

4th. ANNUAL REPORT

OF

THE FRUIT GROWERS' ASSOCIATION

W. T. M.
OF PRINCE EDWARD ISLAND

...1900...

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ANNUAL MEETING HELD AT CHARLOTTETOWN
JANUARY 24th, 1900

Published by Order of the Association

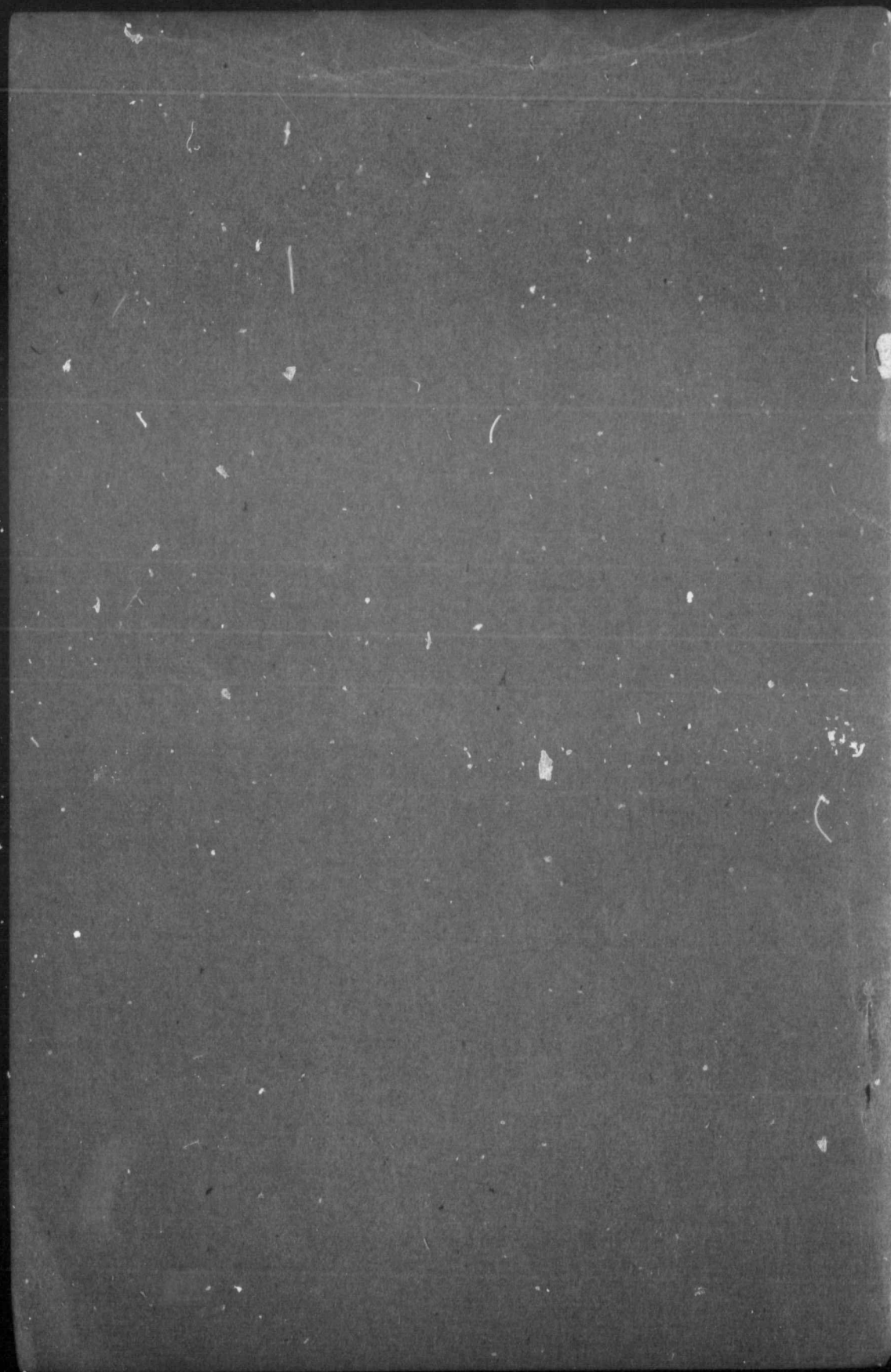


CHARLOTTETOWN:

PRINTED AT THE EXAMINER OFFICE, QUEEN STREET

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1900.

OFFICERS FOR 1900

PATRON—His Honor Lieut. Governor McIntyre.

HONORARY PRESIDENT—Hon. G. W. Howlan.

PRESIDENT—Henry A. Stewart, Hamilton.

VICE-PRESIDENT—J. H. Gill, Little York.

SECRETARY—Peter McCourt, Charlottetown.

TREASURER—Joseph Wise, M. L. A., North Milton.

DIRECTORS

PRINCE COUNTY—Rev. A. E. Burke, Alberton ; Charles R. Dickie, Muddy Creek ; D. A. Sharp, Summerside.

QUEEN'S COUNTY—John Johnston, Long River ; S. K. Henry, New London ; James Irving, Cherry Valley.

KING'S COUNTY—Fred G. Bovyer, Georgetown ; D. J. Stewart, Aitken's Ferry ; Geo. E. Goff, Woodville.

AUDITORS

Messrs Horace Haszard and John Newson, Charlottetown.

COMMITTEE ON NEW FRUITS

J. S. Clark, Bayview ; Senator Ferguson, Tullock ; John Robertson, Inkerman ; Rev. A. E. Burke, Alberton.

RESOLUTIONS

J. T. Weeks, Alberton ; Robert Carruthers, Cape Traverse.

PUBLICATION COMMITTEE

Rev. A. E. Burke and J. S. Clark.

PERMANENT EXHIBIT

J. H. Gill, John Johnston and J. S. Clark.

NOMINATIONS

By the meeting, Messrs. Archibald Ramsay, A. K. Henry and D. J. Stewart. By the President, Rev. A. E. Burke and Robert Carruthers.

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FRUIT GROWERS' ASSOCIATION

OF PRINCE EDWARD ISLAND.

FOURTH ANNUAL MEETING.

The Annual Meeting was held in the B. I. S. Hall, Charlottetown, on Wednesday, January 24th, 1900, at 10.30 o'clock, a. m.

The President, Mr. H. C. Stewart, took the chair, after which the standing committees, as printed elsewhere, were duly appointed.

The Secretary, Mr. Peter McCourt, read the minutes of the last annual and intermediate meetings which were on motion approved.

PRESIDENT'S ADDRESS.

The President then delivered his annual address which was as follows :—

GENTLEMEN :— The swift wings of time bring us together at the fourth annual meeting of our association. We have met to take counsel upon the present condition and future prospects of the fruit-growing industry of our province.

When I parted with you at the close of the annual meeting, held last March, I did not expect to stand here today to fulfil a duty imposed upon the president by the constitution—to deliver an address. The Hon. Senator Ferguson, who was unanimously elected president, owing to the stress of other public business, declined to act, causing his duties to devolve on me.

I think that a retrospective view of the progress made in horticulture during the four years of the existence of this society gives encouragement for the future. Greater interest is taken in the growing of fruit, not only for the home, but for the foreign market. It is true we have met with difficulties, but they are only such as are incident to a new undertaking. Even in our disappointments and difficulties, let our purpose of achieving success remain firm. Let us have strong faith in ourselves and in the possibilities of our Island as a fruit-growing country. Mistakes and

failures we have made, but it is often through our mistakes and failures that we learn lessons that lead to ultimate success.

The past season has been one of short fruit crops. But this should not cause discouragement. I think there were many more apples grown than two years ago. As we plant larger areas, the effects of the off year will be less and less marked. Suitable varieties, good cultivation and proper attention given to pruning, spraying, etc, will reward the Prince Edward Island grower with fruit that will compare favorably with that grown by the sister provinces.

What varieties to plant is still a vexed question. At our last meeting, with the light we then had, a number were recommended as suitable for cultivation ; with the light we now have, this list may be somewhat changed. An opportunity will be given at this meeting to ask questions on this or any other matter relating to fruit-growing.

I am pleased to inform you that we have with us a practical horticulturist from Nova Scotia. He has come to give information we need ; and I would here say : don't be afraid to make known to him your difficulties and discouragements, for he may have the panacea you need.

Last autumn, after consulting with several members of the Association, it was decided to make an exhibit of fruit at the Halifax Exhibition. The Hon. Senator Ferguson kindly consented to arrange and take charge of the exhibit, which consisted of some 26 varieties of apples and several varieties of plums. The display, which was in the form of a pyramid, was creditable to the Association and to the Island growers, and attracted considerable attention. Mr. Bigelow, the Superintendent of the Horticultural Department of Nova Scotia, in speaking of the exhibit, called attention to the opinion of Professor Craig by whom it was specially commended, and who was satisfied that the Island should be a most successful producer of fruit for export. Professor Craig, in his address, "impressed the fact that each locality in Canada should ascertain the fruit specially adapted to it and encourage only the production of such varieties, especially in apples."

The association is under great obligations to Senator Ferguson for the loss of time and expense which he incurred in preparing and arranging the fruit. An expense of \$5.25 was incurred, which it was intended to ask the association to assume, but which has been paid by the Senator, who has refused to furnish any bill for the same, thereby aiding the funds of the association to this extent. Mention should be also made of assistance rendered by Vice-President, D. A. Sharp, and Mr. John H. Gill, in procuring and packing the fruit here, and also of very valuable help by Mr. Jeremiah S. Clarke, in arranging the exhibit at Halifax.

The fruit sent was furnished by the following growers :—Hon. Senator Ferguson, Messrs. John H. Gill, John A. Ferguson, William Miller, Augustin Mason and F. A. Pigott, in Queen's County ; and Messrs. Archibald Ramsay, Norman Ramsay, J. Pickering and myself, in Prince County.

When speaking of exhibitions I think it will not be out of place to bring to your notice the work undertaken by our Local Government, at the suggestion of Dr. Saunders, Ottawa, last autumn. Mr. Jeremiah S. Clarke was instructed to collect and prepare an exhibit for the Paris Exposition. Mr. Clarke in his report says : "The

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complete exhibit when arranged in Paris, will display forty varieties of apples, one of crab apples, one of pears and two of cranberries." As fruit growers we should feel greatly pleased that our fruit shall be exhibited at so important an Exposition.

Before I close, I wish to call to your attention another matter—the observance of Arbor Day. The honor of originating this day belongs to ex-Governor I. Sterling Morton, of Nebraska, U. S. A. It is said that twelve millions of trees were planted the day it was first observed. The example of Nebraska was soon followed by other States and by parts of the Dominion. If the school children of our Island, assisted in the first place by their parents, would only commence the planting and care of trees, shrubs and flowers, what a change would in a few years take place in many of our school grounds! From being a thing of desolation they would become a thing of beauty. Let the beginning be made in our rural districts; one example will make many others. Washington Irving says, "There is something nobly simple and pure in a taste for trees. There is a grandeur of thought connected with this heroic line of husbandry worthy of liberal, free-born and aspiring men." I trust that the time is not far distant when every school child will be interested in a work whose influence will go broadening and extending through all time. I leave the subject with these few thoughts: it would take a "paper" to exhaust it.

Gentlemen, I must close. We have just begun our career. What about the future? We are now on the threshold of a new century. What the coming years will bring depends upon the use we make of the resources within our reach. Our duty is to seize and apply every circumstance or opportunity that may offer to enable us to make rapid progress in the development of our fruit-growing industries. If we expect success, we must work with unfaltering determination. (Applause.)

On motion of Rev. Father Burke, seconded by Hon. Senator Ferguson, the President's address was received and its recommendations made the first order of business for the afternoon session.

GOVERNOR'S ADDRESS.

His Honor Lieutenant-Governor McIntyre being present, the President then read to him the following address:—

To His Honor, The Honorable P. A. McIntyre, Lieut.-Governor of Prince Edward Island:

May it please Your Honor:—The Fruit Growers' Association of Prince Edward Island gladly embrace this opportunity of welcoming you to its councils, and congratulating you most sincerely on your elevation to the Governorship of your native province.

Owing our existence in great part to the initiative and preserving efforts of your immediate predecessor, ex-Governor Howlan, we feel that in the First Magistrate of

the land we have always a friend and advisor, whose every effort will be made to advance the interests for the promotion which we are banded together.

In this province where Agriculture and its subordinate, science Horticulture, must ever be the mainstay of the population, it is the duty of all to contribute as far as possible to the advancement of those sciences. Everything is effected by association in this age of intelligent development, and hence, we have been doing our best to improve the great field of horticulture by our united efforts. Young as is our Association, limited as are our means, we have, we think, fully satisfied the province of our usefulness, and caused all lovers of our Island home to look to us for still greater things in the development and perfectionment of fruit-growing amongst us. It is now placed beyond cavil that Prince Edward Island is a fruit-growing country, —it only behooves us to direct the industry on intelligent lines.

As we have already said we owe very much indeed to your predecessor in office. Can we not count as confidently upon Your Honor to continue that invaluable interest and thus powerfully promote our success as an association and thereby confer an incalculable benefit on horticulture here? We feel that we can; and therefore we are happy to confer upon you with all our heart the patronage of the Fruit Growers' Association of Prince Edward Island.

Signed on behalf of the F. G. A. of P. E. I.

H. A. STEWART, President,	
D. A. SHARP, Vice-Pres.,	
PETER McCOURT, Secretary,	
A. E. BURKE,	Director, Prince County.
C. R. DICKIE,	" " "
ROBT. J. CARRUTHERS,	" " "
JOHN JOHNSTONE,	Queen's County.
JAMES J. McCALLUM,	" " "
GEO. E. GOFF,	King's County
D. J. STEWART,	" " "
JOHN ROBERTSON,	" " "

Charlottetown, Jan. 24, 1900.

His Honor replied, congratulating the Association most heartily on the good work it had already done, and were still further to do for horticulture in the Province. He eulogized his predecessor in office, and said he could not be expected to do as much as he; but the Association could count upon him, as in duty bound, to do all he possibly could for it on all possible occasions. He was proud to be a patron of the F. G. A. of P. E. I., and hoped to be able to prove that his patronage would not be merely nominal.

DIRECTOR'S REPORT.

