

TRANSACTIONS

AND

REPORTS

OF THE

Fruit Growers' Association

AND

INTERNATIONAL SHOW SOCIETY

OF

NOVA SCOTIA.

1885.

HALIFAX:
NOVA SCOTIA PRINTING COMPANY.
1885.

TRANSACTIONS

REPORTS

of the Association of...

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Nov 1881

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NEW YORK: ... 1881

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- KING'S
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- HALIFAX
- DIGBY
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- COLCHESTER
- PICTOU
- CUMBERLAND
- ANTIGONISH
- GUYSBORO'
- VICTORIA
- CAPB BRETON
- INVERNESS

FRUIT GROWERS' ASSOCIATION

AND

INTERNATIONAL SHOW SOCIETY

OF

NOVA SCOTIA.

Patron.

HIS HONOR THE HON. MATTHEW HENRY RICHEY, Q. C.,
LIEUTENANT-GOVERNOR.

OFFICERS FOR 1885.

President.

REV. J. R. HARTBridgetown, N. S.

Senior Vice-President.

W. H. BLANCHARD, ESQ.Windsor, N. S.

Vice-Presidents.

ANNAPOLIS	Co.	WILLIAM MILLER, ESQ.	Clarence.
KING'S	"	.....D. B. NEWCOMB, ESQ.	Sheffield Mills.
HANTS	"	.....ANDREW SHAW, ESQ.	Falmouth.
HALIFAX	"	.....MAJOR-GENERAL LAURIE.	Oakfield.
DIGBY	"	.....CHAS. H. MORSE, ESQ., M. D.	Weymouth.
YARMOUTH	"	.....CHAS. E. BROWN, ESQ.	Yarmouth.
SHELburne	"	.....W. F. McCOY, Q. C., M. P. P.	Halifax.
QUEEN'S	"	.....JOHN H. DUNLAP, ESQ.	Liverpool.
LUNENBURG	"	.....JUDGE DesBRISAY	Bridgewater.
COLCHESTER	"	.....HON. A. G. ARCHIBALD, C. B.	Truro.
PICTOU	"	.....CLARENCE PRIMROSE, ESQ.	Pictou.
CUMBERLAND	"	.....HON. SENATOR DICKEY.	Amherst.
ANTIGONISH	"	.....C. B. WHIDDEN, ESQ., M. P. P.	Antigonish.
GUYSBORO'	"	.....JAS. A. FRASER, ESQ., M. P. P.	Goldenville.
VICTORIA	"	.....W. F. McCURDY, ESQ., M. P. P.	Baddeck.
CAPB BRETON	"	.....J. C. JACKSON, ESQ.	North Sydney.
INVERNESS	"	.....LOUIS McKEEN, ESQ.	Mabou.

Secretary-Treasurer.

C. R. H. STARRPort Williams, N. S.

Executive Board.

THE PRESIDENT,
 SENIOR VICE-PRESIDENT, } *Ex officio.*
 SECRETARY-TREASURER. }
 JOHN N. COLEMAN, ESQ.....Lakeville.
 T. H. PARKER, ESQBerwick.
 REV. F. J. H. AXFORD.....Church St., Port Williams Station.
 C. B. WHITMAN, ESQ.....Tupperville.

Auditors.

GEO. V. RANL, ESQ.....Wolfville.
 GEO. H. WALLACE, ESQ.....Wolfville.

Fruit Committee.

R. W. STARR, ISAAC SHAW,
 C. E. BROWN, ROBERT MARSHALL,
 C. R. H. STARR.

Publication Committee.

THE PRESIDENT, } *Ex officio.* REV. F. J. H. AXFORD,
 THE SECRETARY. } R. W. STARR,
 W. H. BLANCHARD.

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ANNUAL MEMBERS--1884.

J. B. BOWSER,	P. INNIS,
F. F. MITCHELL,	ALBERT MITCHELL,
D. B. NEWCOMB,	J. B. DAVIDSON,
JOHN SAVAGE,	ISAAC SHAW,
JOHN H. DUNLAP,	LEANDER RAND,
REV. J. R. HART,	JOHN E. MAGEE,
DR. CHIPMAN,	J. W. LONGLEY,
LEANDER EATON,	A. S. HAMS,
PROF. HIGGINS,	GEORGE C. JOHNSON,
REV. F. J. H. AXFORD,	JOHN BYRNE,
H. V. B. FARNSWORTH,	T. H. PARKER,
WILLIAM SUTTON,	CAPT. TUZO,
J. E. STARR,	ENOCH COLLINS,
RUPERT HARRIS,	JAMES LEARD,
MAJOR-GENERAL LAURIE,	T. H. O'BLENUS,
J. B. NORTH,	A. H. JOHNSON,
GEO. J. TROOP,	BYRON CHESLEY,
CHAS. F. EATON,	DR. RAND,
W. H. HARDWICK,	T. S. SMITH,
X. Z. CHIPMAN,	SOLOMON CHUTE,*
GEO. V. RAND,	J. W. CHESLEY,
BURPEE WITTER,	C. B. CORNWELL,
E. B. HYSON,	BENJAMIN MILLER,
ANDREW SHAW,	COL. W. E. STARRATT,
M. G. DeWOLF,	NEWCOMB MARSHALL,
A. B. PARKER,	AMBROSE BENT,
WILLIAM MILLER,	BENJ. STARRATT,
W. W. PINEO,	JAMES MARSHALL,
MATTHEW FISHER,	E. C. ROBINSON,
THOS. H. MORSE,	J. E. DUMARESQ,
C. B. WHITMAN,	J. W. BEALE,
A. STANLEY FISHER,	A. McN. PATTERSON,
ISAIAH SHAW,	H. S. PIPER,
CHARLES A. TAYLOR,	REV. J. B. HEMMEON,
AMOS K. PATTERSON,	J. E. NEWCOMB,
S. P. CHUTE,	J. P. SLOCOMB,
WOLSLEY PARKER,	C. H. MORSE,
B. F. PARKER,	ROBERT MARSHALL,
C. E. BANKS,	C. W. PARKER,
J. A. McDONALD.	GEO. WILLET.

FINANCIAL STATEMENT.

NOVA SCOTIA FRUIT GROWERS' ASSOCIATION in acct. with C. R. H. STARR, Secretary-Treasurer.

