148. J. Thrower, Delaware, apples.
149. J. McNey, Arva, apples.
150. G. J. Jones, Westminster, apples and pears.
151. J. Behuke, Delaware, apples, 2 varieties.
152. G. Peacock, Mount Salem, apples, 24 varieties and chesnuts.
153. F. McMillan, Caradoc, apples, 27 varieties ; and pears, 2 varieties.
154. D. B. Burch, Westminster, apples, 6 varieties ; and pears, 5 varieties.
155. Thos. Shore, Westminster, apples, 3 varieties.
156. M. Connor, London, apples, 7 varieties.
157. Dr. Francis, Delaware, apples, 3 varieties.
158. B. Gott, Arkona, apples, 11 varieties ; and collection of crabs, pears, grapes and peaches, 4 varieties.
159. Walter Armstrong, Westminster, apples, 5 varieties.
160. Henry Rawlings, Delaware, apples, 4 varieties.
161. A. G. Deadman, Delaware, apples, 4 varieties.
162. H. Kennedy, Delaware, apples, 4 varieties.
163. W. Essery, Petersville, apples, 2 varieties.
164. Wm. Smith, Grosvenor, apples.
165. Wm. Saunders, London, apples, 18 varieties ; pears, 20 varieties ; plums, 7 varieties ; grapes ; cherries, 2 varieties ; gooseberries, 2 varieties ; raspberries, 6 varieties ; currants, 6 varieties.
166. A. Cameron, London, apples, 9 varieties.
167. Mr. Williams, Westminster, apples, 3 varieties.
168. Wm. Parry, Westminster, apples, 2 varieties.
169. Robert Sugden, Thorndale, apples, 7 varieties.
170. Lafayette Carty, Delaware, apples, 3 varieties.
171. George Butler, Strathroy, apples, 7 varieties.
172. Wm. Brown, Wyoming, apples, 2 varieties.
173. Geo. Kains, Elgin, apples, 6 varieties.
174. W. Azhurst, Talbotville, apples.
175. James McAdam, St. Thomas, apples.
176. J. Graham, Talbotville, apples.
177. G. W. Boggs, St. Thomas, apples, 6 varieties.
178. John Lawn, Union, apples, 3 varieties.
179. Adam Robins, St. Thomas, apples, 2 varieties.
180. M. Paine, Port Stanley, apples.
181. W. Lanagan, Westminster, apples, 12 varieties.
182. D. Shoff, McGillivray, apples, 3 varieties ; pears 4 varieties, and plums 4 varieties
183. James McStay, London, apples, 10 varieties.
184. C. Kingsmill, London, apples, 10 varieties.
185. D. Deacon, Westminster, apples, 4 varieties.
186. J. D. Sharman, Westminster, apples, 2 varieties, and grapes.
187. W. Russell, London, apples, pears, wild plums, grapes, and currants.
188. John Pearce, London, apples.
189. Walter Armstrong, Westminster, apples, 2 varieties, and peaches 3 varieties of seedlings.
190. Robert Flaner, Westminster, apples.
191. Mrs. C. A. Taylor, London, apples.
192. Chas. Steed, London, apples,

193. R. Kettlewell, London, apples, 2 varieties; currants, 3 varieties; gooseberries, 4 varieties.  
 194. John Legge, St. Mary's, apples, 3 varieties.  
 195. Henry Edwards, Arkona, apples, 3 varieties.  
 196. W. Blinn, London, apples.  
 197. Hugh Scott, Delaware, apples, 2 varieties.  
 198. D. McKillop, Delaware, apples.  
 199. A. Riddle, London, apples.  
 200. Geo. Wilkins, Lambeth, apples.  
 201. J. Teeple, London, apples, 2 varieties; pears, 3 varieties, and plums, 2 varieties.  
 202. R. Stevens, Westmeath, apples; plums, 5 varieties.  
 203. Henry Kennedy, Delaware, apples.  
 204. W. Peacock, Mount Salem, apples.  
 205. A. K. Pettit, Mount Salem, apples.  
 206. J. Tedford, Grovesend, apples.  
 207. James Oxenham, Kertch, apples, 14 varieties; pears, 3 varieties; grapes 5 varieties.  
 208. W. Gregory, Yarmouth, pears.  
 209. W. Bissell, London, pears.  
 210. John M. Denton, London, pears, 4 varieties; plums, 3 varieties; grapes and currants, 5 varieties.  
 211. E. West, London, pears, 2 varieties.  
 212. B. Cornwall & Son, Delaware, apples.  
 213. Archibald Campbell, Strathroy, apples, 2 varieties.  
 214. Edward Kendrew, Pond Mills, apples.  
 215. J. Jeffery, London, pears, plums.  
 216. F. Holman, London, pears.  
 217. Mrs. Dowlin, Westminster, pears.  
 218. A. G. Deadman, Delaware, pears.  
 219. Peter Weston, London, plums.  
 220. E. W. Hyman, London, grapes.  
 221. Chas. Gustin, Forest, peaches, 4 varieties, seedling.  
 222. M. Smith, London, black walnuts.  
 223. W. Y. Brunton, London, gooseberries, 2 varieties.  
 224. J. Symmonds, London, currants.  
 225. F. Rowland, London, cherries.  
 226. Dr. Arnott, Arva, gooseberries.  
 227. Joseph Lamb, London, gooseberries, 2 varieties.  
 228. Henry Beltz, London, gooseberries, cherries and currants, 2 varieties.  
 229. M. Kelly, London, gooseberries and currants, 2 varieties.