The Director's Report was then read by the Reverend A. E. Burke, Director for Prince County, as follows:—

The season of 1899 was an off year for apples. On this account there has not been the absorbing interest centered in commercial horticulture at least which distinguished 1898, when, at the instance and under the direction of this association,

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the British market was first tempted, with a result that gave fruit-growing here the greatest impetus in years. But although as yet no authoritative report of export shipment has come to our notice, certain growers have had fair crops on some trees which should lead to the proper examination of the varieties which bear yearly, and their treatment for such annual bearing. Our enterprising associate, Mr. Boyer, of Georgetown, has been able to sell for foreign export, we are assured, about 100 barrels of Ben Davis off young trees which bore heavily last year. Whatever may be the opinion of fruit-raisers as to the quality of this apple, it appears to grow remarkably in this province, to fruit freely each year, and to stand the climate admirably. Equally true it is to say that the market for it in its season—spring—is practically unlimited. If, therefore, it can be grown cheaply and will keep better and sell on the British market equally as well as other apples, the Ben Davis seems to be a tree we should plant for commercial ends. Some other varieties are said to have done well here since report was last made, and no doubt your Committee on Fruit will treat of them in their place.

At the annual meeting of last year it was decided to expend the major portion of our grant of the year previous in grafting and pruning, a quantity of good scions having been procured for the association in Nova Scotia for the former purpose. Shortly after the meeting, communication was had by members of the Executive with the Federal and Provincial Governments as to the procuring of some well-qualified horticulturist to graft, prune, spray and lay out and fit up orchards under the supervision of the association. Professor Robertson, Dominion Dairy Superintendent, lent himself willingly to our demand; the Federal and Provincial Governments were to contribute to the work; and the F. G. A. to give whatever portion of its funds available. It was then thought that the local grant of \$150 at least would be continued to this association. A meeting of the Board was held in the Governor's office, Charlottetown, on April 23rd last, when a resolution was passed congratulating the respective Governments on their expressed willingness to aid the work and pledging our own monetary assistance if in a position to contribute and if the original plan of putting the official to be named under the control of the F. G. A. would be carried out. A committee composed of the President, Treasurer and Director Robertson, waited on Premier Farquharson who gave them the assurance that "he was in sympathy with the association and would do all he could for it." After much correspondence with Ottawa, a man named George Kinsman, of Kings's County, Nova Scotia, was selected by the Minister of Agriculture for the mission, and a copy of the letter originally addressed to Premier Farquharson was received by the association.

[COPY]

Ottawa, May 3, 1899.

Dear Mr. Farquharson:—

Mr. George Kinsman, of Nova Scotia, has been engaged to go to Prince Edward Island, to carry on work in giving illustrations and instruction in spraying, grafting and pruning. He will be at the Experimental Farm here for a few days with the Botanist and Entomologist, and the Horticulturist; after which he will go at once to Charlottetown. He will arrive there at the end of next week. I am writing to the President of the Horticultural Society asking him to confer with you on the subject

of selecting the places at which Mr. Kinsman can give his first illustrations in the matters of spraying and grafting.

In making the selection of places, please bear in mind the following suggestions:

1. I think it desirable that at least one orchard, in each of the five different places, should be chosen.
2. They should be, as far as possible, centrally situated in the districts which they are intended to serve.
3. Arrangements should be made with the owner of each orchard to let the trees be sprayed at regular intervals during the season by Mr. Kinsman. There would be no charge or expense to the owner of the orchard for such spraying; but he would be expected to afford facilities for showing the methods and results to all the fruit growers on the Island who might visit his place.
4. A few trees might be left unsprayed, in order that comparison might be made at the end of the year of the quality of fruit from them and from the trees systematically treated. The Department may arrange with the owners of these orchards to take at least part of the fruit for exportation to Great Britain as trial shipments to the markets there.
5. In addition to the systematic regular spraying of these five (more or less) orchards, Mr. Kinsman would give illustrations of spraying, pruning and grafting at as many other places as he could overtake and which yourself and the Fruit Growers' Association of Prince Edward Island might arrange for. It is, however, to be borne in mind that nothing should be allowed to interfere with the regular and systematic spraying of such orchards as are chosen.

Perhaps the *final* choice of the places need not be made until after Mr. Kinsman has made one round of spraying, and on his first round he might visit as many as eight places; but he might not be able to get around fast enough and often enough to keep up a systematic spraying at the whole of that number.

Mr. Kinsman will be provided with a complete outfit of spraying apparatus and pruning tools by this Department.

I am,

Yours very truly,

J. W. ROBERTSON,

Commissioner.

The President, Rev. A. E. Burke, a western director, and several other members of the Association received letters directly from Professor Robertson, asking them to kindly take charge of Mr. Kinsman, and, as in the past with other gentlemen from the Farms, to do all they could to make his mission a success. Professor Robertson declared that Mr. Kinsman was the best available orchardist at that late moment, and while he feared he would not make much of a show at explanation, he thought from the instruction given him at the farm, etc., that he would do the work satisfactorily.

Our President, on receiving word from Ottawa as to the probable date of Mr. Kinsman's coming, went into town and did all he could to meet him, but was informed that he was altogether in Premier Farquharson's hands, who refused to give the Association its regular grant and intended directing himself the work we had suggested and had caused Professor Robertson to carry out. The following gentlemen, not one of them a member of the Association or identified in any way with horticulture, were

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appointed by Premier Farquharson to take charge of Mr. Kinsman, and direct him in his work:

Charlottetown—Premier Farquharson and F. L. Haszard.

Summerside—R. C. Macleod.

Alberton—Benj. Rogers.

Montague—Dr. Robertson

Souris—J. J. Hughes.

Some of these gentlemen, to their credit be it said, acknowledged openly that they knew nothing whatever of this work and refused to mix up in it, especially when they felt it should have been left to us. Mr. Kinsman went over the stations several times, without eliciting any interest anywhere. And this was not remarkable; for, on his own admission, he knew little or nothing about grafting and very little about pruning. As might be expected, no enthusiasm at all was aroused in the work, the most important needs, those of pruning and grafting, being entirely abandoned; and the mission which should have benefited the Province so considerably, was thus quickly turned into absolute failure by political contact. Representing all shades of politics in private life we deprecate as strongly as words can express the mixing up of politics with horticulture in even the remotest degree. As an association the F. G. A. knows no party, its aims being wholly and solely to advance the interests of horticulture for this whole Province, without regard to any outside concern.

We are anxious to express our gratitude to the Department of Agriculture and particularly to Professor Robertson who so readily fell in with our view and whom we do not at all blame for the failure of Mr. Kinsman's mission. He seems to have been the only man available at the moment, and was in every way anxious that he should be taken up by the Association and made at least as much of a success as the circumstances would permit. The following letter amply proves this, and many such were written to members of our Executive:

Ottawa, May 10, 1899.

Dear Father Burke,

We secured Mr. George Kinsman to go to Prince Edward Island to give illustrations and instruction in spraying, grafting and pruning. He has had no experience in teaching, but is a man who knows the practical details, and I think he will give a great deal of valuable service to the fruit growers on the Island. He left last week, and a full equipment of spraying apparatus was supplied to him. Different sizes will be sent on by express to reach him at Charlottetown within a week after he is at work. All I fear is that Mr. Kinsman's power of exposition in language may not be as good as his ability to illustrate in practice. However, the practical illustration is the important part.

I am sure you and the Fruit Growers' Association will give Mr. Kinsman every facility and assistance.

I am,

Yours very truly,

JAS. W. ROBERTSON,
Commissioner.

Misrepresentations having been made as to the Association's attitude to the

question by somebody, the following letter was written by Professor Robertson in response to regrets at the abortive nature of the mission expressed to him by one of our directors:

Ottawa, June 16, 1899.

Reverend A. E. Burke, Pastor,
Sacred Heart Church,
Alberton, P. E. I.

Dear Father Burke,

I have been absent in the Northwest Territories. On my return, I have your letter of the 22nd May.

I am exceedingly sorry that an appearance of failure at the first has attended Mr. Kinsman's work on the Island. I understood that the work was to be carried on jointly by this Department, the Provincial Government and the Fruit Growers' Association of Prince Edward Island. Then, after Mr. Kinsman was engaged, I learned that the Fruit Growers' Association had decided to withdraw from contributing anything towards the expense. That left the work to be conducted jointly by this Department and the Provincial Government. At the same time I hoped for the full co-operation, and hope still for the full co-operation, of the Directors of the Fruit-Growers' Association, particularly of one like yourself who has been identified with this movement from its inception.

After meeting Mr. Kinsman, I discovered that he had a good practical knowledge of the spraying, pruning and grafting, but that he was not a good speaker or exponent of what he knew. Consequently, Mr. Clarke, an Island boy, who had taken a full course at the Horticultural College at Wolfville, N. S., was appointed as Assistant. I am writing to both by this mail, asking them to spare no pains to give practical information to as many orchardists and others interested in fruit growing as they can possibly reach in Prince Edward Island. I had a large quantity of posters sent out for use at those meetings; and I hope that by their use the meetings will be so fully advertised that the attendance hereafter will be considerably larger.

The selecting of orchards must necessarily be left in the hands of the local government after conferring with the representative fruit growers on the Island.

I regret that I am leaving for England to-morrow, and shall not have any chance of being on Prince Edward Island until during the first fortnight in August. However, I hope to be there then and to look into this work in such a way that any partial failure in the early part of this summer can still be atoned for during the autumn, and thorough preparations be made to make the work a complete success as far as possible this season and in every respect next season.

Yours very truly,

JAS. W. ROBERTSON,
Commissioner.

We wish thus publicly to correct the impression Professor Robertson received from some source or other as conveyed in this last letter, and that our Association refused to direct this official, after asking for him, and also denied his work the monetary assistance it had previously promised. The fact is, the Association was studiously ignored by both the official and those who undertook to direct him here, and no sane man could expect us to give our time or money to a work, even if in every way meritorious, when we were never asked so to do by those conducting it even in the most indirect way. The failure of Mr. Kinsman's mission can therefore in no wise be put upon this Association. The F. G. A. could, without doubt, had it been permitted, have turned it to some good account for horticulture, and thus have saved the

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large amount of money thrown away—money so very much needed for the fostering of horticultural interests in the Province.

We feel, however, that at least one good end has been served by this complete failure;—politics and politicians can make no capital out of an invasion of the proper rights of agricultural associations.

Although the past was an off year, our Association was instrumental in securing a very creditable exhibit of Island fruit for the Halifax Exhibition. This exhibit, arranged by visiting members, attracted much attention in Nova Scotia, and amply convinced that fruit-raising province that Prince Edward Island is an apple-growing country also. Acting under governmental direction, Mr. Jeremiah Clarke was also successful in gathering together a creditable collection of Island fruit which has been forwarded to Paris as a portion of the Canadian Exhibit at the great International Exhibition opening there in April next.

At a meeting of the Board held at Summerside on December 22nd last, the matter of a

PERMANENT EXHIBIT OF ISLAND FRUIT

was brought up by Director Rev. A. E. Burke, and favorably received. Since then the press has hailed this suggestion as timely, and other associations have declared for its extension to all the products of the soil. In this connection we desire to append an encouraging article from the Examiner of January 8th:

"That was an excellent suggestion which came from the Board meeting of the Fruit Growers' Association of Prince Edward Island to get up a permanent exhibition of the fruit of the province and place it in our provincial building, where strangers visiting the country may have before them, chemically preserved, samples of all the kinds of fruit, wild and cultivated, this province produces. Even our own selves might gather much very necessary knowledge of our resources in this direction, as well as have an ever ready means of identifying the different kinds of apples, plums, pears, etc., that we can grow.

We are strongly in favor of extending the exhibit till it comprehends a full show of all the products of our soil, roots and cereals, as well as fruit. We notice in other provinces that about the most interesting place one can go to is the permanent exhibition of the mineral and agricultural, and in some cases the piscatorial, resources of the colony. We who have no mines and are almost dependent,—and every year becoming more so—on the fruits of the soil, should not lag behind in this important matter. It would take a little time to get it together, but the object lesson it would afford should doubly compensate the trouble and the little expense. We have some young men in our midst who have qualified themselves in agricultural and horticultural colleges and who, directed when necessary by the professionals of the Experimental Farms at Ottawa, might well undertake this work. We hope it will be done in the near future, and that this garden province may again soon impress outsiders as well as insiders with the superiority of its agricultural resources. The Fruit Growers' Association has made an excellent suggestion, one that it seems strange was not long ago made, and we ought to take it up at once."

The Patriot of the 21st well said:

"We heartily concur with the Fruit Growers' Association in seeking to establish a permanent exhibit of Island fruit here too. Such a collection would be an invaluable object lesson to strangers and Islanders alike. The children of the schools would learn much of the Island home's capabilities from it and be taught early to identify the different kinds of fruit we produce. The exhibit need not cost much to

the province and all will agree that it should have been made long ago. We hope the F. G. A. will be able to carry this estimable suggestion into effect at once."

Owing to the withdrawal of our grant and the restricted nature of our finances the Board of Directors, at their recent meeting in Summerside, requested Rev. Father Burke to make the best terms possible with Mr. L. Woolverton, the Secretary of the Ontario F. G. Association and Editor of the Horticulturist, for that publication for the current year. Last year we paid 80 cents per head out of the membership fee. The Director in charge has been able to secure the advantageous terms contained in the following:

Rev. A. E. Burke,
Alberton, P. E. I.

Dear Mr Burke,

I have your very kind favor of the 24th inst., and I assure you I very much appreciate the kind words of praise both for myself and for the journal which I edit.

We are making a still further improvement in our journal for the coming year. It will be somewhat increased in size, and we have a new cover engraving with which I am sure you will be pleased.

I regret exceedingly the conditions which have arisen in the finances of your Association. I do not see why the Government of each province should not be liberal enough to grant the provincial association sufficient either to publish a journal of their own, or else take the one from Ontario. In response to a recent request from the Nova Scotia Association, our directorate has authorized me to furnish the Canadian Horticulturist to the whole membership of the Provincial societies, outside of Ontario, at 65 cents a year per member, when it is ordered by the secretary. This offer does not include a share in our plant distribution, nor necessarily the report. Of course, it is possible that our Legislature will not object to furnish reports for so large a number, but of this we are not yet certain. I very much wish that I could meet your proposal to make our journal 50 cents a year, because I am exceedingly anxious to have the vigorous young P. E. I. Association continue with us.

Hoping that the offer we are making will meet the approval of yourself and your fellow-workers, I remain,

Yours most sincerely,

L. WOOLVERTON,
Secretary.

We desire to call attention to the question of governmental assistance as mentioned by Mr. Woolverton. There can be no doubt that our Association is entitled to a grant from the Government and that there was no sound reason why it should have been withdrawn last year. We are an altogether agricultural province, and agricultural pursuits, if anything, should be encouraged. Ontario gives its F. G. A., and affiliated societies, for very much less work, proportionately, than we have to perform, a grant of \$10,000 per year; publishes its annual report, and otherwise aids it handsomely; Nova Scotia, our neighbor, grants to its F. G. A. \$2000 annually and prints its report;—and so on with the other provinces. We can grow apples here which would augment our revenue by at least half a million yearly,—as much nearly as we get from butter and cheese,—if horticulture were properly encouraged; and agriculture is our only hope. We get not a single cent out of the public chest. We can grow as good apples in many kinds as Nova Scotia. Last year Nova Scotia realized

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appointed by Premier Farquharson to take charge of Mr. Kinsman, and direct him in his work:

Charlottetown—Premier Farquharson and F. L. Haszard.