DR.	Year ending December 31st, 1884.	CR.
To Expenses Meeting	\$ 8 55	By Balance from acct.—1883.....
" " Annual Dinner and Guests	9 25	" Membership Fees.....
" Stationery, Printing, and Advertising	20 50	" Proceeds £5. Prize, C. P. Ex., London
" Postage and Telegrams	15 05	" Government Grant.....
" Reporting Annual Meeting	15 00	" Amt. Securities.....
" Expenses London Exhibition	22 97	
" Printing Transactions and Reports.	168 95	
" Expenses President on Delegation and Com.	7 10	
" " Secretary, and Sundries.....	5 35	
" Amount paid Mr. Elder, Agent.....	15 00	
" Express charges	1 25	
" Secretary's Salary	50 00	
" Amt. Securities included in balance—1883.....	365 37	
" Balance carried to acct.—1885	682 43	
	\$1386 77	\$1386 77

[E. & O. E.]

C. R. H. STARR,
Secretary-Treasurer.

The Association and accounts follow and "Her Williams

[See page

AUDITORS' REPORT.

WOLFVILLE, N. S., *Feb'y 9th, 1885.*

The undersigned, Auditors of Nova Scotia Fruit Growers' Association, beg leave to report that they have examined the books and accounts of the Secretary-Treasurer and find them correct, with the following exceptions:—Expenses Mr. Hart, on Collection, 35c., and "Herald," Advertising, \$2,50—no bills; and Post Office, Port Williams Station, \$3.11 for Postage—bill not receipted.

GEO. V. RAND,
G. H. WALLACE.

[See page 30 for explanation.—SECRETARY.]

ATTORNEY GENERAL'S REPORT

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CONSTITUTION.

(AMENDED FEB. 10, 1885.)

SECTION I.—NAME.

This Society shall be known as the "FRUIT GROWERS' ASSOCIATION AND INTERNATIONAL SHOW SOCIETY OF NOVA SCOTIA."

SECTION II.—OBJECTS.

The objects of the Association shall be to encourage and stimulate an adequate appreciation of the general adaptability of the climate and soils of the Province to the cultivation of fruits. To collect and disseminate reliable information on fruit and fruit culture, on picking, packing, and marketing fruit; on new varieties—native and foreign; on the diseases, insects, and other obstacles to success, and the remedies best calculated to overcome them. The Association will also exhibit fruit and horticultural products, either independently or in connection with Agricultural or Industrial Exhibitions, International, Horticultural, or Pomological Shows, as may be deemed advisable, and also send specimens of fruit to eminent Pomologists for identification and nomenclature.

SECTION III.—PATRON.

The Lieutenant-Governor, for the time being, shall be invited to become the Patron of the Association.

SECTION IV.—OFFICERS.

The Officers of the Association shall be—a President, a Senior Vice-President and one Vice-President for each County of the Province, as far as shall be necessary and practicable, a Secretary-Treasurer, two Auditors and two Executive officers.

SECTION V.—MEETINGS.

The Association shall hold at least three regular meetings in each year. The Annual Meeting for the election and inauguration of officers, shall take place during the months of January or February.

SECTION VI.—MEMBERSHIP.

Any person may become a member of this Association for one year by paying to the Secretary-Treasurer the sum of one dollar, or, in the case of females, the sum of fifty cents, but such membership shall expire on the 31st day of December following, except as may be provided by by-laws.

SECTION VII.—LIFE MEMBERSHIP.

Any person may become a Life Member by paying at any time the sum of twenty dollars, and ten dollars for females, into the Treasury of the Association.

SECTION VIII.—HONORARY AND CORRESPONDING MEMBERS.

The Association may, at any regular meeting, confer the title of honorary or corresponding member on any person whom they may choose to elect, and the Secretary shall transmit a diploma or certificate of election, signed by the President, and countersigned by the Secretary. This shall entitle the recipient to all the privileges and immunities of membership, except voting on questions of finance and management.

SECTION IX.—AMENDMENTS.

Any amendments to the foregoing Constitution shall only be made at an Annual Meeting, by a vote of two-thirds the members present and voting, and notice of the proposed change having been given at a previous regular meeting.

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BY-LAWS.

1.—PRESIDENT.

The President shall preside at all meetings of the Association and perform such duties as pertain to the office, and in his absence his official duties shall devolve upon (*1st.*) the Senior Vice-President, or (*2nd.*) the Vice-President for the County in which the meeting may be held.

2.—VICE-PRESIDENTS.

The duties of Vice-Presidents shall be to bring the objects and interests of the Association to the notice of the people in their several Counties, to urge the claims, and endeavour to increase the membership of the Association. They shall make an annual report upon the fruit crop in their respective Counties, and make such recommendations and suggestions as may seem best calculated to advance the objects of the Association. All Vice-Presidents shall be considered as Corresponding Members during their term of office.

3.—SECRETARY—TREASURER.

The duties of the Secretary-Treasurer shall be to attend all meetings and keep a record of the doings of the Association, employing a reporter or assistants when necessary: conduct the correspondence and, with the assistance of the Publication Committee, to prepare and publish, annually, the Transactions and Reports of the Association.

He shall receive all monies due, or payable to, the Association, giving due credit, and pay all bills, taking receipts therefor, but incurring no expenditure of a large or doubtful character, except with the sanction of the Executive Board.

Within ten days after his election, he shall execute to the Association a bond, with sufficient sureties, for the safe keeping and disbursement of the monies of the Association, such bond to meet the approval of the Executive Board and be deposited with the President.

4.—AUDITORS.

There shall be elected two Auditors, who shall examine and report upon the books, accounts, and financial statement of the Secretary-Treasurer. They shall be entitled to demand all necessary books, papers, and vouchers, three days previous to the Annual Meeting.

5.—EXECUTIVE BOARD.

The President, Senior Vice-President, and Secretary-Treasurer, together with four members, shall constitute an Executive Board, whose duties shall be to carefully guard the interests of the Association, to provide for its necessities as they may arise, to fill, when advisable, vacancies occurring between elections, to select the time and place, and make arrangements for meetings, exhibitions, &c., to determine the salary of its officers, and perform such other duties as are required by the Constitution and By-Laws.

6.—DISCONTINUANCE OF MEMBERS.

Any member who shall neglect for the space of two years, to pay his annual assessment, shall cease to retain his connection with the Association, and the Secretary shall have power to erase his name from the list of members. And any member may, at any time, withdraw from the Association by giving notice to the Secretary and paying all dues and demands against him.

7.—EXPULSION OF MEMBERS.

If any member shall do anything to dishonor the Association, or shall place on the tables for exhibition, or premium, specimens bearing his name, or mark, not of his own growth, with an intention to deceive, or shall be guilty of any breach of good faith towards the Association, he may be expelled therefrom, two-thirds of the members present voting for his expulsion.