*Varieties of Apple.*

Northern Spy,  
 Swaar,  
 St. Lawrence,  
 Twenty Ounce Pippin.  
 Red Astracan,  
 Ohio Nonpareil,  
 Colvert,  
 Snow Apple,  
 Summer Pearmain,  
 Jonathan,  
 Norton's Melon,  
 Blooming Orange,  
 Fall Pippin,  
 Col. Talbot's Canadian,  
 Ribston Pippin,  
 Baldwin,

Winesap,  
 Rhode Island Greening,  
 Honey Dew,  
 Strawberry Pippin,  
 Roxbury Russet,  
 Cathed Russet,  
 Pomme Grise,  
 Borassau,  
 Hawley,  
 Nick-a-jack.  
 Dominic,  
 Ramsdall Sweet,  
 Fall Janetling,  
 Keswie Codlin,  
 Kentish Fillbasket,  
 Chenango Strawberry,

Rams  
 Benon  
 Early  
 Russe  
 Lond  
 Scarle  
 Pear  
 Fallw  
 Beaut  
 Lowel  
 Early  
 Boher  
 Parde  
 Trans  
 Montr  
 Yellow  
 King  
 Cayug  
 Spitze  
 Sweet  
 Bush  
 Jersey  
 Haske  
 Garder  
 Maider  
 Alex  
 Broad  
 Red C  
 French  
 Canad  
 Queen  
 Winter  
 Nonstu

Bartlet  
 Howel  
 Flemis  
 Osweg  
 Napole  
 Beurre  
 Ducher  
 Leech'  
 Beurre  
 Beurre  
 Seckel,  
 Beurre  
 Winter  
 Clapp's

Lombard  
 English  
 Yellow

Ramsdall Sweet,  
 Benoni,  
 Early Strawberry,  
 Russet Sheepnose,  
 London Pippin,  
 Scarlet Crofton,  
 Pear Apple,  
 Fallawater,  
 Beauty of Kent,  
 Lowell,  
 Early Joe,  
 Bohemian,  
 Pardee Sweet,  
 Transcendant Crab,  
 Montreal Beauty Crab,  
 Yellow Siberian Crab,  
 King of Tompkins County,  
 Cayuga Red Streak,  
 Spitzenburgh,  
 Sweet Bough,  
 Bush Apple,  
 Jersey Sweet,  
 Haskett's Sweet,  
 Garden Royal,  
 Maiden's Blush,  
 Alexander,  
 Broadwell,  
 Red Canada,  
 French Pippin,  
 Canadian Pippin,  
 Queen of Summer,  
 Winter Sweet,  
 Nonsuch,

Golden Russet.  
 Caradoc Favourite,  
 Sweet Pear Apple,  
 American Golden Russet,  
 Genessee Chief,  
 Hawthornden,  
 English Redstreak,  
 Rambo,  
 Talman Sweet,  
 Duchess of Oldenburg,  
 Swayzie Pomme Grise,  
 Black Detroit,  
 Grimes' Golden Pippin,  
 Wagener,  
 Warner,  
 Yankee Stripe,  
 Gravenstein,  
 Sweet Bough,  
 Cabashea,  
 Pearmain,  
 Spotted Pippin,  
 Northern Greening,  
 Rutledge Sweet,  
 London Beauty Apple,  
 Red Quarrendan,  
 Porter,  
 Summer Belleflower,  
 Nelson,  
 Boston Beauty Crab,  
 Hyslop Crab,  
 Red Siberian Crab,  
 Small Red Siberian Crab.