Summerside—R. C. Macleod.

Alberton—Benj. Rogers.

Montague—Dr. Robertson

Souris—J. J. Hughes.

Some of these gentlemen, to their credit be it said, acknowledged openly that they knew nothing whatever of this work and refused to mix up in it, especially when they felt it should have been left to us. Mr. Kinsman went over the stations several times, without eliciting any interest anywhere. And this was not remarkable; for, on his own admission, he knew little or nothing about grafting and very little about pruning. As might be expected, no enthusiasm at all was aroused in the work, the most important needs, those of pruning and grafting, being entirely abandoned; and the mission which should have benefited the Province so considerably, was thus quickly turned into absolute failure by political contact. Representing all shades of politics in private life we deprecate as strongly as words can express the mixing up of politics with horticulture in even the remotest degree. As an association the F. G. A. knows no party, its aims being wholly and solely to advance the interests of horticulture for this whole Province, without regard to any outside concern.

We are anxious to express our gratitude to the Department of Agriculture and particularly to Professor Robertson who so readily fell in with our view and whom we do not at all blame for the failure of Mr. Kinsman's mission. He seems to have been the only man available at the moment, and was in every way anxious that he should be taken up by the Association and made at least as much of a success as the circumstances would permit. The following letter amply proves this, and many such were written to members of our Executive:

Ottawa, May 10, 1899.

Dear Father Burke,

We secured Mr. George Kinsman to go to Prince Edward Island to give illustrations and instruction in spraying, grafting and pruning. He has had no experience in teaching, but is a man who knows the practical details, and I think he will give a great deal of valuable service to the fruit growers on the Island. He left last week, and a full equipment of spraying apparatus was supplied to him. Different sizes will be sent on by express to reach him at Charlottetown within a week after he is at work. All I fear is that Mr. Kinsman's power of exposition in language may not be as good as his ability to illustrate in practice. However, the practical illustration is the important part.

I am sure you and the Fruit Growers' Association will give Mr. Kinsman every facility and assistance.

I am,

Yours very truly,

JAS. W. ROBERTSON,

Commissioner.

Misrepresentations having been made as to the Association's attitude to the

question by somebody, the following letter was written by Professo. Robertson in response to regrets at the abortive nature of the mission expressed to him by one of our directors:

Ottawa, June 16, 1899.

Reverend A. E. Burke, Pastor,
Sacred Heart Church,
Alberton, P. E. I.

Dear Father Burke,

I have been absent in the Northwest Territories. On my return, I have your letter of the 22nd May.

I am exceedingly sorry that an appearance of failure at the first has attended Mr. Kinsman's work on the Island. I understood that the work was to be carried on jointly by this Department, the Provincial Government and the Fruit Growers' Association of Prince Edward Island. Then, after Mr. Kinsman was engaged, I learned that the Fruit Growers' Association had decided to withdraw from contributing anything towards the expense. That left the work to be conducted jointly by this Department and the Provincial Government. At the same time I hoped for the full co-operation, and hope still for the full co-operation, of the Directors of the Fruit-Growers' Association, particularly of one like yourself who has been identified with this movement from its inception.

After meeting Mr. Kinsman, I discovered that he had a good practical knowledge of the spraying, pruning and grafting, but that he was not a good speaker or exponent of what he knew. Consequently, Mr. Clarke, an Island boy, who had taken a full course at the Horticultural College at Wolfville, N. S., was appointed as Assistant. I am writing to both by this mail, asking them to spare no pains to give practical information to as many orchardists and others interested in fruit growing as they can possibly reach in Prince Edward Island. I had a large quantity of posters sent out for use at those meetings; and I hope that by their use the meetings will be so fully advertised that the attendance hereafter will be considerably larger.

The selecting of orchards must necessarily be left in the hands of the local government after conferring with the representative fruit growers on the Island.

I regret that I am leaving for England to-morrow, and shall not have any chance of being on Prince Edward Island until during the first fortnight in August. However, I hope to be there then and to look into this work in such a way that any partial failure in the early part of this summer can still be atoned for during the autumn, and thorough preparations be made to make the work a complete success as far as possible this season and in every respect next season.

Yours very truly,
JAS. W. ROBERTSON,
Commissioner.

We wish thus publicly to correct the impression Professor Robertson received from some source or other as conveyed in this last letter, and that our Association refused to direct this official, after asking for him, and also denied his work the monetary assistance it had previously promised. The fact is, the Association was studiously ignored by both the official and those who undertook to direct him here, and no sane man could expect us to give our time or money to a work, even if in every way meritorious, when we were never asked so to do by those conducting it even in the most indirect way. The failure of Mr. Kinsman's mission can therefore in no wise be put upon this Association. The F. G. A. could, without doubt, had it been permitted, have turned it to some good account for horticulture, and thus have saved the

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We feel, however, that at least one good end has been served by this complete failure;—politics and politicians can make no capital out of an invasion of the proper rights of agricultural associations.

Although the past was an off year, our Association was instrumental in securing a very creditable exhibit of Island fruit for the Halifax Exhibition. This exhibit, arranged by visiting members, attracted much attention in Nova Scotia, and amply convinced that fruit-raising province that Prince Edward Island is an apple-growing country also. Acting under governmental direction, Mr. Jeremiah Clarke was also successful in gathering together a creditable collection of Island fruit which has been forwarded to Paris as a portion of the Canadian Exhibit at the great International Exhibition opening there in April next.

At a meeting of the Board held at Summerside on December 22nd last, the matter of a

PERMANENT EXHIBIT OF ISLAND FRUIT

was brought up by Director Rev. A. E. Burke, and favorably received. Since then the press has hailed this suggestion as timely, and other associations have declared for its extension to all the products of the soil. In this connection we desire to append an encouraging article from the Examiner of January 8th:

"That was an excellent suggestion which came from the Board meeting of the Fruit Growers' Association of Prince Edward Island to get up a permanent exhibition of the fruit of the province and place it in our provincial building, where strangers visiting the country may have before them, chemically preserved, samples of all the kinds of fruit, wild and cultivated, this province produces. Even our own selves might gather much very necessary knowledge of our resources in this direction, as well as have an ever ready means of identifying the different kinds of apples, plums, pears, etc., that we can grow.

We are strongly in favor of extending the exhibit till it comprehends a full show of all the products of our soil, roots and cereals, as well as fruit. We notice in other provinces that about the most interesting place one can go to is the permanent exhibition of the mineral and agricultural, and in some cases the piscatorial, resources of the colony. We who have no mines and are almost dependent,—and every year becoming more so—on the fruits of the soil, should not lag behind in this important matter. It would take a little time to get it together, but the object lesson it would afford should doubly compensate the trouble and the little expense. We have some young men in our midst who have qualified themselves in agricultural and horticultural colleges and who, directed when necessary by the professionals of the Experimental Farms at Ottawa, might well undertake this work. We hope it will be done in the near future, and that this garden province may again soon impress outsiders as well as insiders with the superiority of its agricultural resources. The Fruit Growers' Association has made an excellent suggestion, one that it seems strange was not long ago made, and we ought to take it up at once."

The Patriot of the 21st well said:

"We heartily concur with the Fruit Growers' Association in seeking to establish a permanent exhibit of Island fruit here too. Such a collection would be an invaluable object lesson to strangers and Islanders alike. The children of the schools would learn much of the Island home's capabilities from it and be taught early to identify the different kinds of fruit we produce. The exhibit need not cost much to

the province and all will agree that it should have been made long ago. We hope the F. G. A. will be able to carry this estimable suggestion into effect at once."

Owing to the withdrawal of our grant and the restricted nature of our finances the Board of Directors, at their recent meeting in Summerside, requested Rev. Father Burke to make the best terms possible with Mr. L. Woolverton, the Secretary of the Ontario F. G. Association and Editor of the Horticulturist, for that publication for the current year. Last year we paid 80 cents per head out of the membership fee. The Director in charge has been able to secure the advantageous terms contained in the following:

Grimsby, December 28, 1899.

Rev. A. E. Burke,
Albion, P. E. I.

Dear Mr Burke,

I have your very kind favor of the 24th inst., and I assure you I very much appreciate the kind words of praise both for myself and for the journal which I edit.

We are making a still further improvement in our journal for the coming year. It will be somewhat increased in size, and we have a new cover engraving with which I am sure you will be pleased.

I regret exceedingly the conditions which have arisen in the finances of your Association. I do not see why the Government of each province should not be liberal enough to grant the provincial association sufficient either to publish a journal of their own, or else take the one from Ontario. In response to a recent request from the Nova Scotia Association, our directorate has authorized me to furnish the Canadian Horticulturist to the whole membership of the Provincial societies, outside of Ontario, at 65 cents a year per member, when it is ordered by the secretary. This offer does not include a share in our plant distribution, nor necessarily the report. Of course, it is possible that our Legislature will not object to furnish reports for so large a number, but of this we are not yet certain. I very much wish that I could meet your proposal to make our journal 50 cents a year, because I am exceedingly anxious to have the vigorous young P. E. I. Association continue with us.

Hoping that the offer we are making will meet the approval of yourself and your fellow-workers, I remain,

Yours most sincerely,

L. WOOLVERTON,
Secretary.

We desire to call attention to the question of governmental assistance as mentioned by Mr. Woolverton. There can be no doubt that our Association is entitled to a grant from the Government and that there was no sound reason why it should have been withdrawn last year. We are an altogether agricultural province, and agricultural pursuits, if anything, should be encouraged. Ontario gives its F. G. A., and affiliated societies, for very much less work, proportionately, than we have to perform, a grant of \$10,000 per year; publishes its annual report, and otherwise aids it handsomely; Nova Scotia, our neighbor, grants to its F. G. A. \$2000 annually and prints its report;—and so on with the other provinces. We can grow apples here which would augment our revenue by at least half a million yearly,—as much nearly as we get from butter and cheese,—if horticulture were properly encouraged; and agriculture is our only hope. We get not a single cent out of the public chest. We can grow as good apples in many kinds as Nova Scotia. Last year Nova Scotia realized

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\$862,500 on its apple crop. What a blessing one-fourth of this would be to our toiling classes. Of course this Association can be of great use to the country even without government assistance. It will live and labor no matter who says nay; but with the assistance and encouragement it should receive from the Government, what a priceless boon it would be to this Province.

During the year many inquiries have been made as to the purchase of fruit trees by persons desirous of planting, from within and without the Province. There is an urgent and imperative need of at least one thoroughly equipped nursery here, in which good, clean, true-to-name varieties of fruit trees, suitable to our soil, can be purchased at proper prices. We should at least grow our own trees; and there is no doubt in the mind of this Board that the proper men—honest, reliable and reasonable in their methods—could sell much stock at good profit to outsiders. We are of opinion that the Association should take means to procure such conveniences for prospective tree-planters. We are also of opinion that steps should be taken to secure the efficient inspection of trees imported into the Province, to prevent the spread of pests and the victimising of the people.

Nearly all the plant requisite for the making of fruit into jam being now in the possession of the Condensed Milk Company, we are of opinion that the business of preserving fruit could again be taken up with profit by the right parties.

In thorough accord on this question with the great F. G. A. of Ontario, we are desirous of urging upon the Minister of Agriculture the securing of the necessary shipping with cold-storage equipment for our fruit export, and also its proper inspection, lest dishonest packing ruin its reputation on the British market. You shall be asked to pass a resolution on this important matter.

For the first time since our organization as an Association, we published our annual report last year. We hope to make it more and more interesting and valuable as years increase.

In conclusion we desire to thank the President, Secretary and Treasurer of the Association for their many services so cheerfully and gratuitously rendered in the past year.

Charlottetown, January 24th, 1900.

On motion of Mr. Wise, M. L. A., seconded by Mr. D. A. Sharp, the report was received and adopted unanimously.

TREASURER'S REPORT.

The Treasurer, Mr. Joseph Wise, M. L. A., then read his report :

[illegible]

Hon. Senator Ferguson asked for light on some items, and on receiving it, moved, seconded by C. R. Dickey, that the report be adopted. Carried.

The Secretary, Mr. Peter McCourt, here said :—Rumors being in circulation that I told the Premier or anyone else that the Association would not contribute to the salary of the graftsman and sprayer sent here ; I wish to emphatically deny the report. There is not a word of truth in it.

Rev. A. E. Burke—I wish to give notice, Mr. President, that I will, at the next annual meeting, move to amend our Constitution to agree *mutatis mutandis* with the recently amended Constitution of the F. G. A. of Ontario, on which ours is modelled.

The following telegram was received by the Secretary from our late Patron, ex-Governor Howlan :

Kingston, Ont., Jan. 23, 1900.

Peter McCourt:

Hope you will have successful fruit meetings to-morrow.

GEORGE W. HOWLAN.

Rev. Father Burke also read this extract from a letter from Hon. Mr. Howlan under date of January 5th, 1900 :

"I am glad you are keeping the F. G. A. alive. I have been paying attention to the matter at the Exhibitions, and conversing with the packers also. I don't think you need be afraid of our apples in P. E. I. as I know that they are not only equal to those of Ontario, but much better in firmness of skin and general appearance. We have made a name for our cheese throughout the Empire, but particularly in England, by putting up a prime article and standing by our imprint; so with apples, we must make a name for ourselves, and I would suggest to the Association to have "Prince

Edward Island" with the packer's or shipper's name marked plainly on every barrel sent to England, or anywhere else for that matter. Another thing I have learned up here is this: to retain the name of a shipper every barrel must be about the same size from bottom to top, and packed closely by hand in the several tiers.

Please present my good wishes to the meeting on the 24th proximo, and say for me that I am as deeply anxious as ever for the success of the Association, which has already done much and can still do such extraordinary things for fruit growing in our dear Island home."

Moved by D. A. Sharp and seconded by George Vessey that a hearty answer be wired to our late worthy Patron in Kingston. This telegram was sent by Secretary McCourt :

Charlottetown, Jan. 24, 1900.

Hon. G. W. Howlan, Kingston.

Heartiest thanks for kind greeting and good wishes. Grandest meeting of all to-day.

PETER MCCOURT.

The following report was then received :

The Committee on New Fruits beg to state that during the past year no new variety in such an extent as the Stark has impressed its merits upon the public. It is a grand export apple and can be grown successfully on the Island. Some other varieties of distinctive merit have been brought to our notice, but the difficulty of identification has rendered their mention here undesirable.

A. E. BURKE,
D. P. IRVING.

Charlottetown, Jan 24th, 1900.