8.—MEMBERS PRIVILEGES.

Each member, in full standing, shall be entitled to the privilege of voting, of eligibility to office, and a copy of all the publications of the Association.

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9.—STANDING COMMITTEES.

Five members shall be appointed by the Executive as a Committee on fruits, they shall examine and report on newly introduced varieties, as to their quality and probable value for general cultivation; shall endeavour to correct synonyms and wrong names, and shall collect information and report annually, through their chairman, on the state and progress of fruit cultivation in the Province.

The Executive shall also name three members who, with the President and the Secretary, shall constitute a Publishing Committee, whose duty it will be to revise and prepare all documents and reports for publication. Such other Committees may, from time to time, be appointed by the Executive as they may deem desirable or necessary.

10.—ELECTION OF OFFICERS.

Officers shall be elected at each Annual Meeting, separately, by ballot, unless in the case of but one nomination, when he may be elected by acclamation, and hold office until his successor is elected.

11.—LIFE MEMBERSHIP FUND.

All monies coming into the Treasury of the Association in payment of Life Membership fees shall constitute a perpetual fund, to be known as the "Life Membership Fund." This fund shall be invested by the Secretary-Treasurer, under the advice and direction of the Executive Board, and all interest accruing therefrom shall constitute and become a part of the funds of the Association, devoted to the payment of ordinary expenses.

12.—FISCAL YEAR.

The Fiscal year shall commence on the first day of January, and all annual assessments shall be deemed, and taken to be due at that time.

13.—ALTERATIONS.

The foregoing By-Laws may be altered, amended, or suspended by a majority vote.

RULES OF THE AMERICAN POMOLOGICAL SOCIETY.

SECTION I.—NAMING AND DESCRIBING NEW FRUITS.

Rule 1.—The originator or introducer (in the order named) has the prior right to bestow a name upon a new or unnamed fruit.

Rule 2.—The Society reserves the right, in case of long, inappropriate, or otherwise objectionable names, to shorten, modify, or wholly change the same, when they shall occur in its discussions or reports; and also to recommend such changes for general adoption.

Rule 3.—The names of fruits should, preferably, express, as far as practicable by a single word, the characteristics of the variety, the name of the originator, or the place of its origin. Under no ordinary circumstances should more than a single word be employed.

Rule 4.—Should the question of priority arise between different names for the same variety of fruit, other circumstances being equal, the name first publicly bestowed will be given precedence.

Rule 5.—To entitle a new fruit to the award or commendation of the Society, it must possess (at least for the locality for which it is recommended) some valuable or desirable quality or combination of qualities, in a higher degree than any previously known variety of its class and season.

Rule 6.—A variety of fruit, having been once exhibited, examined and reported upon, as a new fruit, by a committee of the Society, will not, thereafter, be recognized as such, so far as subsequent reports are concerned.

SECTION II.—COMPETITIVE EXHIBITS OF FRUITS.

Rule 1.—A plate of fruit must contain six specimens, no more, no less, except in the case of single varieties, not included in collections.

Rule 2.—To insure examination by the proper committees, all fruits must be correctly and distinctly labelled, and placed upon the tables during the first day of the exhibition.

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Rule 3.—The duplication of varieties in a collection will not be permitted.

Rule 4.—In all cases of fruits intended to be examined and reported by committees, the name of the exhibitor, together with a complete list of the varieties exhibited by him, must be delivered to the Secretary of the Society on, or before, the first day of the exhibition.

Rule 5.—The exhibitor will receive from the Secretary an entry card, which must be placed with the exhibit, when arranged for exhibition, for the guidance of committees.

Rule 6.—All articles placed upon the tables for exhibition must remain in charge of the Society till the close of the exhibition, to be removed sooner only upon express permission of the person or persons in charge.

Rule 7.—Fruits or other articles intended for testing, or to be given away to visitors, spectators, or others, will be assigned a separate hall, room, or tent, in which they may be dispensed at the pleasure of the exhibitor, who will not, however, be permitted to sell and deliver articles therein, nor to call attention to them in a boisterous or disorderly manner.

SECTION III.—COMMITTEE ON NOMENCLATURE.

Rule 1.—It shall be the duty of the President, at the first session of the Society, on the first day of an exhibition of fruits, to appoint a committee of five expert pomologists, whose duty it shall be to supervise the nomenclature of the fruits on exhibition, and in case of error to correct the same.

Rule 2.—In making the necessary corrections they shall, for the convenience of examining and awarding committees, do the same at as early a period as practicable, and in making such corrections they shall use cards readily distinguishable from those used as labels by exhibitors, appending a mark of doubtfulness in case of uncertainty.

SECTION IV.—EXAMINING AND AWARDING COMMITTEES.

Rule 1.—In estimating the comparative values of collections of fruits, committees are instructed to base such estimates strictly upon the varieties in such collections which shall have been correctly named by the exhibitor, prior to action thereon by the committee on nomenclature.

Rule 2.—In instituting such comparative values, committees are instructed to consider:—1st, the values of the varieties for the purposes to which they may be adapted; 2nd, the color, size, and evenness of the specimens; 3rd, their freedom from the marks of insects and other blemishes; 4th, the apparent carefulness in handling, and the taste displayed in the arrangement of the exhibit.

On motion, the above rules were adopted for the guidance of this Association in the future.

MINUTES OF QUARTERLY MEETING,

HELD AT FOSTER'S HALL, BERWICK, APRIL 15TH, 1884.

Vice-President, D. B. NEWCOMB, Esq., in the Chair.

Upwards of one hundred members and persons interested in fruit culture were present.

The CHAIRMAN, on calling the meeting to order, made the following address:—

Gentlemen of the Fruit Growers' Association:

As we look abroad to-day over the face of the country, when the sun is shining clearly and brightly in the heavens, through a calm and serene atmosphere, and when returning spring is awakening to life again the vegetation of the earth, our thoughts are quickened into activity upon the important interests involved in the productions of the orchard, the garden and the vineyard. On such a day as this, gentlemen, we should be inspired with more than ordinary feelings of patriotism, and more than a common desire to assist nature in giving us a bountiful supply of fruit.

I am called upon to fill the position to-day to which you appointed me at your last annual meeting. I regard the honour you saw fit to confer upon me, and I am pleased to be with you; but, when I reflect upon the circumstance which has placed me in the President's chair, my feelings are saddened and my thoughts solemnized.