And a number of Seedling Varieties of promise.

*Varieties of Pears.*

Bartlett,  
 Howell,  
 Flemish Beauty,  
 Oswego Beurree,  
 Napoleon,  
 Beurree Gris d'Hiver,  
 Duchesse d'Angouleme,  
 Leech's Kingsessing,  
 Beurree Goubault,  
 Beurree Superfin,  
 Seckel,  
 Beurree d'Anjou,  
 Winter Nelis,  
 Clapp's Favourite,

Louise Bonne de Jersey,  
 Bon Chretien,  
 Brandywine,  
 Beurree Clairgeau,  
 Sheldon,  
 Belle Lucrative,  
 Beurree Hardy,  
 Payency,  
 Glout Morceau,  
 Tyson,  
 White Doyenne,  
 Beurree Diel,  
 And some seedling varieties.

*Varieties of Plums.*

Lombard,  
 English Gage,  
 Yellow Egg,

Smith's Orleans,  
 Victoria,  
 Green Gage,

Reine Claude de Bavay,  
 Coe's Golden Drop,  
 A collection of wild plums,  
 Pond's Seedling,  
 Turner's Seedling,  
 Columbia,

Washington,  
 Imperial Gage,  
 Duane's Purple,  
 Red Egg,  
 General Hand,  
 Yellow Magnum Bonum.

*Varieties of Grape.*

Clinton,  
 Concord,  
 Rogers, No. 4.  
 Iona,  
 Maxatawney,  
 And the Chasselas Musque, grown under  
 glass.

Salem,  
 Delaware,  
 Isabella,  
 Massasoit,  
 Eumelan.

*Varieties of Peach.*

Mountain Rose Peach,  
 Crawford's Early,

And Collections of Seedling Peaches.

*Varieties of Currants.*

Black English,  
 Cherry,  
 Red Dutch,  
 White Grape,

Black Naples,  
 And three varieties of Seedling Currants.

*Varieties of Cherry.*

Kentish,  
 Plumbstone Morello,

English Morello.

*Varieties of Gooseberry.*

Roaring Lion,  
 Whitesmith,  
 Plowboy,  
 Houghton Seedling,  
 Wild Prickly,  
 Hybrid between Warrington and Wild  
 Prickly,

Warrington,  
 Early Red,  
 American Seedling,  
 Downing,  
 Wild Smooth,

*Varieties of Raspberry.*

Hybrid Raspberries, several varieties,  
 Philadelphia,

Franconia.

*Miscellaneous.*

Black Walnuts,  
 Hazel Nuts,  
 Berberries,

Chestnuts,  
 Butternuts,  
 English Medlars.

230. Geo  
 10.  
 231. Rob  
 232. Hon  
 233. E. S  
 234. A. I

Macklen  
 Leslie's  
 Soulard  
 Gravens  
 Hawley,  
 Fall Pix  
 Fameus  
 Ribston  
 Porter,  
 Alexand  
 Orne's F  
 Sweet B  
 Sour Bo  
 Primate,  
 Irish Pe  
 White A  
 Summer  
 St. Law

Blood-g  
 Pratt,  
 Beurre d  
 Steven's  
 Belle Lu  
 Kirtland  
 Vicar of  
 Duchess  
 Winter 1  
 Louise B  
 Clapp's  
 Flemish

Bingham  
 Coe's Go  
 Orange I  
 Columbia  
 Reine Cl  
 Jefferson  
 Prince of  
 McLaugh

## TORONTO DISTRICT.

230. Geo. Leslie & Son, Leslie, apples, 35 var. ; pears, 23 var. ; plums, 15 var. ; grapes, 10 var. ; currants, gooseberries and raspberries.  
 231. Robert Hibbert, Eglington, apples.  
 232. Hon. D. L. Macpherson, Yorkville, apples and peaches, and exotic grapes.  
 233. E. Scadding, Toronto, grapes, 3 var.  
 234. A. Furniss, Toronto, nectarines.