PAPERS AND DISCUSSIONS.

The President then called upon Rev. Father Burke to read the first paper.

SOME NOTIONS ON PRUNING.

BY REV. A. E. BURKE, B. D.

In my experience with the orchards of this province, and, indeed, we might go outside it with the same result, there is no important and necessary work in the whole range of horticulture so generally neglected as the pruning of trees. The orchardist who really cares for his plantation of fruit trees, tends them, protects them properly, and, even of late, sprays them, has a holy horror of cutting away to any reasonable extent the surplus wood of his orchard. He will be frank with you when you tell him that his trees are in good shape save for a little judicious cutting, and avow without any semblance of reserve that he knows nothing at all about pruning; and, although he knows his orchard wants it badly, would be afraid to attack it, lest he do more harm than good. A broken limb, a rotten or blasted twig he will lop off willingly, but anything else he prefers to leave, hoping some day to see a reliable pruner at work. And now if his neighbors have experience, he could never bring himself

to commit the havoc in his own orchard his system calls for. He would as soon think of lopping off his own ears as all the branches his aggressive neighbor condemns.

And there are diverse systems and opinions on the pruning question, some few scientific horticulturists even, inclining to the belief that, generally speaking, trees are oftener pruned to death than ruined by being left to themselves. Nature will do its work, they contend—we cannot improve on nature.

When this society at its last reunion deplored the great want of instruction as to pruning, in the country, and hoped for help from the Department of Agriculture to give object lessons in this important work over the province; and when later the Department advised the Association that a skilled sprayer, pruner and grafter was coming to us, all hopes were high. Unfortunately they were not fulfilled. But there can be no doubt of the lasting good such a competent horticulturist could do the country.

With the work of pruning, the principal difficulty arises from the fact that it is not undertaken in time. Pruning, especially of apple trees, should commence when the stock is received from the nurseries, after which it would be well to go through them several times a year until they come into bearing, cutting out the intersecting branches and opening up the centre of the tree generally. This process will save a deal of sawing off of big branches later, and will facilitate very much, thorough spraying. Of course when one commences in time with the young tree he can by observation and the exercise of common sense control its shape and assist its perfect development. In order to maintain the symmetry of the tree he can clip off the too vigorous branches so that it will not lose its proper balance. With me I notice most, if not all of my trees, incline to the north, and I am obliged to do the clipping on that side always. When a limb grows out of the course you intended it to take and leaves a vacant space, you can easily cut it back to its last bud, on the side of the opening, and immediately a new growth easily directed into a symmetrical head will form. Different trees require different treatment. The apple tree covers the whole range of tree form; some are upright growers, while some spread out from their first years. The Spy is an example of upright growth. It must be pruned in a manner to permit the air and sunlight to get at its centre; and, therefore, a vigorous cutting out of wood there is necessary. The King and Fameuse, on the other hand, are examples of the spreading variety, and therefore the pruning knife must be used in trimming them up or they will grow lower and lower every year. But whilst one must keep the centre of a tree sufficiently cut out to permit of spraying with success and to allow the air and sun to mature and color the fruit, some trees like the King will permit of very little centre cutting, as the wood is very tender, and sun scalds occur which ultimately kill the tree. But there is no cast iron system in pruning trees. Different people have different ideas of it, and single trees have something of an individuality, which must be always taken into account.

What shall we prune with? If taken in time, trees may be pruned to their perfection with a hand clipper. If it becomes necessary to do some heavy work, however, a fine saw used from underneath is best; and the limb must be cut off up to the trunk, the wood smoothed off with a jack knife and a coating of something put on it. The older school of horticulturists advised the painting over of the wounds with coal tar; but this, in some cases, is found to be hurtful to the tender tree. A

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coat of grafting wax is as good as anything, or even a daub of paint—anything to make it impervious to the weather. If the tree is so wounded that it cannot be expected to ever heal over completely, a good plan is to bandage the wound up after applying a mixture of ordinary clay and cow dung.

It is wonderful how little the principle of clean pruning is followed. Many men, otherwise intelligent, leave a few inches of the separated limb attached to the trunk as a kind of step ladder for the robbers to climb later into the tree. Those rot ultimately into its very heart and destroy it. Indeed many nursery men are to be reprehended on this point. I bought stock from a nursery last year which trimmed off the two copious limbs with some kind of an instrument, which left a whole line of stumps nearly an inch long. That was a capital offence in a tree-seller. After the branch is lopped off, it will be necessary to inspect it again within a week or so, and rub off with the hands any undesirable shoots or suckers that appear.

But when is the pruning to be done? Those who know assure us that June pruning stimulates the production of fruit; March, that of wood. In other words prune in winter for wood, in early summer for fruit. (Rev. Father Burke here gave scientific views for the assertion that while winter pruning gave wood, summer gave fruit. He said: "A strong growth of wood and fruitfulness do not usually go together. Hence you hear orchardists remark: 'That tree is growing too much to bear well.' A tree must mature its wood to a certain degree before it fruits properly, and to fruit properly it requires plant food in abundance. Now when we remove a branch in summer we check growth to that extent and give so much to fruitfulness, and diminish the strain on the tree's plant food, the spare part of which can now be turned to the production of fruit buds. Winter pruning, on the contrary, gives all the branches not removed an extra pressure of sap to start up new wood and a greater supply of nourishment for its growth. This heavy vigorous growth makes such a demand on the tree that it has not plant food enough left to form new blossom buds.")

I remember once driving along a road in King's County, which took me in January, past a large Ben Davis orchard, and there I beheld such a slaughter of branches among the trees as fairly terrified me. Great bare cuts two inches in diameter were noticeable on every tree, and a huge quantity of limbs covered the ground. I cannot say if the owner of that orchard was looking for a big wood growth or not. My driver told me that he was making ready to plough between his trees, and that this was necessary to let the horses through. Well, I have not seen that orchard since. It may have been improved, although so general a cutting in severe weather and without any painting of wounds would appear to me to be hurtful in the highest degree. As a general thing, it is better to prune in late winter or early spring, and in mild weather, painting over the wounds carefully. Trees pruned in severe weather are often killed. There is no doubt about that.

I know I am merely throwing out suggestions to more experienced men than myself on this important matter of pruning. I am satisfied that much will come out, in the after discussion, which will be of value to us all. One thing is sure, however: our orchards need pruning, proper pruning, timely pruning, to improve our supply and the quality of our fruit.

The President—Gentlemen, this is a very valuable and practical paper ; it is now open to discussion.

Mr. Patriquin, of the Annapolis Valley, N. S., said : I congratulate the Association on the enthusiasm exhibited by its members. As to the culture of fruit trees, a different treatment is required in different places. I was very much pleased with the paper read by Rev. Father Burke. In my opinion, June is the best time of the year in which to prune fruit trees, because the wounds will heal over more quickly at that time. But the best time for the farmer to set about the work is the time at which he has most time and a good sharp saw. Thorough pruning is important. A few years ago I pruned trees on half an acre in the fall of the year. The next year the crop was not large, but the following year the half acre produced 100 bbls. In pruning, the limbs should be cut close to the tree, and as a rule they should be cut high enough to let a horse walk underneath and plough anything away from the butt of the tree. Care should be taken to cut the limb off smooth. He found it a good way to first cut the limb a short distance from the tree and then to make a second cut close to the trunk.

Senator Ferguson thought it was an excellent plan to cut the limb off a short distance from the tree and then to prune close and smooth. The King's County orchard Father Burke mentioned, was cut off that way and shortened up at leisure.

Father Burke—How do you know what orchard I meant ?

Senator Ferguson—I think I do. However, I am of opinion that nobody will sufficiently prune his own trees. It ought to be left to another. This is an important paper, and I move that it be printed in the report.

Mr. Peter McFarlane, Montreal—I am interested in trees, having an orchard of one acre near Montreal, from which, in 1896, I obtained 200 barrels. Last year, the off-year, I obtained 110 barrels from the acre, 95 barrels of which sold for \$246. Besides I took off the ground a great lot of vegetables and 30 bushels of potatoes, besides a quantity of strawberries, raspberries and other small fruits. I agree with Father Burke and Mr. Patriquin that it is well to use the pruning knife freely. I usually get another man to do the pruning for me, fearing that I would not have the heart to cut away all that ought to be cut.

Mr. J. T. Weeks—How far apart are the trees planted ?

Mr. McFarlane—They were planted by my uncle just twice as thick as they ought to be. They were eighteen feet apart each

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way. But they are now so much intergrown, despite vigorous pruning, that they will have to be thinned.

Walter Simpson—What kind are they?

Mr. McFarlane—Three-fourths are Fameuse, the most suitable apple for that locality, and the rest are Baldwins, Golden Russets and Manns.

Mr. Patriquin—In the half acre I referred to there were thirty-three trees

Mr. J. H. Gill seconded the motion to print the paper, which was carried, and the first session was closed for dinner, at 1 o'clock.

AFTERNOON SESSION.

At 2 o'clock the President took the chair. A short discussion took place on the President's Address, which was adopted unanimously. The President then called upon Hon. Senator Ferguson to read his paper.

COMMERCIAL ORCHARDING IN P. E. ISLAND.

BY HON. D. FERGUSON, M. S. C.

By commercial orcharding is meant the successful propagation of varieties adapted to our soil and climate, which will stand the stress of ocean transportation and command good prices in the best markets. Many of the remarks necessary to be made in dealing with orcharding for commerce will apply to tree growing for general purposes. This paper deals only with apples, although I believe that pears and plums can be successfully grown in Prince Edward Island for commercial purposes.

The selection of a site for the orchard is not usually difficult in Prince Edward Island. A well drained surface is a primary consideration, and a sandy loam or light clay loam is the most suitable soil. Although I have no personal experience on the subject, I incline to the opinion that where the subsoil is hard clay, underdraining would be beneficial. The effect of underdraining or even subsoiling cannot fail to be useful in exposing the soil to the influence of the atmosphere.

Wind breaks are valuable not only when the tree is young for protection from unkindly winds, but also in preventing injury to blossom and fruit. It is not imperative, or perhaps even desirable, that the wind break should be too near the trees, and northerly winds are not the only ones to be guarded against.

The ground should be liberally manured and previously prepared by a root crop, —potatoes being the best for this purpose. Cultivation should be persistently maintained after planting by the growth of roots or small fruits, or the ploughing down of green crops, such as clover or buckwheat, but on no consideration whatever should

crops of grain be grown, or the land be allowed to go to sod. Even the growing of crops for green feed is a bad practice.

The trees should be planted not less than thirty feet apart each way,—thirty-five or forty feet being still better. When they are young—and this stage may be counted to last fifteen or twenty years—valuable crops of roots or small fruit may be grown between the rows of trees, provided sufficient manure is supplied for the needs of both the trees and the other crop. Ultimately if standard trees are obtained, the full space will be required by the trees; but it should still be carefully cultivated in the early part of the season, and of course it must be liberally manured.

In Ontario it is found necessary to sow clover or some such crop in the early autumn to cover the roots and prevent winter killing. Such practice is not so necessary here, the frost not being so severe and the snowfall greater. At the same time a covering crop to be ploughed down in the spring is good practice anywhere, as long as it does not interfere with other uses of the land and the trees are thoroughly protected from the depredations of mice.

Granted that the land has some lime, which is scarcely ever found naturally in any appreciable quantity in the soil of Prince Edward Island, stable manure with good cultivation will usually supply almost everything the tree needs, except phosphoric acid which should be added at intervals in the form of bone meal or plain superphosphate. I incline to the opinion that most of our lands contain liberal supplies of potash, but often in an unavailable form. Should it be found that the application of stable manure with thorough cultivation does not result in rendering potash soluble, in sufficient quantities, then it is necessary to supply it artificially either as wood ashes or muriate of potash. Nova Scotia experience is that the use of potash artificially has a marked effect, especially on the quality of the fruit.

The quality of nursery stock is a paramount consideration. A large proportion of the trees sold will never make good orchards. A tree which is stunted in the nursery will never overcome the set-back. The tree which has made in the nursery the most good substantial growth in the shortest time, will certainly make the best progress in the orchard. All trees lacking symmetry or possessing forks, should be unceremoniously rejected. The fork means death to the tree at some period in its growth, and a lack of uprightness is nearly as certain a cause of breaks as the natural defect of bad unions of branch or trunk. Besides, lopsided trees present serious obstacles to the proper cultivation of the land. The almost incalculable injury to the fruit industry produced by the way in which the sale of nursery stock has been, to a great extent, conducted in Prince Edward Island, affords ample material for a separate paper, and only an incidental reference can here be made to the subject. Much of the stock supplied has been the refuse of nurseries, and I fear that in some cases the nurseries had little but refuse to supply. In the matter of varieties, the nurserymen and their agents have not infrequently conspired to cheat their customers. One of the ways this is done may be mentioned. The agent with flippant descriptions, and the exhibition of beautifully illustrated catalogues, convinces the farmer to buy trees of a particular variety. The order is then produced, filled up as agreed on, and duly signed; the farmer believing that everything has been made firm and fast. Concealed, however, in the printed matter of the contract, is a condition

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that if the nursery has not trees of the variety described, the vendor may supply them of any other equally good quality, which practically leaves the whole choice in the hands of the nurseryman, who supplies whatever suits him best.

Not a few of the nurseries are pest spots, and send out trees infected with bark lice, which are not only valueless in themselves but which practically ruin healthy orchards in which they are introduced.

The question of variety is most important in commercial orcharding. In Prince Edward Island we are not much restricted in our choice of varieties by climatic considerations. All the sorts in favour in Canada grow here with more or less vigour and productiveness, except in exposed positions on the coast. This fact, together with our comparative immunity from winter killing of branch or root, as well as from sunscald, is calculated to induce haphazard propagation. If we are to make apple raising commercially successful, we must get down to bottom considerations, and, above everything, we must avoid partizanship for particular varieties based on insufficient experience.

The first consideration is the life of the tree. Some varieties have low vitality and vigour, whilst others, although possessed of both, are liable to exhaustion from too early bearing. Such varieties will not make a good standard orchard, by which is meant an orchard which may not reach the maximum of production for over a quarter of a century, but which should, after the first ten or fifteen years, yield fairly substantial crops. The habits and history of the different varieties should be carefully studied, and none should be accepted unless they give evidence of vitality and vigour. Strong unions of branch and trunk are especially important, as the greatest damage arises from breaks caused by the weight of heavy cropping where the wood is not thoroughly joined.

A happy medium should be chosen between varieties which bear excessively when young and those which are very late in coming in. As a rule, very little should be expected from a tree until it is ten years old. If much fruit is given earlier it is at the expense of the life of the tree. The habit of giving a moderate crop every year is preferable to that of yielding large crops biennially. Not only is the former habit better for the tree itself, but it distributes the labour more evenly, and supplies the market with regularity.