Gentlemen, your Society has lost, quite suddenly and unexpectedly, by death, its late President, an efficient officer of extensive influence, an esteemed member who had laboured to promote the interests of the Association from its foundation to the time of his

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death; a highly respected citizen of the country, having occupied important representative and official positions for many years. It will be proper that you pass a fitting tribute of respect to his memory here to-day; and as the Association has only entered upon the transactions and business of the year, it may be wise for you to fill the vacancy by the election of a President at this meeting.

It seems also necessary, as you may have observed, that you appoint a committee to revise the Constitution of your Association, to make such amendment as the altered circumstances in the growth and advancement of the Society may demand.

The fruit growing capabilities of Nova Scotia are being so rapidly developed and the production of fruit so rapidly increased, and the interest in this branch of industry rising to such importance, that certainly the art of propagation and culture demands all the attention you can give to it; and the whole country has been gathering, and is likely to continue to gather, a rich reward for its labor in this branch of the rural art, so greatly encouraged, promoted and advanced by the efforts of this Association. It will be commendable for you to renew and continue your efforts with increased zeal, and the subjects to be brought before you to-day are of great importance.

Your Secretary has already intimated to you in his "Notice Card" that the preparations for the New Orleans World's Fruit Exposition, to be held in December next, will be under your consideration, as also the subject of "pruning and grafting."

Your Secretary will be prepared with a programme of such other business as should claim your attention, and I very much desire that you confine your attention closely to the subjects under discussion and the business in hand, that we may accomplish all that is possible in the few hours we have to devote for this meeting, on this most cheering and pleasant day, in this encouraging season of the year, when dame nature wakes in all her rich attire, beauty and loveliness, to attract us to her orchards and fields.

You will now proceed, gentlemen, to take up the business and subjects for the day.

Fourteen names were added to the roll of membership.

Minutes of the business transacted at the Annual Meeting read and approved.

Moved by R. W. STARR and seconded by WILLIAM MILLER—
Whereas, it has pleased Divine Providence, in His infinite wisdom, to remove from our midst, since our last meeting, AYARD LONGLEY, Esq., President of this Association, *therefore resolved*, that in his death the Association has sustained a severe loss, and the country been deprived of a most valuable citizen. His zeal in advancing the aims of the Association, (as well as every other interest for the good of the country and mankind,) and his wise counsels, will long be remembered by those whose good fortune it was to become associated with him. While we deplore our loss we believe his high character as a Christian and a conscientious, upright and honest man is "written upon the tablets of endearing memory," and is worthy of our highest respect and imitation; and *further resolved*, that a copy of the above resolution be sent to the family of the deceased, with the assurance of our heartfelt sympathy and condolence in their severe affliction.

Spoken to by the seconder, Rev. J. R. HART, the SECRETARY and the CHAIRMAN, all of whom expressed their concurrence in the sentiment of the resolution, which passed unanimously by a standing vote.

Moved by R. W. STARR, seconded by COLONEL TUZO, and *Resolved*—That we approve of the action of the Publication Committee in procuring the portrait of the late President Longley for publication in the volume of Transactions now being printed.

REVS. J. R. HART, F. J. H. AXFORD, and the SECRETARY, were appointed a committee to revise the Constitution, and report at the next Annual Meeting.

The SECRETARY laid on the table the rules of the American Pomological Society, which, on motion, were received and referred to above Committee on Constitution.

The premium list of the Horticultural Department, World's Fair, New Orleans, Winter 1884-5, was also laid upon the table. Secretary also said there would be an extensive fruit show at London in October.

Moved by MR. HART and seconded by J. H. PARKER, and *resolved*—That if arrangements can be made whereby the expenses of transmitting and exhibiting our fruits at New Orleans and London will be met by the Government, this Association will undertake to

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collect and prepare such exhibits of the fruits of Nova Scotia as will best demonstrate the fruit growing capabilities of the Province.

Spoken to by Rev. MR. AXFORD, COL. TUZO, and others and passed unanimously.

The SECRETARY reported that during a recent meeting of the Provincial Grange in Halifax, a number of gentlemen representing both the Grange and this Association had waited upon the Provincial Government and urged its attention to this matter, and they had been assured the subject should receive the favorable consideration of the Government in the event of the Dominion Government not making the necessary provision. He had been in correspondence with the Minister of Agriculture and other members at Ottawa, but up to the present had received no assurance that any appropriation would be made for the purpose, and suggested that a delegation be sent to Halifax immediately to further press the importance of the subject before the Government.

Revs. Messrs. HART and AXFORD were appointed delegates.

Moved by REV. MR. AXFORD and seconded by ISAAC SHAW, that a sum not exceeding \$300 be appropriated from the funds of the Association for the purpose of making collections of fruit for exhibiting in New Orleans and London. Passed unanimously.

Resolved, That the Secretary be the central committee in charge of making the above collections, to be assisted by R. W. Starr, A. H. Johnson, Robert Marshall and Isaac Shaw.

Great interest was manifested and the importance of making an extensive show of our apples at New Orleans was warmly expressed by several members.

MR. A. B. PARKER said if the Government failed to support us we should put our hands in our pockets and carry our point to a successful issue. It would be money well spent. Others said the benefits of such exhibitions abroad could not be over-estimated by the Fruit Growers of Nova Scotia. We were not afraid of competition with any country, and such exhibitions were just such opportunities as we wanted, and we should not miss taking advantage of them.

REV. J. R. HART, Vice-President for Annapolis, was then elected to fill the vacancy caused by the death of the late President, Avar Longley.

The subject of *Pruning and Grafting* was taken up, but owing to the lateness of the hour was not as fully discussed as was desirable.

MR. T. H. PARKER said he had been engaged in orcharding many years, but had yet to learn the proper time for pruning.

R. W. STARR said prune when your knife is sharp.

ISAAC SHAW said the best time was just after the blossoms had fallen.

MR. HART read from Downing, 2nd edition, page 34, "Experience of many years convinces us that whatever theory may suggest, the best time to prune in order to promote growth and have the wound healed perfectly, is *very early* in the spring, or as soon as the severity of the winter has passed."

"We should especially avoid pruning at that period in the spring when the buds are swelling and the sap is in full flow, as the loss of sap by bleeding is very injurious to most trees and in some brings on a serious and incurable canker."

MR. MILLER said we could not control the flowing of sap, it would sometimes begin the second year after pruning. Advised cutting very close.

MR. SHAW said don't cut too closely. He thought that was sometimes the cause of flowing sap.

T. H. PARKER endorsed this view.

A. B. PARKER suggested that a branch be brought in full illustration. He thought flowing sap was diseased sap. Nothing would stop it. Advised taking the tree out and planting new. Considered the best time to prune when the trees were in bloom.