*Varieties of Apple.*

Macklem Crab,  
 Leslie's Sweet Crab,  
 Soulard Crab,  
 Gravenstein,  
 Hawley,  
 Fall Pippin,  
 Fameuse,  
 Ribston Pippin,  
 Porter,  
 Alexander,  
 Orne's Early,  
 Sweet Bough,  
 Sour Bough,  
 Primate,  
 Irish Peach,  
 White Astracan,  
 Summer Scarlet Pearmain,  
 St. Lawrence,

Chicago Crab,  
 Transcendant Crab,  
 Canada Reinette,  
 Black Detroit,  
 King of Tompkins Co.  
 Maiden's Blush,  
 Drop d'Or,  
 Kentish Fillbasket,  
 Swaar,  
 Belle et Bonne,  
 Early Harvest,  
 Chenango Strawberry,  
 Red Astracan,  
 Duchess of Oldenberg,  
 Early Joe,  
 Benoni,  
 Swayzie Pomme Grise  
 Stibbard's Seedling.

*Varieties of Pear.*

Blood-good,  
 Pratt,  
 Beurre d'Arenberg,  
 Steven's Genessee,  
 Belle Lucrative,  
 Kirtland,  
 Vicar of Winkfield,  
 Duchesse d'Angouleme,  
 Winter Nelis,  
 Louise Bonne de Jersey,  
 Clapp's Favorite,  
 Flemish Beauty,

Beurre Giffard,  
 Des Nonnes,  
 Easter Beurre,  
 Tyson,  
 Hazel or Hessel,  
 Buffam,  
 Glout Morceau,  
 Napoleon,  
 Beurre Diel,  
 Mount Vernon,  
 Bartlett.

All of which were sent by Messrs. George Leslie & Son, Leslie.

*Varieties of Plums.*

Bingham,  
 Coe's Golden Drop,  
 Orange Plum,  
 Columbia,  
 Reine Claude de Bavay,  
 Jefferson,  
 Prince of Wales,  
 McLaughlin,

Fellenberg,  
 Smith's Orleans,  
 Lombard,  
 Yellow Egg,  
 Am. Green Gage,  
 Eng. Green Gage,  
 Italian Prune.

All sent by Messrs. Geo. Leslie and Son, Leslie

*Exotic Varieties of Grape, grown under glass.*

Golden Chasselas,  
Black Hamburg,  
Raisin de Calabre,  
Ingram's Prolific,  
White Chasselas,  
White Nice,

Black Barbarossa,  
Wilmot's Hamburg,  
Grizzly Frontignac,  
Black St. Peters,  
White Syrian.

*Varieties of Currants.*

Red Dutch,  
Cherry Currant,  
Black Naples,

White Grape,  
Black Bouquet,  
La Versailles.

*Varieties of Gooseberry.*

A collection of English gooseberries.

*Varieties of Raspberry.*

A collection of raspberries.

Also Lord Palmerston peach, from Hon. D. L. Macpherson; also nectarines, from A. Furness, Esq.

## WINDSOR DISTRICT.

James Dougall, Windsor, 52 varieties apples. Of these, 30 varieties were new French sorts, grown on trees imported from France. Pears, 16 varieties. Plums, 19 varieties.

*Varieties of Apples.*

Blenheim Orange,  
Dominie,  
Belmont,  
English Russet,  
Hawkin's Pippin,  
Jonathan,  
Melon,  
Northern Spy,  
Wagener,  
Early Strawberry,  
Hyslop Crab,

Dutch Mignonne  
Boston Russet,  
Baldwin,  
Fameuse,  
Jewett's Fine Red,  
King of Pippins,  
Mother,  
Pomme Grise,  
Garden Royal,  
Sops of Wine,  
Transcendant Crab.

And the following French sorts, grown on trees imported from France:—

Api Noir,  
Bidet,  
Colville Rose,

Fenouillet Beausoriel,  
Fenouillet Annisee,  
Jacques La Belle,

Madelin  
Pearmai  
Reinette  
Reinette  
Reinette  
Reinette  
Reinette  
Reinette  
Reinette  
Grand A  
Alfriston  
Bellefieu  
Ecarlet

Pratt,  
Julienne  
Beurre ( )  
Beurre F  
Beurre M  
Flemish  
Graslin,  
Steven's

Pond's S  
Victoria,  
Autumn  
Violet G  
Very late  
General l  
Lawrence  
Green G  
Yellow S  
Yellow S

236. F. J.  
237. J. Fl  
238. Hira  
239. Wm.  
240. W. C  
241. John  
242. Wm.  
243. R. H  
244. Jame  
245. D. Cl  
246. Jame  
247. . Der

Madeline,  
 Pearmain de Caen.  
 Reinette d'Allemagne,  
 Reinette Franche,  
 Reinette de Bretagne,  
 Reinette d'Anjou,  
 Reinette d'Oree d'Ete,  
 Reinette Lisse,  
 Reinette du Canada,  
 Grand Alexandre,  
 Alfristone,  
 Bellefleur,  
 Earlet Nonpariel,

Fenouillet de Chine,  
 Hubbard Pearmain,  
 Imperiale,  
 Name lost,  
 Pomme Figue,  
 Reinette Pepin,  
 Reinette de Dorè,  
 Reinette Thouin,  
 Reinette d'Oreé,  
 Reinette Wortley,  
 Reinette d'Espagne,  
 Sanspariel.