Whatever may be the case in some parts of Canada and the United States, where large local markets exist, it is clear that in Prince Edward Island the British market must be, in the end, our main reliance. Consequently we should set out to grow such varieties as will best withstand the ocean voyage and realize best prices on the other side. The early fall varieties have, therefore, no place in commercial orcharding in Prince Edward Island, even assuming that with careful handling and first-class cold storage they can be safely landed in Great Britain. They cannot be depended on to sell well, especially in years of plenty, as from their perishable nature, they must go into consumption as soon as landed. Apples are distributed from the principal ports to the inland centres of population, and no apple will bring regularly good returns which will not stand up during the handling and time demanded for this distribution.

To a measurable extent, the same objection lies to the propagation of late autumn

apples of even the best kinds. If they are shipped in cold storage or well ventilated steamers they will arrive in good order, and, if the market is not congested, they will command top prices. But from their advanced maturity they will not stand the strain of distribution in Great Britain. Should they strike badly ventilated quarters on ship board they will be found slack or wet on arrival. Even if they arrive in good condition they will sell low if the market happens to be liberally supplied at the moment of their arrival.

All autumn apples have to face the British market at a season when soft apples are being rushed forward from all parts of the world, and when the weather is still warm. Even if they arrive sound, the intensity of the competition must inevitably keep down the price. I have no hesitation in saying that the Gravenstein is beyond comparison, the best autumn apple known for cultivation in Prince Edward Island. It is a fine grower, a heavy cropper, and from its great popularity commands a ready sale at home, as well as in Great Britain.

The proportion of the surface of Europe and America which is adapted to the production of winter apples is by no means large. As the winter advances, one country after another drops out. It is a genuine case of the survival of the fittest. Here is Prince Edward Island's place. All the varieties when grown here will keep longer under proper conditions than when produced elsewhere. The valleys of Cornwallis and Annapolis have hitherto occupied the premier place in this regard. The apples grown in that section are well known to be better keepers than those of other sections of the American continent. It is safe to say that Prince Edward Island apples have an advantage, in a keeping point of view, of nearly three weeks over those of Nova Scotia.

There is no reason why we should not share the English market with our Nova Scotia friends in the sale of the midwinter sorts. Ribstons, Kings, and Blenheims are the favorites in Nova Scotia for this season. I hesitate to make a choice for Prince Edward Island. The Ribston has been grown here for over half a century. The tree is not a very fast grower, but appears to possess vitality, and has held up in the face of the most persistent neglect and bad cultivation. It is a moderate annual bearer. If from young, well-cultivated trees or top grafting we can get Ribstons of good size, they are a sure thing in their season in London, and I am informed that they are gaining rapidly in reputation in Liverpool. A popular mistake exists here regarding the season of the Ribston. It should not reach the British market later than the first of January. The King is a good apple to sell in its season which coincides with that of the Ribston. I am told that this tree does not give promise of being a long liver in Nova Scotia. Here it is an extremely rapid grower, and requires much cutting back to prevent too great spreading of the branches. The Blenheim is an apple with which I have no experience and little opportunity of observation. It has an excellent reputation in Nova Scotia, the only drawback being a tendency in the apple to crack in an ocean voyage. In this connection I would mention the McIntosh Red, which rivals the King in appearance and quality and which makes a better tree. It has not obtained much favour in Nova Scotia, but it has proved an undoubted success in the limited trial it has had with us.

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favour. Spies, Baldwins, Golden Russets, Nonpareils, Ben Davis and Stark. In point of quality the Northern Spy is entitled to the first place, but owing to the tenderness of its skin it is difficult to preserve its quality for the British consumer, and therefore, while it will command the very highest price at home, it is not the best apple for export. The tree is a strong and upright grower. It is very late in coming to bear. The Spy is successfully grown in the Bay of Quinte District of Ontario, but the testimony in its favour is not so decided in Nova Scotia. My own experience with this variety is quite satisfactory. No tree is more robust than the Baldwin, and it is an excellent export apple. It is said to be imperfectly equipped for fertilization and should therefore not be planted exclusively in any orchard. The Golden Russet is a fine growing tree, and the apple is an excellent keeper. It will generally take a good many apples to fill a barrel, but it often realizes gilt edge prices in England. The Nonpareil is, I understand, unsurpassed as a keeper, and is a great favorite in England. So far as I can learn it is a success in Prince Edward Island. It is said to do best on a clay loam soil. The Ben Davis, although much abused at home, is highly appreciated abroad. I know from experience that this variety is safe to export and sure to sell fairly well even in December and January, and I am told that it has scarcely a peer for late winter selling. While it is a thrifty tree and an excellent bearer every year, when comparatively young, it is but right to observe that Professor Craig does not regard it as a tree that will, as it grows old, continue to bear the best fruit. So far as my experience goes, both with regard to growing and marketing, I would place the Ben Davis second to none.

The Stark is a variety which is rapidly coming to the front both in Nova Scotia and in the West. It is an excellent upright grower, and a good annual bearer. It is a splendidly finished apple of fine size and has inherent qualities for eating or cooking superior to any of its class except the Northern Spy and perhaps the Baldwin, though for dessert it is inferior to the Ben Davis. The limited experience we have regarding this apple is entirely favorable. It certainly grows to great perfection here, and has done well in the English market.

To begin right we should, in my opinion, aim at producing apples which could be kept for the period when other American-produced apples have gone, and before the products of Australasia arrive in the markets of Europe. That period usually embraces the latter half of March and the opening of April. If we can produce an apple which can be placed on the European market at this season in good condition, we can command our own prices.

There are no insuperable difficulties in getting to the British market at that season. It was my privilege, when a member of Sir McKenzie Bowell's government, to secure a reduction of freight rates by the winter steamer to those prevailing during the summer season. There is no reason why we should not be allowed a through rate by which we could connect with the winter steamer at Halifax on as favorable terms as are given for similar distances in other parts of Canada. Experience has demonstrated that communication between Georgetown and Pictou can be relied on after, at least, the first of March. I intend this year to make a trial of Ben Davis apples in London about the end of March which will fairly test the practicability of the view I am presenting in this paper.

Allow me to emphasise the importance of shipping each variety well in advance of its season for maturing. The ocean voyage, even when conditions are favorable, hastens the process of ripening, and as I have already said, it is all important that the apple should be firm enough on arrival to stand the stress of distribution in Great Britain.

The picking of apples and subsequent care of them before shipment is of vital importance. Much of our fruit goes to premature decay from erroneous views regarding storage. Often apples are placed in an outhouse loft or other such place where they are subject to two or three changes of temperature in every twenty-four hours. The owner derives satisfaction from seeing them "sweat" as the condensation of the warm air on the colder body of the apple is familiarly known. He thinks this is a process necessary to the curing of the fruit. In reality it is destruction to the apple, which should never be subjected to any such changes of temperature. Apples which are picked during the day should be allowed to remain in the open air during the night so as to cool off. Early next morning they should be removed to the coolest place of storage available, and there kept loosely at as low a temperature as possible until they are shipped, which should be done in ships provided with cold storage or with properly ventilated holds, which, in the opinion of many practical men, is better than cold storage.

The packing should be done honestly and carefully. The apples should be pressed very solidly into the barrels so as to guard against their being slack on arrival. The packer's name should be distinctly placed on the head of each barrel as a guarantee of faithful packing.

Top grafting, pruning and spraying, are operations so indispensable to successful orcharding of any kind that it may seem superfluous to refer to them in this place. Suffice it therefore to say that wherever there is reasonable vigor and vitality in the tree it need not be uprooted because it does not bear apples of value. Grafting is a very simple process, and by means of it you can make your trees bear any kind of apples you require. One general consideration should govern top grafting, which is that the scion should not be of a faster growing variety than the stock.

Spraying with Paris Green and Bourdeaux mixtures cannot be dispensed with on any consideration. Spotted or wormy apples are no good in commerce and the trees will not be healthy nor grow good apples if their foliage is not protected from fungus attacks.

It goes without saying that trees should be carefully and systematically pruned. This should be done in such a way as to prevent the crowding and friction of branches, to admit light and air into the centre of the tree, and to promote a symmetrical growth. If a tree is properly pruned from the start the amputation of large branches will never be called for, but no hesitation should be felt in applying the saw with judgment to trees where early pruning has been neglected.

In conclusion I have no hesitation in expressing my opinion that Prince Edward Island is destined to become a great apple-producing country, and it will be the fault of its own people if that result is not brought about within the lifetime of some of those who are taking part in this meeting.

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The President—Gentlemen, this is an interesting and valuable paper. We are now ready for discussion on its contents.

Mr. Patriquin—Those who follow the directions and suggestions set forth in Senator Ferguson's paper will make no mistake. In my opinion the young orchard cannot have too much cultivation in the first ten years. The best apple orchard I know has been carefully cultivated and root-cropped every year. If the trees are not cultivated, their growth will be stopped and it is impossible afterwards to make up the loss. I think it best to remove all the sod from the trunk and over the root of the tree. By cultivating close up and leaving no sod, canker worm and other insect pests will be destroyed. We plant the trees thirty to forty feet apart. Some persons say that it is a good plan to plant twenty feet apart and then, when the trees have grown so that they are too close, cut away every other tree. In Nova Scotia, a lot of commercial fertilizer is used in orchards. But I think that, upon the whole, there is no better fertilizer for orchards than good barn-yard manure. Mussel mud would be, I believe, a good thing to apply. As to varieties for commercial purposes, there are the Gravenstein, the Northern Spy, Golden Russet, Nonpareil, Baldwin, and Stark, though I do not profess to know much about the latter. The Ontario, also, is reported to be a good cropper—better than the Spy, but they bruise easily. It is impossible to be too careful in your selection of nursery stock. Send your orders to a good reliable orchardist and none other. In respect to transportation I think that good ventilation is better than cold storage. It has been found that apples kept in cold storage, would not, after they were landed in England, stand up with the apples sent in the ordinary way. As Nova Scotia and Prince Edward Island are a shorter distance from the market than any other part of America, they have a decided advantage in the export of fruits. We have the best end of the apple market; and it has been said that the Gravenstein, which flourishes here, is the best apple grown in America. They can be shipped up to the 1st of December, and will reach England in time for the Christmas market. After Christmas ship Baldwins. They had better be in hard condition when shipped. Blenheim Pippins also command high prices. The Ben Davis, too, is a desirable apple for shipment. The Newton Pippin is a fairly good apple, but the Blenheim is regarded as better.

Moved by Rev. Father Burke, seconded by Alexander McDonald, that Senator Ferguson's paper be published.

The next paper was then called.

A PRINCE EDWARD ISLAND BEN DAVIS ORCHARD.

BY F. G. BOYER.

Mr. President and Gentlemen of the Fruit Growers' Association:—Lately I received a letter from a gentleman who, I honestly think, takes as sincere an interest in the material prosperity of our Island home as any other man I know of. It reads as follows:

Dear Boyer,—They have put me on a committee with the President to prepare a programme for our annual meeting of 25th January. We must get some papers. Couldn't you give us one this year? Take a "Prince Edward Island Ben Davis Orchard" and describe your own trees; the preparation made for the planting, the planting, the feeding, the growth, the pruning, the enemies, the percentage of mortality, the production, the size, colour, etc., of fruit, the quality of same, the market value, the general prospect for B. Davies in P. E. I., etc., etc.

Very truly yours,

A. E. BURKE.

Alberton, Dec. 26, '99.

Now, Mr. President, what could I do but come before you to-day. For I feel that letter to be a summons to appear as a witness, so I must tell the whole truth. I recognize also its value as a text, so I may follow the example of a certain profession and make the text the foundation for my sermon.

About thirteen years ago last fall, I decided to devote a piece of land to apple trees. The character of the soil is a well-drained sandy loam, which originally was covered with a heavy growth of maple, beech and black birch, but at the time I speak of, part of it had been cleared several years, cropped and manured, but was then in grass; the other part was carrying a thick growth of fir and spruce just large enough for fence poles. That fall I got the young trees stumped out, and during the winter the fallen trees were all trimmed up and removed for fence building. The size of the field was about one and a half or possibly two acres. I have now given a statement of the entire preliminary preparation.

After considerable inquiry and much indecision, I decided on the Ben Davis as the most reliable winter sort which was doing well in other parts of Canada, and ordered the entire number of trees I planted the next spring of that sort. My experience with potatoes had taught me that several varieties of the one crop was a troublesome affair—in fact, a humbug. That accounts for my taking my risk on the one kind.

Somewhere near the first of June, the following spring, I had the land staked off twenty-two feet apart, as I knew the Ben Davis did not grow to be a large tree. It is a great eye trouble, and hinders cultivation, to have the trees stand out of line in the rows. If no means are taken to preserve the mark where the stake stood before the hole was dug, it will require considerable manœuvring to get the tree exactly into line with its fellows, both lengthways and crossways, as the rows should run straight along and across. When this is done exactly, it will be found that there are straight lanes for cultivation in half a dozen directions. I use as a place-finder, a board about eight feet long, having a one and a half inch hole near each

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end, and a slot or deep notch let into the centre. Before the man who digs the holes removes the stake, he puts the board down so that the stake fits into the slot, he then drives a small stake through the end holes into the ground; these little stakes remain, but he removes the board, pulls up the tree stake, digs the hole, which need not be very deep; this is repeated until the holes are all dug. When planting, the board is again put over its end stakes, the tree stood into the slot and the finest and richest soil worked in among the roots. It will be found that the trees are in exactly the same spot the stake was in. The slot is also useful in holding the little tree erect while planting. This place-finder is a trade secret I got by inheritance.

Now Mr. President, I am afraid a great mistake was made in asking me to tell how I cultivated and feed my trees. There was little or none of either for several years. The most that was done was to pile the spruce and fire brush high up around the little trees to form a sort of fence for preventing sheep, calves or pigs from doing harm. In time, the brush rotted and enriched the land, and for several years prevented the grass from growing.

Four years after planting, the trees which stood on the older portion of the field had developed large thrifty tops and bore a few scrawny, worm-eaten apples, but the portion only stumped out of the green bush before planting carried very slow growing, shell-louse covered trees, while those on the old land had out grown the shell louse which was on them when they came from the nursery.

About that time I began the practice of carting in at convenient times occasional loads of any coarse manure that was otherwise not wanted, and lately have been making considerable use of clay or soil graded from cattle yards, sheep pens, and drains near the buildings. This grading was a necessary work to put yards and pens on a satisfactory level, so its cost is of no account. A little mussel mud has also been scattered over the new land of the orchard, which has now caught up with the older part, and is its equal in every way. No disease of any sort has ever been detected. Codling moth is the only pest, and Paris Green has been sprayed on the trees the last five years, which puts an effectual stop to their appetite. Only one tree out of the hundred or more planted died, and that was caused by an accident.