EDWARD PARKER said he wished to know what kinds to graft, but owing to some confusion caused by many who had to go by train, which was about due, the meeting adjourned. (Answer to the last question will be found in Report of 1883.)

C. R. H. STARR, *Secretary.*

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MEETING AT BRIDGETOWN,

20TH JULY, 1884.

President J. R. HART in the Chair.

Among those present were William Miller, Solomon Chute, Byron Chesley, R. W. Starr, T. W. Chesley, Robert Marshall, and other prominent fruit growers of Annapolis.

The PRESIDENT addressed the meeting in a few well chosen and practical remarks, and regretted the Association had not given more attention to small fruits.

The minutes of the April meeting, held at Berwick, were read and approved.

T. W. CHESLEY expressed his satisfaction with the fulness of the minutes, and also approved of the resolution concerning the late President and of the action of the Publishing Committee in procuring the excellent portrait. The work done by the Association in the past had been very great and of inestimable value to the fruit growers of the Province, and he hoped their labors would be of still more value in the future. He regretted the want of patriotic zeal among the people of Annapolis County.

The SECRETARY reported on the proposal to exhibit fruit at the New Orleans Exposition and also at London.

The PRESIDENT made a report of the delegation to Halifax. He had been ably supported in his mission by several of the members, but owing to the depleted state of the treasury, the Government did not feel justified in making any appropriation further than the annual grant to the Association.

T. W. CHESLEY said the Exposition at New Orleans was just the opportunity we wanted, but the responsibility was too great to be assumed by the Association without a special grant, and he considered it was the absolute duty of the Local Government to make liberal provision for the occasion. He felt very hopeful the Government would yet see the necessity of granting sufficient assistance to enable the Association to make such an exhibit as would be worthy of Nova Scotia's Fruit industry.

JOHN IRVIN said he took much interest in the proposal, but thought we depended too much upon the Government. We wanted

more enthusiasm. The necessary funds should be raised among the fruit growers of the valley. Advised holding public meetings and a subscription being opened.

SECRETARY read extracts from letters received from Parker Earle, Chief of the Horticultural Department, as follows, viz. :—

“I am sorry you fail to get help from your Parliament; but I trust your fruit growers will take hold personally and raise funds enough to enable you to make an exhibit of Nova Scotia fruits. * * * Your grand fruit country must show itself and its capacities. * * *

“From a world's exhibit of Fruits, an ambitious and enterprising horticultural country will not allow itself to be left out.”

It was estimated it would require from \$1000 to \$1500 to carry out the proposed exhibit successfully.

Several speakers considered that in view of the general financial depression throughout the country, there would be difficulty in raising a sufficient sum.

MR. MILLER endorsed Mr. Irvin's view, and thought the Government was under no obligation to take the whole burden of expense. There should be public spirit enough among the orchardlists of the valley to carry out the scheme, which, if carried to a successful issue, would undoubtedly be of inestimable value to the whole community, by advertising our apples the world over.

The subject was here deferred till the evening session, and T. W. Chesley and William Miller were appointed a committee to prepare resolutions bearing upon the subject.

The SECRETARY presented the prize list of the Royal Horticultural Society, and the Crystal Palace Company of London, together with the special prize—a silver cup—offered by Messrs. Nothard & Lowe, for the best collection of Nova Scotia apples, to be exhibited at the Crystal Palace, on the 7th–11th October next, and who advised making extensive exhibits at these shows, offering to take charge of and stage any collections sent to their care.

Moved by R. W. STARR, and seconded by T. W. CHESLEY, and resolved unanimously, That this Association make a collection of fruit for exhibition at the above shows, and consign them to Messrs. Nothard & Lowe, for staging and arranging, according to their offer contained in their letter of April 16th.

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NEWCOMB MARSHALL thought the Crystal Palace Show too early in the season ; that the Royal Horticultural Show, being later, would suit us better, which idea was generally endorsed.

MR. RANDOLPH suggested that the late show could be well advertised through the Crystal Palace Company's Show.

R. W. STARR said he thought the fruit would mature on the voyage.

Resolved, That the Association shall forward any collections for exhibition made by the individual members.

The SECRETARY made some remarks, and asked for suggestions as to the best means of promoting the object of the Association.

It now being about 6 o'clock, the meeting adjourned till 7.30 p.m.

EVENING SESSION.

There was a much larger attendance than at any time during the afternoon.

The PRESIDENT called the meeting to order, and in a few well-chosen remarks alluded to the recent formation of a sister association—the Small Fruit Association—and suggested that they be invited to co-operate with us, our objects and aims being identical.

MR. MILLER thought efforts should be made to amalgamate the two associations. Our efforts should not be divided. We all needed the benefit of each others advice and experience.

R. W. STARR said he thought the Small Fruit Association had been formed because its promoters thought we were too old-fogeyish ! We should wake up and meet the requirements of the times. This Association had in the past confined its efforts mainly to improvement of the apple industry, and no one would attempt to gainsay that a great work had been accomplished through its instrumentality ; but the small fruits were now demanding a larger share of our attention.

SOLOMON CHUTE said he believed small fruits could be grown with profit, and regretted the formation of another Society. Thought efforts should be made to amalgamate.

R. W. STARR intimated his intention to attend the meeting of the Small Fruit Association, and should endeavor to acquaint them with

the fact of our interests being identical, and that it required the combined energies of both Societies to carry out our objects to a successful issue.

Moved by WILLIAM MILLER, seconded by SOLOMON CHUTE, and, *Resolved*, That R. W. STARR be a delegate from this Association to approach the Small Fruit Association, with a view to a combination of our forces.

The SECRETARY suggested that a convention of fruit growers be held in connection with the annual meeting of the Association.

Several gentlemen approved of the suggestion, and said such a meeting was very desirable. The subject was left with the executive to deal with as they thought best.

The PRESIDENT asked for reports on the apple crop, which was responded to by Benjamin Miller, R. W. Starr, William Miller, Ambrose Bent, William Parker, Col. Starratt and others, who agreed on the whole there would be an average crop.

The Committee appointed to draft resolutions respecting the New Orleans Exposition, presented the following:—

Whereas, this Association regards the World's Fair at New Orleans an opportunity for making known the superior apple-producing capabilities of Nova Scotia, which ought to be improved, *Therefore resolved*, That in case of the failure on the part of the Government to make provision for the necessary expenses connected with exhibiting Nova Scotia fruit at New Orleans, that fruit growers generally, and exporters, be appealed to for private subscriptions, in order to raise the necessary funds.