*Varieties of Pears.*

Pratt,  
 Julienne,  
 Beurre Clairgeau,  
 Beurre Kœnig,  
 Beurre Millet,  
 Flemish Beauty,  
 Graslin,  
 Steven's Genessee,

Belle Lucrative,  
 Abbott,  
 Beurre d'Anjou,  
 Beurre Mollett's Guernsey,  
 Dumas,  
 Grey Doyenne,  
 Kingsessing,

*Varieties of Plums.*

Pond's Seedling,  
 Victoria,  
 Autumn Compote,  
 Violet Gage Seedling,  
 Very late Purple Seedling,  
 General Hand,  
 Lawrence's Favourite,  
 Green Gage,  
 Yellow Seedling, late,  
 Yellow Seedling,

Prince Englebert,  
 Lombard,  
 Seedling from Diamond,  
 Blue Plum,  
 Jefferson,  
 Denniston's Superb,  
 Monroe Gage,  
 Guthrie's Late Green,  
 White Mag. Bonum.

OWEN SOUND DISTRICT.

236. F. J. Doyle, Owen Sound, apples, 17 varieties.  
 237. J. Fleming, Kilsyth, apples.  
 238. Hiram Bond, Meaford, apples.  
 239. Wm. Roy, Owen Sound, apples.  
 240. W. Cruise, Owen Sound, apples.  
 241. John McLean, Owen Sound, apples.  
 242. Wm. Andrews, Owen Sound, apples.  
 243. R. Holmes, Owen Sound, apples.  
 244. James Greene, Owen Sound, apples.  
 245. D. Christie, Owen Sound, apples, 2 varieties.  
 246. James Newman, Derby, apples.  
 247. . Dere, Owen Sound, apples.

ines, from A.

re new French  
 varieties.

248. Wm. Hartsen, Owen Sound, apples.  
 249. Wm. Jameson, Owen Sound, apples.  
 250. Wm. Landel, Sydenham, apples, 3 varieties.  
 251. D. McKay, Sydenham, apples.  
 252. Wm. Ormiston, Sarawack, apples.  
 253. James McDermid, Derby, apples, 3 varieties.  
 254. James Fleming, Derby, apples, 6 varieties.  
 255. Wm. Crooks, Derby, apples, 4 varieties.  
 256. Mrs. Moore, Derby, apples, 7 varieties.  
 257. A. Fairburn, Derby, apples, 7 varieties.  
 258. N. P. Horton, Owen Sound, apples, 10 varieties.  
 259. F. Leslie, Owen Sound, apples.  
 260. Robert Lain, Derby, apples.  
 261. W. Harrison, Owen Sound, apples, 2 varieties.  
 262. Robert Gunley, Derby, apples.  
 263. Mrs. Grant, Owen Sound, apples.  
 264. D. Durie, Owen Sound, apples, 2 varieties.  
 265. S. Hunter, Derby, apples, 2 varieties.  
 266. J. Sharp, Derby, apples, 11 varieties.  
 267. M. P. Harston, Derby, apples.  
 268. H. Bond, St. Vincent, apples, 4 varieties; plums, 4 varieties.  
 269. R. Trotter, Owen Sound, apples, 50 varieties.  
 270. R. B. Miller, Derby, apples, 46 varieties.  
 271. James Cannon, Sydenham, apples, 33 varieties.  
 272. George Sturgeon, Kincardine, plums, 6 varieties.  
 273. Wm. Gray, Tiverton, plums.