Greater or less crops of fruit have been produced each year since the orchard first fruited. A gradual improvement in quantity, size and quality has been noted. In the fall of '98 we ploughed the orchard for the first time since planting, and on the new part it was the first breaking. Last spring it was harrowed and sowed with rape, which grew well, and was pastured by sheep; but pigs would be better, as it is grand pasture for them. Spraying on a large part with the Bordeaux mixture and Paris Green, was done during last season by the Government Horticulturist, Mr. Kinsman. Here let me say that that gentleman was a thoroughly competent man for that business, in my opinion, and did not get fair play among us. During the first part of the season the promise of a good crop seemed to be slim, as the fruit seemed to be very scarce on the trees, although every tree had some. But when they were all harvested we were surprised to find we had a bigger bulk than the bonanza crop of five years before.

This crop was packed some time ago and made ninety-seven barrels of large,

well-coloured, well-shaped, perfect apples, graded and branded for the London market, besides a considerable quantity of culls which have a respectable value this scarce year.

As to quality and market value I will first have something to say of the usual character, in a world-wide sense, of the Ben Davis. 1st—It is a great culinary apple, one of the best. The great bakeries in United States cities use Ben Davis apples exclusively for pie making. 2nd—It is the best commercial or shipping apple for the British market that grows. No other apple goes to that market in such freshness and bloom as the Ben Davis, and that so late in the season that Northern Spy, King, and other boomed sorts have gone to mush. 3rd—It improves in quality during its voyage across the Atlantic, and by the time it reaches the Britisher's hungry mouth it has become a toothsome, mellow fruit, while its good keeping character adapts itself to his economical desires—and above all the Britisher loves good cooking—and its bright color charms his artistic taste. All I can say regarding the Ben Davis apples which grew in my orchard last season is that they fit the above description in every particular.

In regard to the future prospect for Ben Davis apples, there is great danger of the market being over-done. It is the most popular and one of the most productive sorts over the greater part of America, and great plantations of it have been made and are still being added to. So I am not just now certain what will be the name of my next venture. The following letter will show I have been looking round for a new favorite. The letter has so much good, level sense that I commend it to your special attention as being the best part of my sermon:

Central Experimental Farm,
Ottawa. Dec. 22nd, 1899.

Fred G. Boyer, Esq., Georgetown, P. E. I.

Dear Sir,—Your letter of the 18th inst. is received, in which you ask advice regarding the planting of an orchard of four acres. With the little experience there has been in varieties of apples on P. E. I., I think it would not be safe for you to plant the whole four acres with some variety that you are not sure will succeed there and that will not be profitable to you. I would advise you to plant at least three kinds, but not more. With regard to Ben Davis, I may say that in my opinion it will be a long time before it will not be bought on the English market for a good price. My reason for this is, that it is of good colour, ships well, and keeps well. As you know, there are millions of people in England of a certain class—as in this country, though in less numbers—who do not know the difference between a high-flavoured apple and a poor one, and there always will be. I think that the reason the Ben Davis finds such a ready market in England is because it can be so readily handled by hucksters and retailers. It stands such an amount of handling that it will always be sought after on this account. I do not like recommending the planting of apples of inferior quality, but for commercial purposes sentiment has to be thrown aside and the real facts stated. If you are quite fixed on planting one variety, I would recommend you to plant the Ben Davis, with which you have had such pronounced success. Next to this apple, I would recommend the Ontario. This is a very profitable apple in this province. It comes into bearing early, produces well, ships well, is well coloured, and is of good quality. Of course, as you say, it is possible that on account of its bearing early, it will be short-lived, but as yet there is nothing, to my knowledge, to prove this. If you decide on planting more than one variety and include Ontario, I

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would advise you to put it in such a position in the orchard that if it does happen to be short-lived you will be able to fill up with some other variety without making a break in the orchard. Canada Baldwin is quite distinct from American Baldwin. It does well in certain parts of the province of Quebec, but with us it is a very shy bearer, and I would not advise anyone to plant it where better varieties will succeed. If the American Baldwin apple is doing well on the Island it would seem to me a very desirable tree to plant, as it has colour, good shipping properties, and the quality is good, but in some parts of this province it is not doing well now, as it seems to be running down. Stark is very highly spoken of by a great many, but I think that where the high coloured varieties will grow it would not be advisable to plant a large proportion of an orchard with this variety. The McIntosh Red is an excellent apple, and in this province I think will pay well, but it does not keep long, being over about the middle of January. It might, perhaps, keep better with you. In selecting varieties for your orchard, I would first of all decide on those kinds which you feel certain will succeed there, then limit your varieties to those of good colour and good shipping qualities.

I shall be very pleased to have another letter from you and to know what your decision has been, and if I can give you any further information before you decide I shall be very happy to do so.

Yours very truly,

W. T. MACOUN,

Horticulturist.

Rev. Father Burke—Did I understand Mr. Boyer to say that he let his sheep into his orchard?

Mr. Boyer—Yes; but I would not recommend that usage to anybody—I escaped, but sheep would ruin an orchard in the end.

Several—Yes; any animal larger than a hen ought to be scrupulously excluded.

Senator Ferguson—I gladly bear testimony to the decided and remarkable success obtained by Mr. Boyer in the cultivation of the Ben Davis apple. His crop of this year is an excellent one, the fruit beautiful in color, uniform in size and perfect in shape. I move that Mr. Boyer's paper be published with the proceedings of the Association.

Mr. J. T. Simpson—I second the motion. Carried.

The President then said that those present wishing to join the Association could do so. A large number came forward and were enrolled by the Secretary.

The President then called for the fourth and last paper.

MEDICAL TREATMENT FOR PLANTS

By JEREMIAH S. CLARK, B. A.

Every nation or tribe on the face of the earth has its medicine-man; all those calling themselves "civilized nations" have in addition medical treatment for domestic animals, not on account of pity for the brute as much as profit for the owner; but few have ever seriously thought about Medical Treatment of Plants.

We are in the habit of frowning down anything that seems in any way new or strange; perhaps because it is only once in ten years or so that any one of us can muster up vitality enough to think a really independent or original thought. What if the thought became common to us all, after a time, through constant use, is it any the less honourable? And what if "Medical Treatment for Plants" soon became so commonplace that you and I will talk about it as merely the application of insecticides and fungicides, is it therefore any the less interesting? There is a couplet in Shakespeare which is as true to-day as when uttered by Hamlet two centuries ago:—

"There are more things in heaven and earth, Horatio,
Than e'er was dreamed of in our Philosophy."

And, although our Philosophy has been broadening with the advance of the ages, yet every now and then we run up against an idea so new and strange that in the excitement of the moment a number of our pet theories become hopelessly overthrown. Let us set up those which stand most easily, and press on with the serious business of life, remembering that though we might inflate ourselves, like the conceited frog in Aesop's fable, until we become as large as an ox, we are in imminent danger of having it said of us also: "And the frog burst!" Then let us learn and teach, let us store up energy and use it, for there is nothing gained by holding down the cover of the kettle unless you use the steam for a purpose.

Medical Treatment for Plants,—Plant Medicine! Why, it is absurd! Well, we shall consider the matter for a moment, and see. There can be no doubt but that every animal and plant has its insect enemies and diseases, and there can be no doubt that, if plants are to be grown most profitably, their habits and diseases must be studied and treated intelligently; for the insects and microbes are just as anxious to secure the crop as the farmer is, and, so far as we can judge, in unprejudiced moments, they have as much right to it as we, for it is difficult to decide just who is first in the field. Since, then, there is a dispute as to priority of discovery and settlement, here as elsewhere the so-called "Law of Nations" must be observed, and that law says as plainly as can be uttered that 'might is right.'

Our colleges, not to be behind in the march of civilization have recognized the need of skilled workmen in every department of knowledge, and so even in the department of Plant Medicine rapid advances are being made. For instance, at Cornell last winter a large part of the experimental work done by my brother Judson for his Master of Arts degree was in the elaboration of Electrolytic Dissociation and Toxic Effect. In the introduction to his book published on the subject, he says:—

"In recent years the study of Plant Pathology has come to be one of the most important in the whole range of botanical research. It seems desirable, therefore, that all possible light should be thrown on the toxic properties of the various agents used in combating fungous pests. It is also very desirable, from a scientific point of view, to throw all light possible on the element or group of elements to the influence of which the toxic properties of the compound are to be attributed." This was his work for several months. So men give their lives to studying the most commonplace side by side with the most intricate problems, and it pays us to have them do so at great cost, for in the realm of science there is nothing "commonplace," in the sense

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in which that word is often used, and none but intelligent treatment of disease proves permanently successful.

Let us consider for a moment the case of a farmer who has suffered from the depredations of a fox or a bug until the pest can be endured no longer. In his "noble rage" he either exerts himself to invent some cure, or borrow from the experience of others until he is cuter by a degree or two than the before-mentioned fox or bug, and so annihilates the pest. This done, he may have no further immediate use for his acquired knowledge, but his cuteness remains as a permanent quantity, leaving him more of a man because of the struggle. So it is with all our struggles; nothing worth getting is got without struggling; and the tree which grows in the open, exposed to every storm, has always firmer rootage and finer fibre than its cousin which develops either in a hot-house or the shelter of the forest. There is a manly confidence which comes with the knowledge that we are able to stand alone against every enemy. And so the healthy philosopher can say that every hindrance is a help; at least it is designed to be such, and is such to every man who exerts the principle of manhood which slumbers within him. Then let us enter the lists, prepared for combat-to-the-death against every locust, and bug, and every crawling, slinky, slug; the vision of Charlemagne remains bright in the sky: in this sign we will conquer, and we will believe with Tennyson that:—

"Men may rise by stepping-stones
Of their dead selves to higher things."

In uncivilized countries to-day, as was the case in our own country not many generations ago, there are a great many unreasonable methods of treating the commonest diseases, and numbers of people are cruelly murdered by their best friends because the Medicine-man has ordered outrageous methods of treatment. We are all glad that among us to-day skilled physicians are so numerous that one is always within call when his services are required. Our domestic animals, too, are no longer left to suffer as they did when the gray-heads among us were boys, for at that time a skilled Veterinary Surgeon could hardly be secured at any price, and the charges of the unskilled were so exorbitant as compared with the good they did, that a farmer hesitated about calling one in until he was reasonably certain that his poor horse or cow was beyond all hope of recovery.

Medical treatment for man and the animals has made commendable progress among us, but throughout our country our domestic plants are treated according to old methods which are not one whit less barbarous than the cruel method of removing what were called "the hooks" from the inflamed eyes of suffering horses, as practised even here less than half a century ago. Let us have a few years of intelligent instruction, and everybody will laugh at such methods of treating plants as driving nails into the roots to compel them to bear fruit, or hanging horseshoes on the branches, and burying old iron under them, for the same purpose. The human mind is so constructed that it must believe something, no matter how absurd, and before we can deliver our neighbors from the debasing influence of moon-worship, and kindred madness, we must place a reasonable substitute within their reach. It may be that present methods will be discarded for better ones within a very few years, for the science of Plant Medicine is in its infancy, and is advancing by leaps and bounds.

In this department a text-book five years old is obsolete, and if you are to become in any way efficient, you must learn how to forget, and practise it too, continually.

We get such reliable information now in our Agricultural newspapers and Experimental Farm Reports that the contrast proves very interesting as we glance back at the remedies recommended by newspapers of a hundred years ago. People then, like some people to-day, had a firm impression that a remedy, in order to be really effective, must either be vile-smelling or bad-tasting, or loathsome in some other way. A remedy known as Forsyth's Mixture was as popular in England a hundred years ago as Bordeaux Mixture is with us and them to-day. Full directions for its preparation are found in a newspaper published in 1790; let us hear them and forget them:—

"Take one bushel fresh cow-dung, one-half bushel lime rubbish from old buildings, one-sixteenth bushel pit or gravel sand. The last two to be sifted fine before they are mixed; then work them well together with a spade, and afterwards with a wooden beater until the stuff is very smooth, like fine plaster used for the ceiling of rooms." This harmless mixture of filth was recommended to cure disease, defects, and injuries to plants.

During the early years of this century a great many substances were used both in Europe and America, all of them bitter to the taste, or nauseating in some way. Dr. J. Thatcher, writing in the American Orchardist in 1822, speaks of the apple-tree borer as a "pernicious reptile," and gives the following directions for its treatment: "After digging out the borer, fill the cavity at the base of the tree with flax-rubbish, clay, tanner's bark, leather scraps, etc." It is worthy of notice that the latest authority on the apple borer also says: "After digging out the borer." Here is one plant enemy upon whose depredations no efficient check has yet been placed, and it is almost necessary for fruit-growers everywhere to combine in some boycotting scheme to have him removed.

It became evident before the first quarter of this century had passed that only a few of the numerous remedies in use were at all efficient, and experience proved that tobacco, either soaked or applied as a powder was more poisonous than any of the mixtures which had been tried; however, in order to be sure, the dose was rendered still more nauseating by the addition of wormwood and rue. A few years later somebody discovered that a remedy made by dissolving corrosive sublimate in alcohol and then diluting the solution with about ten parts of water, was as useful for the treatment of out-door herbivorous creatures as it had proved itself in the treatment of that indoor carnivorous reptile known familiarly as *Cimex lectularius* or the bed-bug. Then lime and sulphur came in, and aconite, and quassia chips, until by evolution and selection we have reached the position we hold to-day. It is a good many years now since rust and smut and weevil appeared among our grains. At first the farmers tried to dodge the pests by early and late sowing; but now the weevil seems to have run its course and run out, or met some hidden enemy; it has been found that the copper sulphate treatment is the best for smut and rust, but the difficulties in the way of application are so great that we let them ravage our fields while we do little but complain. There has also been a new field for chemical experiment opened up within the last few years, and Professor Shutt's article on the treatment of charlock or wild

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mustard in the September number of the Canadian Horticulturist shows us plainly that a double strength solution of Bordeaux mixture is a perfect cure for one of the worst weeds that has appeared in field and orchard. I might say that I sprayed mustard a number of times last summer with plain Bordeaux mixture without any effect. May we not look forward to a time when some mixture will be found to enable us to fight successfully against every weed and enemy? Perhaps the time is at hand when patent medicines will be widely advertised with absolute guarantees for the treatment by some dead-shot method of all chewing and sucking insects, caterpillars and bugs, molds, rots, and weeds of ever description.