WILLIAM MILLER said, as it seemed quite impossible to obtain the necessary funds from the Government, it would devolve upon the Association, with other growers and exporters, to provide for the expense. It would be a disgrace for this country to let such a chance go by. We should put our hands in our own pockets and show the world what our apples were in competition with all comers.

JOHN IRVIN objected to the proviso in the resolution. Strike that out and he would support it. There should be enterprize enough among the fruit growers to put this thing through. Every man who grows an apple tree should join the Association. The greatest enthusiasm should be aroused in regard to this matter. It

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was an opportunity that might not occur again for years. It was owing very largely to an advantage taken of a similar opportunity in London years ago that led to our trade with England to-day. He objected to the resolution as being old fashioned ; and if you want to be successful, must arouse public spirit, by holding public meetings, and show the people it was to their interests to assist.

C. B. CORNWALL said, if the Government is too poor to help us, we must help ourselves. It would be money well spent, and every one should assist.

MARSHALL CHESLEY said, we have a right to expect the Government to provide for an occasion like this one ; but as that seems a forlorn hope, we should begin to-night, and show our determination to look after our own interests.

BENJAMIN MILLER admired the enthusiasm manifested by the several speakers. If only all the fruit growers would join the Association, there would be no difficulty. Since perusing the last report, he was convinced the Association had been a great benefit to the country, and there should be patriotism enough among the farmers to support the Association in a time like this. Thought we should first make an effort ourselves, and if we fail, we would be justified in appealing to the Government.

SOLOMON CHUTE thought it was hardly fair that members who had borne the burden for years, should now be asked to tax themselves for this purpose.

WILLIAM MILLER said the public would be benefitted and the public should contribute. Resolution passed.

COL. STARRATT said he had never belonged to the Association. He said we were not enterprising enough. These benches should be filled with Annapolis fruit growers. Our facilities were unequalled. We were twenty years ahead of Ontario, but we wanted more push. Nature was doing everything for us. Alluding to the English market he said he believed apples should be picked over twice.

AMBROSE BENT said he had sent a great many apples to England. Our apples did not stand as high as they did some years ago, all owing to dishonest packing done by the farmers. Messrs. Northard & Lowe had written that it was too bad that our credit should be destroyed by such rascally packing. In Canada and the States apples

were packed by professional packers, and until some such system is adopted in this country, it will be useless to compete with apples from Canada and the States that are sold under guarantee, but no Broker would dare to guarantee Nova Scotia apples as they are now packed.

MR. IRVIN from Iowa, said Nova Scotians wanted enterprise. Their natural advantages were unequalled.

Moved by JOHN IRVIN and seconded by W. MILLER, and *Resolved*—That a committee be appointed to devise the best means to bring the subject of the New Orleans Exposition prominently before the people.

JOHN IRVIN, President HART, COL. STARRATT and the SECRETARY were appointed said committee.

Subsequently, the said committee reported—advising the nolding of public meetings in the interest of the Association and fruit growers generally, advocating the necessity of speedy action with reference to exhibiting Nova Scotia fruit at New Orleans.

The following sums were subscribed toward a fund to defray the expenses of an exhibit at New Orleans, upon the condition that the necessary amount would be raised :—

Rev. J. R. Hart.....	\$5 00	A. Bent.....	2 00
R. W. Starr.....	5 00	Geo. Litch..	2 00
Wm. Miller.....	5 00	W. E. Starratt.....	2 00
C. R. H. Starr	5 00	Newcomb Marshall.....	2 00
Byron Chesley.....	4 00	A. B. Cornwall.....	1 00
Benj. Miller	2 00	John Irvin.....	1 00
Solomon Chute.....	2 00	James Marshall.....	1 00

Adjourned.

C. R. H. STARR, *Secretary*,

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THE ANNUAL MEETING OF THE ASSOCIATION
*Was held at Kentville on Tuesday and Wednesday, 10th and
 11th February, 1885.*

[A Stenographic Report of the proceedings was taken by MR. W. H. FRY.]

KENTVILLE, Tuesday, 10th Feb., 1885.

AFTERNOON SESSION.

The meeting was called to order, in the absence of the President, by MR. NEWCOMB, Vice-President for the County, who said :

I am somewhat unexpectedly called up to preside this afternoon. I see by the programme that the President was to have been here to deliver his Annual Address, but in his unavoidable absence the duty of opening regularly devolves upon me. I am sorry, however, that I am not prepared to give you a three minutes address. Yet, gentlemen, I may say that I am interested in fruit growing both theoretically and practically, and meet you with a great deal of interest and pleasure. I know that your deliberations will be for the best interests of the Society, and no doubt when the President arrives he will give you the annual address which, I am certain, will be well worth your while listening to. I will not now occupy your time further, but proceed to the order of business.

The minutes of the previous meeting were read by the Secretary, C. R. H. STARR, and passed unanimously.

The Report of the Secretary-Treasurer was then read by MR. STARR as follows:—

Mr. President,—It again becomes my duty to present, for your consideration, a report of the doings of the Association for the past year.

The last Annual Meeting, held at Wolfville, was one of the most successful in the history of the Association.

The April and July meetings, held at Berwick and Bridgetown respectively, were also well attended, particularly the meeting at Berwick, where, as well as at the last Annual Meeting, the time allotted for the discussion of important subjects relating to fruit culture was quite insufficient. It has, therefore, on this occasion, been deemed advisable to devote more time to discussion.

Since our last Annual Meeting the Association has sustained a severe loss in the death of President Longley. Appropriate resolutions, with expressions of the highest respect for the deceased, and deep sympathy with his family, were unanimously adopted at the April meeting.

In the best interests of the Association, it was considered advisable that the Constitution be revised and amended. A committee for that purpose was appointed, and will report to this meeting. The same committee was also required to report upon the advisability of adopting the rules of the American Pomological Society, with reference to the naming and exhibiting of fruit.

In accordance with a resolution passed at the July meeting, the Association, through the assistance of Mr. A. H. Johnson, made a collection of some ninety sorts of apples which, together with several collections made by members of the Association, making in all twelve and a half barrels, were forwarded, on the 26th of September, to Messrs. Northard & Lowe, who had kindly offered to take charge of any fruit sent to London for the Crystal Palace Company's Exhibition, which took place on October 7th to 11th, inclusive.

As was anticipated, the fruit did not show to good advantage, many varieties being immature at that early date, consequently it did not call forth as many flattering encomiums from the English press and people as on some former occasions.