*Varieties of Apples.*

Gravenstein,  
 Twenty Ounce Pippin,  
 Roxbury Russet,  
 Sweet Bough,  
 Wild Crab Apples,  
 Hawley,  
 Baldwin,  
 Moore's Greening,  
 Pumpkin Sweet,  
 Kentish Fillbasket,  
 Green Mountain Pippin,  
 Potawatamie,  
 Red Detroit,  
 Sweet Seedling,  
 Mangam,  
 Golden Russet,  
 Rhode Island Greening,  
 Ribston Pippin,  
 Lowell,  
 Hawthornden,  
 Maiden's Blush,  
 Fall Janetting,  
 Snook's Russet,  
 Colvert,  
 Sweet Pippin,  
 Talman Sweet,  
 Red Russet,  
 Catshead,

Irish Peach,  
 Maxwell's Seedling,  
 Pumpkin Russet,  
 Dutch Codlin,  
 White<sup>W</sup> Spanish Reinette,  
 Dutch<sup>W</sup> Mignonne,  
 Snow Apple,  
 Strawberry Pippin,  
 Sweet Spice,  
 Pearmain,  
 Celina,  
 Canada Red,  
 Early Joe,  
 Benoni,  
 St. Lawrence,  
 Cayuga Red Streak,  
 Hawley,  
 Red Astracan,  
 Duchess of Oldenburg,  
 Buck Meadow,  
 Keswick Codlin,  
 Yellow Belleflower,  
 Walker's Yellow,  
 Brook Seedling,  
 Rambo,  
 Fleming's Seedling,  
 Borassau,  
 Swaar,

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King of Tompkins Co.,  
Esopus Spitzenburg,  
Hubbardston's Nonsuch,  
Pomme Grise,  
Fall Pippin,  
Frost's Sweet,  
Gloria Mundi,  
Alexander,  
Northern Spy,  
Pennock,  
Pound Sweet,  
Golden Sweet,  
Victoria Reinette,

Monmouth Pippin,  
Fall Orange,  
Porter,  
Chenango Strawberry,  
Sweet Fall Pippin,  
Lady's Blush,  
Owen Russet,  
Sherwood's Favourite,  
Beauty of Kent,  
Sweet Pearmain,  
Golden Drop,  
Wagener.

*Varieties of Plums.*

General Hand,  
Yellow Egg,  
Duane's Purple,  
Sugar Plum,  
Coe's Golden Drop,

Washington,  
Pond's Seedling,  
Frost Gage,  
Smith's Orleans,  
Magnum Bonum.

BELLEVILLE DISTRICT.

274. R. R. Bird, Foxboro, apples, 10 varieties.  
275. G. A. Wesse, Albury, apples, 5 varieties.  
276. T. Peck, Albury, apples.  
277. Wm. R. Dempsey, Albury, apples, 12 varieties.  
278. W. Peck, Albury, apples.  
279. W. F. Dempsey, Albury, apples.  
280. P. C. Dempsey, Albury, apples, 23 varieties; pears, 8 varieties; grapes, 9 varieties; currants, 6 varieties.  
281. B. Mallory, Frankford, apples.  
282. Dudley & Co., Colborne, apples, 4 varieties.  
283. Conger Bros., Belleville, apples.  
284. Doctor Coleman, Belleville, apples, 4 varieties.  
285. J. G. Peck, Albury, apples, 5 varieties.  
286. John Graham, Wallbridge, apples, 17 varieties; grapes, 3 varieties.  
287. John P. Williams, Bloomfield, apples, 64 varieties; pears, 4 varieties.  
288. A. Christie, Belleville, apples.  
289. Captain Vandervort, Belleville, apples.  
290. Rev. Canon Bleasdel, Trenton, apples.  
291. Isaiah Badgley, Belleville, apples.  
292. John W. Way, Rednorsville, apples, 3 varieties.  
293. Eliza Brickman, Rednorsville, apples.  
294. Jacob Tice, Rednorsville, apples.  
295. James B. Christie, Trenton, apples.  
296. J. H. Vandevere, Wallbridge, apples, 2 varieties.  
297. J. A. Johnson, Ameliasburg, apples.  
298. W. A. Johnson, Ameliasburg, apples, 2 varieties.  
299. F. L. Billa Flint, Belleville, grapes, exotic, 6 varieties.  
300. W. C. Wells, Wallbridge, grapes, 3 varieties.  
301. J. H. Morden, Rednorsville, apples and grapes.