Although Medical Treatment for Plants has made some progress amongst us, it was not until the potato-bug invaded our territory in force that our people began to adopt any standard remedy or method of treatment for plant enemies or diseases. We have seen conclusive proof of the power of Paris Green to check the Colorado beetle, and I hope we soon will all have proved that it is just as powerful when placed on the apples as soon as they have set, to flavour the first breakfast made by the larvae of the codling moth. Many of our farmers think that the visitation of the potato-bug has been an unmitigated evil, and that we have had more than our share of work in the potato fields, while the summer sun smiles down upon our weary shoulders. It may help such discontents to remember that in England, where they do not have to spray for the Colorado beetle, they have to go over their patches from four to eight times in order to protect the potatoes from the early and late blight and the rot, and that in some instances as much as thirty-two pounds of bluestone has been applied to a single acre by the repeated sprayings from the time the shoots appeared above the ground until the tubers were mature. Let us begin to mix copper sulphate with our Paris Green. It is simply done, and only costs a few cents, for we do not know when the blight may come our way, and if we are not protected against it, it may run off with the whole crop as the rust did with the wheat crop of '98.

It is strange how man will provide for the cleanliness and comfort of domestic animals, while domestic plants are left exposed to unnamed depredations. It cannot be because the animals are either more beautiful or more profitable than the plants, it must be simply force of habit; habits at first are only pliable masses of gelatine, but the deposit of ossified material is rapid, and soon they are as much a part of our make-up as our thigh-bone or our spine. Once a habit is formed it is almost as difficult for us to shake it off as it would be for the pollywog to shake off its tail and leap out of the pool a fully-developed frog; let not anyone be hasty; give us our time—all of us may yet become respectable frogs, the tail has been discarded already!

It was to hasten development, and place our farmers and fruit-growers abreast of the times, that our Government sent a man here last summer to give practical lessons throughout our Province on the methods that have been proved successful for the Medical Treatment of Plants. Tennyson has said:—

"If any man in any way would be
The one man, he shall be so to his cost."

At best it was a difficult position for any man to fill, but it was made doubly so by misunderstandings and outside considerations; and it may be that Mr. Kinsman was not all that he should have been. Certainly Hon. Mr. Fisher, of the Department of

Agriculture, is very much disappointed with the result of an experiment that has proved so successful in Ontario for several years under the splendid management of Mr. Orr.

I have heard it said that the men of Prince Edward Island would always rather talk politics than business. Of course you and I repudiate the charge indignantly, but, between ourselves, I begin to partly believe it. There is imperative need of a man, and there is room for three men with assistants to travel throughout the Island during the coming spring and summer, giving informal lectures and practical experiments to convince everybody of the value, and I might almost say necessity, of Medical Treatment for Plants. Of course, most men can work out a valuable experience after a life-time of labour; but there is no need of waiting for that. In this age it is more true than ever before that "experience teaches fools." The problems that we ought to know have already been worked out by other men, and it is becoming for us to borrow from our neighbours that which they can well spare to us, so that we may be in a position to build on to greater heights. Our neighbours are none of them perfect, but they have learned how to treat plants so as to make gardening and orcharding profitable, and we who have been given a little common sense are dishonouring the One who made the gift, if we do not use it to make life richer and better for every man with whom we have or ought to have anything to do.

We in Canada pay out thousands of dollars every year for the support of Dr. Saunders and Professor Robertson and twenty others, but we have abundant proof that for every dollar we pay out we receive back ten. What we have learned in dairying during the last dozen years has made life pleasanter to many of us, and has enriched our Garden Province by perhaps millions of dollars; and let us not forget that there are other departments of industry in which wonders just as startling may be accomplished. There are not so many plain farmers needed now as there was a generation ago, for with our machinery one man can prepare as much food for the world as five could then, or ten a century ago. At my home we are working the land formerly occupied by six families. If people prefer money to soil which yields them no money they are easily content to take it and move somewhere else. For my own part, I have been offered a number of positions which would be fully as agreeable to my personal taste and give me more ready money than is in sight from farming. For I believe we are over-producing in the lines of coarse food-stuffs, and though men may eat more than they did ages ago, there are limits to even that enjoyment, as many of you know. We must learn, as well as eat, if we would live. We have learned, we are making creditable progress along many lines, it is time that we had made progress in this department also.

There are many people who believe in spraying with the standard treatments for the protection of their crop, but the belief is so vague that it has no effect upon their actions. It is necessary for us to stir them up or we ourselves will suffer, for their crops become a breeding-ground for pests that will soon attack us in multiplied abundance. Then let us agitate, and keep on agitating, even if it be necessary to have a special apparatus for the business, as we have in our spray-pumps, and let us impress upon those who are afraid of difficulties that there are only three simple rules to follow in order to be successful on every occasion. A "Rule of Three," and not

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the double process either: First,—be on time; second,—be thorough; third,—do your work intelligently; and, as I said to myself so often once in school, I will say now: "Less if less place the greater for the first." That rule used to be a great mystery to me, but there is no mystery about the effect of spraying if you are on time, and thorough, and intelligent, in your work.

In order that you may do your work intelligently, you must learn that all insects feeding on plants are divided into two grand groups, viz :—Those that feed upon the foliage, and those that suck the sap. You must know that all fungous diseases,—all molds, black-knots, rusts, and spots of whatever denomination, are plants; and if those plants are kept from going to seed, or the seed destroyed, your end is accomplished. Then you must study the effect of your treatment upon the host-plant itself, upon the soil, and upon the value of the crop. A whole evening might be profitably spent considering any of these topics, but they are all vitally connected with the problem under consideration, and must be hastily reviewed before we are done.

Chewing insects, which feed upon the foliage of plants, are easily recognized if you examine their mouth-parts under a common magnifying glass. There is rarely need for this, however, as you will know them by the diminished appearance of the leaves. All of these insects are destroyed by placing some poison on their food; you may use Paris Green, or Tobacco, or Hellebore, and you may please your own fancy as to whether the poison be applied dry or dissolved in water. If, on the other hand, you are dealing with a representative of the other grand division of insects, you must remember that a soaking in Paris Green will have no more effect than a solution of road sand. You must apply some dissolved poison that will enter their pores, or resort to strangulation; the latter has been found to be by far the best remedy, and when you are dealing with a few millions in an hour, it is most convenient to strangle them by stopping up their nostrils with a fine spray of oil, or kerosene emulsion, or petroleum. This operation is rendered the more easy by the fact that the nostrils or breathing-pores occur all along the body.

So far as we know, all fungous diseases of whatever name or kind, are plants. Many of them can move about and show fully as much intelligence as animals. They rarely take their food at first hand from the soil, but live upon the tender tissues of our domestic plants and animals. It is on account of this inborn tendency to do evil that we find it necessary to destroy them; so we use corrosive substances such as Copper Sulphate to shrivel up the tender tissues of the plant or keep the seeds from ripening. All these little plants have to prepare a special kind of seed known as a resting spore which can endure extremes of cold or heat, or drouth; and it is often most convenient to destroy great numbers of them during the resting season, as for instance when Black Knot is burned during winter.

With regard to the effect of direct medical treatment upon the host-plant, galls and wounds may be healed just as in animals, and with proper care, the leaves, which are the lungs, are enabled to do the work of respiration,—and digestion, too, for they are also the stomach of the plant. Let us remember that the plant works at a great disadvantage as compared with the domestic animal, both because its stomach and lungs are on the outside, and because it cannot travel from place to place in search of food or medical herbs as most animals do.

With regard to the effect of insect poisons on the soil, I may say that there is none

whatever, it is so small. Careful experiments have been made on both sides of the Atlantic, and three and one-third ten thousands of one per cent. of metallic copper was found to be the average amount left by spraying a potato field heavily during a whole season. And now we come to the effect of medical treatment upon the crop. Our own experience has proved that for one crop Paris Green is essential; we know too that in the unsprayed orchards at least half of the apples are destroyed by the larvae of the codling moth; while all goose-berries and the tender leaved currants are stripped in a few days if they are not treated on time. Every crop suffers, and in an increasing degree year after year. It is also claimed that there is a secondary benefit, as fruit that has been sprayed will keep and carry better on account of the germs of all molds and rots being destroyed. It is necessary however to experiment further before this claim is established beyond a doubt.

Several years ago grapes were placed in the New York market with Paris Green showing on the fruit; buyers were terrified; and the State Legislature had a commission appointed to examine and report. The very worst specimens were examined by experts; and it was proved that it would be necessary for a man to eat a peck at a time to receive any injury from the poison. At that rate, considering the surface exposed, a man would need to eat almost three bushels, or a barrel of apples at a meal before he would be injured by the poison, even if some showed on the fruit. As a matter of fact this does not occur, for a man is foolish to spray apples within a month or two before the picking season. It is in the early part of the season that medical treatment is needed most, and if done then the fruit grower can rest or advise his neighbour while his own fruit develops undisturbed by insects or disease.

An attempt has been made to introduce the subject of Skilled Medical Treatment for Plants. We might profitably spend hours here and at home in further study and discussion; and it may be that some of the members of this Association will take enough interest to procure text-books on the subject, or better still, attend some such school as the Nova Scotia School of Horticulture, or the Ontario Agricultural College, and become proficient Medical Doctors in a new sphere of labour.

Rev. Father Burke—I move that this excellent paper be published. I regret that we have not sufficient time to discuss it as we have much important business on hand to be transacted. I hope everybody here present is keeping in mind the night Entertainment in Kindergarten Hall; we want everybody to attend. A splendid programme has been prepared and, so that the speeches will be kept within the proper limit, I may say, that anybody speaking longer than five minutes will be hanged. (Laughter.)

The motion to publish Mr. Clark's paper was then seconded by J. H. Gill, put to the meeting and carried.

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RESOLUTIONS PASSED.

The following resolution moved by Rev. A. E. Burke and seconded by Joseph Wise, M. L. A., was then read :

Whereas, it is well known that fraudulent packing of apples for export is a very prevalent evil which is yearly bringing discredit upon the name of our Dominion and ruining the English market for our Canadian apples,

Whereas, as a matter of fact, Canadian apples are the finest in the world, and will bring the very highest prices in the English markets, if confidence in the packing can be sustained,

Whereas, we believe that about 85 per cent. of the apples grown in Canada, that are shipped to Great Britain, are purchased, graded, packed and shipped by dealers, and that it is to their interest, as well as the interest of all concerned, that a reliable brand should be established;

Therefore resolved, That the Fruit-Growers' Association of Prince Edward Island, do humbly pray that the Honorable the Minister of Agriculture of Canada, will provide some remedy for the same.

We would suggest that certain marks or numbers be adopted to indicate certain grades and sizes of apples, and that it be made a misdemeanor for any one to stamp these marks or numbers upon the outside of his package unless the contents of the package are in accordance therewith; that the name and address of the owner and shipper be always required on either the inside or outside of closed packages intended for export; and that an inspector be appointed with power to open any packages, and if found fraudulent to have the grade marks removed and to expose the offender.

A lively discussion followed the reading of this resolution. It originally fixed a size classification of Apples in No. 1's and No. 1 A's, which seemed to comprehend all kinds of apples and consequently it was opposed vigorously by Senator Ferguson, J. H. Gill, Mr. Patriquin and others. The mover then dropped the size recommendation and the resolution, as here printed, carried.

Mr. F. H. Beer, of Beer & Goff, Grocers, Charlottetown, now called attention to the importance and necessity of honest packing. He handled many apples, some of which he imported from Nova Scotia and some from Ontario. In previous years he had found the Northern Spy of Ontario an excellent apple to import. But this year the Northern Spys from Ontario had gone to mush, and his firm had lost many dollars. It had been found that the apples from Ontario this year were dishonestly packed. The first row or two on the top would be fine large apples, while those in the middle were not larger than a good sized plum or green gage. The consequence was that they had decided not to buy any more apples of the Northern Spy variety in Ontario. With the Northern Spy from Nova Scotia they had good success, and what apples they had bought of Island growth were good. There ought to be some way of punishing dishonest packers. A man ought to know what he buys.

Senator Ferguson remarked that there was something in the

season. He had heard it said that Nova Scotia apples were not keeping so well this year. And perhaps our Island apples would not either. However, there was much in Mr. Beer's remarks to consider carefully.

PERMANENT EXHIBIT.

Moved by Rev. Father Burke, seconded by Mr. John Johnstone and carried unanimously :

Resolved, That a committee of three be appointed from this meeting to take steps for the placing of a Permanent Exhibit of Island fruits in the Provincial Building, Charlottetown; and further resolved that the Government be requested to aid in defraying the expenses of such exhibit.

The committee was appointed, viz : J. H. Gill, John Johnstone and J. S. Clark.

Senator Ferguson said that the government ought to defray the expenses of this important work entirely. It would take a constant supply of fruit and cold storage.

Rev. Father Burke—No, no; it will be chemically prepared.

Senator Ferguson—Oh, in that case it need not cost much and should be attended to at once.

A Voice—Let us have it at once.

Moved by J. C. Clark, seconded by J. H. Gill :

Whereas, The knowledge of fruit and fruit-culture is yet very limited in our Province, and our people have been imposed upon by unscrupulous agents who are doing continual injury to all the interests which we as an Association are endeavoring to conserve,—

Therefore Resolved, That we request our Local Legislature to so amend or add to the present law relating to travelling agents, that tree agents shall be required to register, giving the names of the nurseries they represent; and that such only be allowed to register as present a recommendation from the Executive of the P. E. Island Fruit-Growers' Association.

Mr. Bovyer thought that perhaps it would be just as well not to make too many restrictions. We cannot be calling on the government every moment for protection, and this Association cannot be always intervening—those abuses will shortly right themselves.

The resolution carried.

Moved by John T. Weeks, seconded by Robert Carruthers :

Resolved. That in view of the paramount importance of direct steamers with cold storage for all kinds of fruit and meat shipment from this province to the Old Country, the Honorable the Minister of Agriculture, be and is hereby requested by the F. G. A. of Prince Edward Island, to procure for the coming season such shipping facilities as the trade of the country demands.

And further Resolved, That efficient inspectors be appointed at the respective

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ports of departure, to see that the products of the dairy, the orchard or farm, sent forward shall be properly marked by the shipper's name and the grade of the article shipped; and any such shipment as in their opinion is calculated to adversely effect the market or tarnish the good name of Canadian exports, be promptly excluded.

Senator Ferguson thought that we were perhaps travelling into other's territory. We need only mention fruit. Besides this resolution covered the same ground as No. 1.

Father Burke said that No. 1 had been sent to us by the F. G. A., of Ontario; we had other needs than it mentioned and above all was the necessity of shipping with proper cold storage. As to the mention of other Agricultural products, that ought not to effect the resolution.

Resolution carried.

Mr. George Vessey moved, seconded by the Rev. Dr. Chassion:

Resolved, That the Legislature of the Province be and is hereby requested to pass the necessary legislation to cause all nursery stock imported into the province to be either accompanied by a certificate of competent inspection or inspected on landing here, so that this province may be saved from the many pests—notably the San Jose scale—which infest orchards elsewhere.