However, the first prize, a silver cup, presented by Messrs. Northard & Lowe, and £3, was awarded to Dr. H. O. McLatchy, of Wolfville.

Second, £5, to the Fruit Growers' Association.

Third, £2, to Mr. H. O. Duncanson, Falmouth.

Extra, £2, Mr. R. W. Starr, Port Williams, for 24 dishes.

" £1 10s., Messrs. E. & O. Chase, Cornwallis, for 12 dishes.

" £1, Mr. E. E. Dickie, Canard, for 12 dishes.

A word of explanation is necessary here with reference to the second prize.

It was not the intention of the Association to compete for these prizes against individual members, but through some omission the judges were not so instructed, and the second prize was awarded to the Association.

The Council has discussed the propriety of readjusting the awards, but in view of the difficulties likely to arise it is not deemed advisable to make any change.

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The thanks of this Association are due to Messrs. Northard & Lowe for the great trouble and expense they have taken in arranging and staging these exhibits.

It is to be regretted there was no steamer sailing in time to send further collections to the Royal Horticultural Society's Show, which took place some days later, when our winter apples would have appeared to much better advantage.

It is further a matter for regret that an exhibition of Nova Scotia apples could not have been made at the World's Exposition at New Orleans, where every State and Territory in the Union, excepting one, is now exhibiting its products. Both the Dominion and Provincial Governments declined to make any provision for the purpose, and the scarcity of money the present season among the fruit growers, made it impossible for them to assume the whole expense. However, it is to be hoped that nothing will prevent us making an extensive display at the Colonial Exhibition to be held at London next season—when we sincerely trust that Nova Scotia fruit will be of much better quality than it has been this season.

The scarcity of money above referred to has seriously interfered with the success of our agent, Mr. Elder, who was employed with a view to enlarging the membership, and extending the usefulness of the Association. He has, however, obtained 40 new names, nearly all on account of 1885, and a great many more promises from gentlemen, who we hope will avail themselves of this opportunity to qualify themselves and become active members of the Association.

We note the formation of the "Small Fruit Association," which is indicative of the enterprise and determination of those of our farmers engaged in this department of fruit growing. We regret, however, that the promoters of this new Association had not considered that their interests were identical with those of this Association, and cast their lot with us, as undoubtedly, the interests of all concerned would be best served by united efforts.

Mr. President,—We have reached our twenty-first anniversary. This Association has accomplished a great work since its formation: many of those who were identified with its early history have passed off the stage, but there is still much to be done; let us go on and fight the good fight begun by those who first organized this Society.

REV. MR. AXFORD moved and MR. BLANCHARD seconded, that the report be adopted which, on being put to the meeting, was unanimously passed.

The Financial Statement and Auditors' Report was then presented.

Referring to the Auditors' Report, the SECRETARY said he regretted that the Auditors' had been unable to give him a clean sheet, owing to the fact of his having omitted to have one of the accounts receipted, another had been mislaid, which fact was not discovered till too late to replace it, and a third was a matter of 35 cents expenses on fruit for Exhibition, paid the President, for which he had neither bill or receipt.*

REV. MR. AXFORD moved that the statement be amended by inserting the sum of \$75 in lieu of \$50, which appeared as the salary of the Secretary-Treasurer, and in doing so said the Council this morning voted, in consideration of the necessary amount of work devolving upon the Secretary, that the salary should be \$75.

MR. BLANCHARD.—I think the item will properly come into the next year's accounts, and I would therefore move that the accounts of the Secretary-Treasurer—including the unvouched items—as now made out be passed—the additional vote of \$25 for the past year being debited to next years account. It is evident that he has had a large amount of labor during the past year, and I have no doubt that a good deal of that labor has been a labor of love, but a man cannot live on love alone, (laughter) and therefore I think it is very proper that he should have something substantial for the labor expended. I think, moreover, Mr. Chairman, it is wise to pay the servants of the Association something that will be considered adequate as a recompense for the labor bestowed. We cannot expect that the Secretary of this Association shall perform a very large amount of work for nothing, and we all know that when a man feels that he is being paid for his work he enters upon it with greater vigor and it is likely to produce better results. I believe that our Secretary is so ardent and so earnest a worker in the interests of this Association that he would work just as hard if he did not receive a dollar for his services. I therefore move that the account of the Secretary-Treasurer for the past year be passed.

The motion having been seconded by MR. T. E. SMITH, was then put and passed.

* See Auditors' Report on page 7.

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REVISION OF THE CONSTITUTION.

The SECRETARY, for the Committee on the Revision of the Constitution, reported upon the revised Constitution and By-Laws, which were read and passed clause by clause, a few amendments being made, and then passed as a whole.

The SECRETARY also reported for the Committee on the Revision of the Constitution, etc., recommending the adoption of the AMERICAN POMOLOGICAL SOCIETY'S RULES—and in doing so said: "The American Pomological Society is composed of representatives from all the Fruit Associations, and it is their endeavor to establish a uniform nomenclature for fruits, and the removal of some of the extravagances as to names which now exist. These rules had been drawn up by a committee of competent men, and there was scarcely an organization which had not adopted them. He would therefore read the rules and would like the sense of the meeting to be taken as to their adoption."

On the rules being read, MR. R. W. STARR moved and MR. HARRIS seconded their adoption, which, on being put to the meeting, was unanimously carried and ordered to be printed in the Annual Report.

ELECTION OF OFFICERS.

The election of the Officers of the Association was then proceeded with and resulted as follows:—

President, Rev. J. R. Hart, Bridgetown, N. S. *Senior Vice-President*, W. H. Blanchard, Esq., Windsor, N. S. *Vice-Presidents*, Annapolis County, William Miller, Esq., Clarence; King's County, D. B. Newcomb, Esq., Sheffield Mills; Hants County, Andrew Shaw, Esq., Falmouth; Halifax County, Major-General Laurie, Oakfield; Digby County, Chas. H. Morse, Esq., M. D., Weymouth; Yarmouth County, Charles E. Brown, Esq., Yarmouth; Shelburne County, W. F. McCoy, Q. C., M. P. P., Halifax; Queen's County, John H. Dunlap, Esq., Liverpool; Lunenburg County, Judge DesBrisay, Bridgewater; Colchester County, Hon. A. G. Archibald, C. B., Truro; Pictou County, Clarence Primrose, Esq., Pictou; Cumberland County, Hon. Senator Dickey, Amherst; Antigonish County, C. B. Whidden, Esq., M. P. P., Antigonish; Guysboro' County, James A. Fraser, Esq., M. P. P., Goldenville; Victoria County, W. F. McCurdy, Esq., M. P. P., Baddeck; Cape Breton County, J. C. Jackson, Esq., North Sydney; Inverness County, Louis McKeen, Esq., Mabou. *Secretary-Treasurer*, C. R. H. Starr, Port Williams, N. S.