*Varieties of Apples.*

Canada Red,  
 Snow apple,  
 Bottle Greening,  
 Golden Russet,  
 Colvert,  
 Swayzie Pomme Grise,  
 Hawley,  
 Seedling Yellow,  
 Alexander,  
 Ecklenville Seedling,  
 Sturmer Pippin,  
 Seedling Snow,  
 Washington Strawberry,  
 Roxbury Russet,  
 Pomme Grise,  
 Rednor's Seedling,  
 Gravenstein,  
 Strawberry Sweet,  
 St. Lawrence,  
 Duchess of Oldenburg,  
 Wagener,  
 Rambo,  
 Gloria Mundi,  
 Minister,  
 Wine Sap,  
 Fall Janetting,  
 Leland Spice,  
 Beauty of Kent,  
 Morrison Sweet,  
 Summer Strawberry,  
 William's Favourite,  
 Duroc Seedling,  
 Queens,  
 Requette du Canada,  
 Harvey,  
 King of Tompkins County,  
 White Winter Pearmain,  
 Transcendant Crab,

Montreal Beauty Crab,  
 Seek-no-further,  
 Rhode Island Greening,  
 Esopus Spitzenburg,  
 Talman Sweet,  
 Northern Spy,  
 Esopus Spitzenburg,  
 Seedling Red,  
 Fall Pippin,  
 Pound Sweet,  
 Ribston Pippin,  
 Bailey Sweet,  
 Twenty-Ounce Apple,  
 Holland Pippin,  
 Prenzel Seedling,  
 English Codlin,  
 Golden Sweet,  
 Albury,  
 Baldwin,  
 Bay of Quinté Favourite,  
 Maiden's Blush,  
 Gilliflower,  
 Lowell,  
 Green Sweet,  
 Lyman Russet,  
 Nonpareil,  
 Market Russet,  
 Fleiner,  
 Tart Bough,  
 Primate,  
 Chenango Strawberry,  
 Jeffreys,  
 Smokehouse,  
 Benoni,  
 Baxter Seedling,  
 Rome Beauty,  
 Norton's Melon,  
 Hyslop Crab.

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Seed*Varieties of Pear.*

Belle Lucrative,  
 Doreenne Boussock,  
 Peurre d'Anjou,  
 Bartlett,  
 Tyson,

Kirtland,  
 White Doyenne,  
 Flemish Beauty,  
 Manning's Elizabeth,  
 Fulton.

Coll  
much bet  
at one an*Varieties of Grape.*

Isabella,  
 Wild Native,  
 Clinton,  
 Walter,  
 Dempsey's Hybrid, No. 25,  
 Rogers, No. 4,  
 Rogers, No. 34,

Agawam,  
 Concord,  
 Delaware,  
 Burnet,  
 Rogers, No. 43,  
 Rogers, No. 19.

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*Exotic Varieties, grown under glass.*

Wilmot's Black Hamburg,  
Lady Downs,

Victoria Hamburg.

*Varieties of Currants.*

Black English,  
White Grape,  
La Versailles,

White Gondoin,  
Cherry Currant,  
Red Dutch.

## OTTAWA DISTRICT.

302. D. McLaughlin, Ottawa, apples, 3 varieties, including a new seedling of much promise.
303. Dr. Bell, Ottawa, apples; a new seedling variety of great hardihood and fine quality, found growing on the Gatineau and named by him the Gatineau Belle. Also butternuts.
304. Major W. White, Ottawa, apples.
305. D. Mattheson, Ottawa, apples; currants, 3 varieties.
306. Hon. R. W. Scott, Ottawa, apples, 5 varieties.
307. R. Lees, Ottawa, apples.
308. P. E. Bucke, Ottawa, collection of wild plums, collection of wild grapes, and 8 varieties of cultivated grapes, currants and gooseberries.
309. J. McMullen, Ottawa, gooseberries, 3 varieties; currants.
310. W. Graham, Ottawa, currants, 3 varieties.
311. Geo. Laing, Ottawa, currants, 3 varieties.

*Varieties of Apple.*

Transcendant Crab,  
Montreal Beauty Crab,  
Red Astracan,  
Gatineau Belle,  
Seedling (of much promise),

Hyslop Crab,  
Yellow Siberian Crab,  
Duchess of Oldenburg,  
Peach Apple.

*Varieties of Plum.*

Collection of varieties of wild plum found growing in this district, many of them much better than the "Wild Goose" plum which has been peddled through the country at one and two dollars a-piece, price made to suit the "Goose" that bought.

*Varieties of Grape.*

Collection of Native Wild Grapes,  
Delaware,  
Creveling,  
Oporto,

Adirondac,  
Agawan,  
Hartford Prolific,  
Miller's Burgundy,

and Chasselas Fontainebleau, raised under glass.

*Varieties of Currant.*

LaVersailles,  
Black Naples,  
Cherry Currant,

Champaigne,  
White Grape.