Mr. D. J. Stewart thought there was no need of this as such legislation only rendered nursery stock dearer, and we have no San Jose scale.

Several Voices—And we don't want any of it either!

Resolution carried.

Mr. D. A. Stewart then moved a resolution asking for a committee of three from the meeting to secure the establishment of one or more fully equipped nurseries in the Province, under the protection of the F. G. A., where good honest stock could be had at proper prices. This resolution aroused a spirited discussion and was, after it had produced the proper effect, withdrawn by the mover. Mr. J. H. Gill thought our present nursery men were able to do the work without any such resolution. He was sure Mr. Robertson of Inkerman, for one, was in a position to supply the trade. We could get what we wanted from our own men. Senator Ferguson agreed with Mr. Gill that we should not go into the nursery business as an Association. Rev. Father Burke said the Association never contemplated going into the nursery business. It was a fact that we could not up to the present (he was glad if it were not now the case) get anything like the stock we required here, from our men. The Association favoured the encouragement of home nurseries in the interests of good stock and fair prices. Last year we had had numerous enquiries from New Brunswick about trees. They wanted our Alexanders particularly. We had

none to give them. Could Mr. Robertson and Mr. Sharp say what trees they have ready to send out this year?

Mr. Robertson said he was doing his best to get a well equipped nursery. But he couldn't do it all in a day. He had no Alexanders last year but he had now. He had about 9,000 trees ready. They were principally Alexanders, Baldwins, Russets, Manns, Duchess, Kings and Wealthies.

Mr. D. A. Sharp said he had 3,000 ready.

Mr. J. T. Weeks said a lot of sorts should not be sent out. It was this kind of thing with tree agents which fooled the unsuspecting people. The Association ought to say what two or three sorts the people ought to plant.

Rev. A. E. Burke moved, seconded by Mr. Charles R. Dickey:

Resolved, that the thanks of the F. G. A. of P. E. I. be and are hereby tendered to the Press of Charlottetown, in particular, and the whole Island in general, for the cheerful and general assistance given during the past year to its work,—especially for speaking so kindly of our present meeting and reporting our proceedings so much in detail.

Resolution adopted.

J. S. Clarke moved, seconded by A. K. Henry, that the thanks of the Association be given Mr. Patriquin, of Nova Scotia for the information afforded by him. Carried.

The President in tendering the vote of thanks said he was happy to announce that Mr. Patriquin would, at the instance of the Association, address several meetings on the Island. The government had guaranteed his expenses.

Mr. Patriquin said—I am grateful for your vote of thanks. I am glad to be here. I have never seen a better or more enthusiastic meeting. It will encourage and help me for many a day.

Rev. Dr. Chaisson of Palmer Road then put up "God Save the Queen," which all joined in most enthusiastically, and the day sessions were thus closed.

ENTERTAINMENT IN EVENING.

The meeting of the Fruit Growers' Association in Charlottetown was brought to a close with a literary and musical entertainment in Kindergarten Hall. The attendance was very good. His Honor Lieutenant-Governor McIntyre presided, and in a brief speech formally welcomed the Fruit-Growers to the city. The programme was as follows :

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Piano Duet	-	-	-	-	-	The Misses Carroll
Address	-	-	-	-	-	Mayor Warburton
Vocal Solo	-	-	-	-	-	Mrs. Watts
Address	-	-	-	-	-	Bishop McDonald
Address	-	-	-	-	-	Geo. E. Hughes
Cornet Solo	-	-	-	-	-	William Brown
Address	-	-	-	-	-	Mr. Patriquin
Recitation	-	-	-	-	-	Miss Enid McLean
Address	-	-	-	-	-	Horace Haszard
Vocal Solo	-	-	-	-	-	Miss Earle
Address	-	-	-	-	-	Senator Ferguson
Violin Solo	-	-	-	-	-	Miss Coady
Vocal Solo	-	-	-	-	-	Charles Earle
Address	-	-	-	-	-	John Newson
Recitation	-	-	-	-	-	Thos. A. McLean

All the vocal and instrumental selections were well given and heartily applauded. The recitations were also cleverly rendered, and greatly appreciated. The addresses had a special bearing upon the fruit-growing industry in this province, the future of which looks exceedingly bright.

The rear of the stage was artistically decorated with bunting, and the military and naval arms of the British service were well represented by the two sons of Mayor Warburton.

Before the meeting closed Father Burke thanked the citizens for the hearty reception given the fruit-growers, and expressed the Association's appreciation of the entertainment provided by Mr. L. W. Watson and the other gentlemen of the committee, Messrs. Horace Haszard, John Newson and T. A. McLean.

The proceedings closed with the National Anthem.



MEMBERSHIP ROLL

HONORARY

Dr. Saunders, Director Experimental Farms, Ottawa.
 Professor Robertson, Experimental Farms, Ottawa.
 Dr. James Fletcher, Experimental Farms, Ottawa.
 L. Woolverton, M. A., Secretary F. G. A. of Ontario, Grimsby, Ontario.
 S. C. Parker, Secretary F. G. A. of N. S., Berwick, N. S.
 J. E. Bigelow, President F. G. A. of N. S., Woolfville, N. S.
 R. W. Stair, Woolfville, N. S.
 Mr. Patriquin, Woolfville, N. S.
 Prof. John Craig, Horticulturist.

ANNUAL

The membership is one dollar and comprehends the Canadian Horticulturist, (regular subscription \$1) the Annual Reports of Ont., N. S. and P. E. I.

Hon. George W. Howland.
 John Robertson, Inkerman.
 Alfred E. Dewar, Southport.
 David P. Irving, Vernon River Bridge.
 D. A. Sharp, Summerside.
 D. J. Stewart, Aitken's Ferry.
 Rev. Alfred E. Burke, Alberton.
 Joseph Wise, M. L. A., Milton.
 Dr. John T. Jenkins, Charlottetown.
 Peter McCourt, Charlottetown.
 Robert Carruthers, Cape Traverse.
 Theodore Ross, Bedeque.
 James Ramsay, Malpeque.
 Archibald Ramsay, Malpeque.
 C. R. Dickey, Muddy Creek.
 H. A. Stewart, Hamilton.
 John Johnstone, Long River.
 Hon. Senator Ferguson, Tullock Ave.
 John C. Clark, Bayview.
 George Vessey, Little York.
 John Newson, Charlottetown.
 Laughlin McDonald, East Point.
 John M. Ross, Wheatley River.
 Stewart Burns, Freetown.
 John T. Weeks, Alberton.
 E. W. Taylor, Charlottetown.
 J. A. McLeod, Alberton.
 F. G. Bovyer, Georgetown.
 J. H. Gill, Little York.
 John A. Ferguson, Marshfield.
 Peter Robertson, Marshfield.
 Walter Simpson, Bayview.
 Alfred Small, Summerside.
 Rev. J. J. McDonald, Kinkora.

J. S. Clark, Bayview.
 James Tuplin, Margate.
 A. McDonald, Charlottetown.
 Rev. Dr. Chassion, St. Louis.
 Rev. F. X. Gallant, St. Anthony's.
 John Dennis, Montrose.
 J. C. Irving, Vernon River.
 Donald Ross, New London.
 Jas. E. McDonald, M. L. A., Cardigan Bridge.
 A. K. Henry, New London.
 Fredk. Pigot, Savage Harbor.
 Oswald Gordon, Brudenell.
 Jonathan West, Charlottetown.
 A. W. Sterns, Morell.
 Rev. Mgr. Gillis, Indian River.
 Henry Howard, Little York.
 Fred. Vessey, Little York.
 George E. Hughes, Charlottetown.
 Thomas Hogan, Fortune Cove.
 F. H. Beer, Charlottetown.
 Rt. Rev. Bishop McDonald, Ch'town.
 Lieutenant Governor McIntyre, Ch'town.
 William Wells, Alberton.
 Horace Haszard, Charlottetown.
 T. A. McLean, Charlottetown.
 George Carter, Charlottetown.
 F. B. McRae, Pownal.
 Richard Burke, Charlottetown Royalty.
 L. B. Miller, Charlottetown.
 Edward Bayfield, Charlottetown.
 Col. F. Dougherty, Charlottetown.
 Charles Gardiner, Charlottetown.
 Geo. E. Goff, Woodville.

VARIETIES
ON THE

Alexander .
 Baldwin .
 Ben Davis .
 Blenheim .
 Canada Red
 Fameuse .
 Gravenstein
 Greening .
 King .
 McIntosh .
 Mann .
 Northern S
 Oldenburg
 Ribston .
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 Stark .
 Tolman Sw
 Yellow Tr

Catalogue of Fruit for the Use of Planters.

APPLES.

VARIETIES TESTED ON THE ISLAND	SEASON IN USE	TREE				FRUIT					REMARKS
		Vigor Scale 1-10	Hardness Scale 1-10	Productive- ness Scale 1-10	Total Value of Tree	Quality Scale 1-10		Value Scale 1-10		Total of Fruit.	
						Des- sert	Cook- ing	Home Market	For Foreign Market		
Alexander	Sept-Oct	10	10	8	28	4	9	9	9	31	
Baldwin	Jan-March	6	7	8	21	6	6	8	8	28	
Ben Davis	March-May	10	10	10	30	4	6	6	9	25	
Blenheim	Nov-March	10	10	10	30	6	7	9	9	31	
Canada Red	Dec-March	8	9	10	27	6	8	8	8	30	
Fameuse	Sept-Dec	8	8	10	26	10	8	10	8	36	Sub't to scab
Gravenstein	Sept-Nov	10	10	10	30	10	10	10	10	40	
Greening	Jan-March	8	8	10	26	8	10	8	8	34	
King	Oct-Feb	7	5	5	17	9	10	10	10	39	
McIntosh Red	Nov-March	9	10	10	29	10	8	8	7	32	
Mann	Feb-May	7	10	5	22	6	8	6	7	27	
Northern Spy	Jan-March	10	8	10	28	9	9	9	9	36	Late bearer
Oldenburg	Aug-Sept	10	10	10	30	6	9	10	9	34	
Ribston	Nov-March	7	7	6	20	10	8	9	10	37	
Roxbury Russet	Jan-May	7	7	8	22	6	7	8	8	29	
Stark	Feb-May	10	10	10	30	4	6	6	8	24	
Tolman Sweet	Dec-April	10	10	9	29	6	6	4	4	20	
Yellow Transparent	Aug-Sept	10	10	8	28	6	8	6	20	



CONSTITUTION AND BY-LAWS

OF THE

FRUIT GROWERS' ASSOCIATION OF P. E. ISLAND.

CONSTITUTION.

Art. I. This Association shall be called the Fruit Growers' Association of Prince Edward Island.

Art. II. Its object shall be the advancement of the science and art of fruit culture, by holding meetings for the exhibition of fruit and for the discussion of all questions relative to fruit culture, by collecting, arranging and disseminating useful information, and by such other means as may from time to time seem advisable.

Art. III. The annual meeting of the Association shall be held at such time and place as shall be designated by the Association.

Art. IV. The officers of the Association shall be composed of a President, Vice-President, a Secretary, or Secretary-Treasurer, and nine Directors.

Art. V. Any person may become a member by an annual payment of one dollar, and a payment of ten dollars shall constitute a member for life.

Art. VI. This Constitution may be amended by a vote of the majority of the members present at any regular meeting, notice of the proposed amendments having been given at the previous meeting.

Art. VII. The said Officers and Directors shall prepare and present at the annual meeting of the Association, a report of their proceedings during the year, in which shall be stated the names of all the members of the Association, the places of meeting during the year, and such information as the Association shall have been able to obtain on the subject of fruit culture in the Province during the year. There shall also be presented at the said annual meeting a detailed statement of the receipts and disbursements of the Association during the year, which report and statement shall be entered in the journal and signed by the President as being a correct copy: and a true copy thereof, certified by the Secretary for the time being, shall be sent to the government within forty days after the holding of such annual meeting.

Art. VIII. The Association shall have power to make, alter and amend By-laws for prescribing the mode of admission of new members, the election of officers, and otherwise regulating the administration of its affairs and property.

BY-LAWS.

1. The President, Vice-President and Secretary, or Secretary-Treasurer, shall be *ex-officio* members of all committees.

2. The Directors may offer premiums to any person originating or introducing any new fruit adapted to the climate of the province which shall possess such distinctive excellence as shall, in their opinion, render the same of special value; also for

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essays upon such subjects connected with fruit growing as they may designate, under such rules and regulations as they may prescribe.

3. The Secretary shall prepare an annual report containing the minutes of the proceedings of meetings during the year; a detailed statement of receipts and expenditure, the reports upon fruits received from different localities, and all essays to which prizes have been awarded, and such other information in regard to fruit culture as may have been received during the year, and submit the same to the Directors or any Committee of Directors appointed for this purpose, and, with their sanction, after presenting the same at the annual meeting, cause the same to be printed by and through the Publication Committee, and send a copy thereof to each member of the Association and to the government.

4. Five Directors shall constitute a quorum, and if at any meeting of Directors there shall not be a quorum, the members present may adjourn the meeting from time to time until a quorum shall be obtained.

5. The annual subscription shall be due in advance at the annual meeting.

6. The President, (or in case of his disability, the Vice-President), may convene special meetings at such times and places as he may deem advisable; and he shall convene such special meetings as shall be requested in writing by five members.

7. The President may deliver an address on some subject relating to the objects of the Association.

8. The Treasurer shall receive all moneys belonging to the Association, keep a correct account thereof and submit the same to the Directors at any legal meeting of such Directors, five days' notice having been previously given for that purpose.

9. The Directors shall audit and pass all accounts, which when approved of by the President's signature, shall be submitted to and paid by the Treasurer.

10. It shall be the duty of the Secretary to keep a correct record of the proceedings of the Association, conduct the correspondence, give no less than ten days' notice of all meetings to the members, and specify the business of special meetings.

11. The Directors, touching the conduct of the Association, shall at all times have absolute power and control of the funds and property of the Association, subject however to the meaning and construction of the Constitution.

12. At special meetings no business shall be transacted except that stated in the Secretary's circular.

13. The order of business shall be: (1) Reading of the minutes; (2) Reading of the Director's Report; (3) Reading of the Treasurer's Report; (4) Reading of the prize essays; (5) President's Address; (6) Election of Officers, and (7) Miscellaneous business.

14. These By-laws may be amended at any general meeting by a vote of two-thirds of the members present.

15. Each member of the Fruit Committee shall be charged with the duty of accumulating information touching the stage of the fruit crop, the introduction of new varieties, the market value of fruits in his particular section of the country, together with such other general and useful information touching fruit interests as may be desirable, and report in writing to the Secretary of the Association on or before the fifteenth day of September in each year.