*Varieties of Gooseberry.*

Houghton,  
Whitesmith,  
Sulphur Yellow,

Doedring,  
Warrington.

*Nuts.*

Butternuts

OFFICIAL REPORT ON THE AWARDS MADE BY THE CENTENNIAL  
COMMISSIONERS TO THE ONTARIO EXHIBITORS OF FRUIT.

I.—GENERAL COLLECTION OF EARLY BERRIES AND FRUITS.

*Fruit-Growers' Association of Ontario.*

A large and varied collection continued through several weeks, consisting of currants, gooseberries, cherries, raspberries and apples, deserving the highest commendation.

II.—COLLECTION OF FRUIT.

*Fruit-Growers' Association of Ontario.*

That during the week ending with September 21st, they made a very large exhibition of fruits, embracing one hundred and twenty varieties of apples, seven of plums, five of peaches, three of tomatoes, two of nuts, exemplifying the excellent capacity of the soil and climate of the Province to produce these fruits.

III.—PEARS.

*Fruit-Growers' Association of Ontario.*

For sixty-seven (67) varieties, many of which are well grown. The Flemish beauties generally are choice, some of them being really superb, showing this variety to be especially adapted to the climate of Ontario. Bartletts are also well grown, and large for their latitude.

IV.—GRAPES.

*Fruit-Growers' Association of the Province of Ontario, Canada.*

That the extent of this collection, embracing sixty-five (65) plates of native grapes and nine (9) of foreign grapes, is worthy of praise, in consideration of the difficulty the fruit-growers are obliged to encounter in this northern latitude. The specimens are generally well grown and ripened. We especially commend Mr. Charles Arnold's hybrid grapes.

*Fruit-Grower*

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## V.—ADDITIONAL EXHIBIT—APPLES.

*Fruit-Growers' Association of the Province of Ontario.—D. W. Beadle, Secretary, St. Catharines, Ont.*

For a very large and meritorious collection of apples, illustrating the capacities of the soil and climate for fruit-growing, and indicating the progress of the people in pomology; a large proportion of the whole, well grown and finely coloured.

## VI.—COLLECTION OF APPLES.

*Charles Arnold, Paris.*

For a large collection of correctly named and well grown apples, and especially as a recognition of the value of his labours as a hybridizer, as illustrated by specimens exhibited of hybrid apples numbers 3, 4 and 5, in this collection.

## VII.—COLLECTION OF APPLES.

*James Dougall, Windsor.*

For a large and fine collection of apples of well known and valuable varieties, and also for a display of thirty-one (31) varieties from trees recently imported by him from France, and possessing marked peculiarities, among which is "Api Noir" (black lady apple) an exceedingly rare variety in this country.

## VIII.—APPLES.

*Hugh Scott, Jr., London.*

That one variety he exhibits called Thompson's Jelley Russet, is of such superior excellence among russet apples as to merit special recognition.

## IX.—LONDON PIPPIN APPLE.

*J. McStay, London.*

This apple, always beautiful, was, in addition to its unusual large size, of delicious flavour

## X.—SEEDLING GRAPES.

*Charles Arnold, Paris.*

That among one of these seedlings, the Canada is so much like Clinton, but yet superior in size and general qualities, as to be a good competitor with that well known and popular grape.

## XI.—SALEM GRAPES.

*William Young, Hamilton.*

That these for that section of country were of remarkable excellence in size of berry and bunch, and in flavour.

XII.—CLINTON GRAPES.

*W. P. Taylor, Hamilton.*

That these Clinton grapes, though grown so far north, were superior to the same variety as usually grown any where, in the size and beauty of the bunches and the flavour of the grape.

XIII.—GRAPES UNDER GLASS.

*Thomas H. Parker, Woodstock.*

That his collection of hot-house grapes is of superior excellence in colour and flavour, and the bunches of good average size. A bunch of Victoria Hamburg was of particularly beautiful form, and weighed 1 lb. 7 oz.

XIV.—EXOTIC GRAPES.

*H. Pafford, Niagara, Ont.*

That he exhibits Black Hamburg grapes, grown in the open air, weighing 16½ oz. and of excellent flavour, little inferior to the best specimens generally raised under glass.

XV.—APPLES.

*Donald Smith, Hamilton.*

Two kinds of apples, Ribston Pippins and King of Tomkins County, were of unusual size, and excellence in other respects.

address (annual)  
address and pres  
annual Meeting  
annual Prizes...  
apple Cultivator  
apple fertilized  
apple-blight...  
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