QUESTIONS.

On the question-book being taken up for consideration, the following question was read: To the "Starr Packing Company." From your experience in the use of hardwood barrels, do you recommend their use?

MR. C. R. H. STARR said: As I am, I believe, the only representative of that Company present, I shall take upon myself the duty of answering that question. Mr. President, we went to a great deal of trouble and expense to obtain a flat hooped hardwood barrel for the shipping of fruit to England. We have used them exclusively to the extent of some 7000 to 8000 barrels, but I am not yet prepared to say that they have proved very far superior to ordinary barrels of proper size. Our agents in London, Messrs. Northard & Lowe, have recommended the use of hardwood barrels strongly from the first. But, Mr. President, the proof of the pudding is in the eating, and I have observed that some of the apples shipped in softwood barrels have realized about the same price.

Now, Sir, we have had a little bit of experience with softwood barrels that were under size, and it was this. We bought a lot of apples already packed in softwood barrels—good fruit—and we shipped them in these barrels to New York. They went into the vessel with some 1300 other barrels and when the cargo was being landed these very apples were all placed on the No. 2 side of the store room. Of course in storage, the apples were sorted, but as these little softwood barrels came up they did not look at the marks at all—the consequence was that they were sold at a number two price. On being questioned as to the reason for their assignment to number two pile, they replied that the barrels were too small. Now, Mr. President, is this not a matter for serious consideration? Let growers and dealers take warning not to use barrels that are under standard size.

MR. W. H. BLANCHARD.—Is there any regulation size?

MR. C. R. H. STARR.—Yes. The hardwood barrels are made regulation size; but some of the softwood ones are not. The Statute requires an apple barrel to measure 26 inches in length between the heads, 19 inches diameter bilge, and 17 inch head, inside measurement.

MR. ELLIOTT said: I should like to ask, sir, if a really good softwood barrel of good size does not turn out as well in England as the

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hardwood barrel. We have not had much experience in hardwood barrels for this trade, but I know that I have not, so far, sent any hardwood barrels myself. This year I sent some with six and some with eight hoops, and I must say the result has been satisfactory, and really my object in coming here to-day was to ask if a good sized softwood barrel is not as profitable to send to England as a hardwood barrel, provided the fruit is the same in both cases, and does not the one stand as good a chance of bringing a good price as the other?

MR. W. H. BLANCHARD.—If I correctly understand the Secretary he says yes.

MR. J. N. COLEMAN said: I have had some thirty years experience in putting up fruit for my own use, and in the course of that experience I have found that if the air is excluded altogether from the barrel its contents are more perfect. I have invariably kept my barrels so tight that in some cases they could have held water, and sometimes think that if we could but obtain softwood barrels free from knots and waness, there would be but little difference, provided the fruit is honestly packed. I think, however, that the hardwood barrel has the preference, and for this reason, that a hardwood barrel excludes the air. Again, in packing I think there should be greater care. We all know that as soon as the apple is taken from the tree and subjected to atmospheric influences it begins to deteriorate, and, therefore, I have come to the conclusion that apples, when packed, should be totally free from the action of the air.

MR. T. H. PARKER said he believed that the money expended in making good packages was well invested. He had recently purchased some hardwood barrels from a Halifax manufacturer, yet when he came to get his apples shipped he found two of the barrels were broken and he attributed this to the moisture given off by the apples, still he was of opinion that a really strong, good softwood barrel was equal to a hardwood barrel. He was, however, pleased to hear Mr. Starr express his views on this matter.

MR. C. R. H. STARR observed that a break would occasionally occur, but when it did it was the result of bad cooperage, as to the hoops, he considered that the bilge hoops were more liable to break than the chine hoops, but he was not aware how they turned out on the other side; at least he had not heard any complaints on that score. As to the strain on an apple barrel, it was rather strange, but

it required a stronger barrel for apples than either flour or sugar, although flour and sugar were both heavier, they seldom burst the barrels.

MR. ELLIOTT, in referring to the different effects on the barrel caused by flour, sugar, or apples, remarked that he had yet to understand how a barrel of apples contained so much moisture, and would break a barrel, and this no matter what quality of hoops were used.

MR. PARKER said he was still of opinion that a good yellow birch hoop was the most desirable for apple barrels.

The meeting adjourned till 7 p. m.

TUESDAY EVENING SESSION.

President HART in the Chair.

The SECRETARY having been called away, the REV. MR. AXFORD was appointed *pro tem*.

The PRESIDENT expressed his regret at being unable to attend the previous meetings.

It was suggested that the President should deliver his annual address, but in view of the slim attendance, owing to the boisterous state of the weather, it was decided to defer it until Wednesday morning, and proceed with the programme.

MR. MORRIS' paper was then read by the Acting Secretary, as follows:—

THE INFLUENCE OF THE SCION ON THE STOCK AND VICE VERSA.

The above subject gives many instances where the works of nature are beyond the understanding of man, however, all are conducted for his benefit.

It is directed that the root shall not change the character of the fruit, and there are only few instances where it is supposed that the fruit is improved, but not changed; taking for example the Pears Duchesse d'Angouleme and Beurre Easter, when worked on the quince root instead of the pear. In this way our varieties of fruit are retained in their original and true character.

The influence of the root upon the scion is very small in comparison to the reverse influence, and only noticeable where a complete change of stock is made; such as pear on quince, plum on peach, cherry on mahaleb, plum on myrobalan, and the fast growing native or Chickasaw.

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In all of the above instances the stock is much the stronger grower and gives the top a more vigorous growth for about the first two years, but the tendency after that is to dwarf.

A singular fact in connection with the working of some of the above stock, is that the slow growing top will out-grow the fast growing root, in this way forming a shoulder above the union; perhaps the most noted example is where the ordinary varieties of plums are worked on the Chickasaw, where the stock of the Chickasaw remains almost stationary, making the tree nearly worthless. Where the working is reversed; for instance the Weaver on the St. Julien stock (which is the slowest grower of all plum seedlings) we find in this instance the slow growing stock out-growing the strong growing Weaver, and the shoulder is reversed.

The root to a certain extent effects the hardiness of the tree, but only as it induces an earlier or quicker ripening growth, or making the tops more tender by producing a stronger and later growth.

The influence of the scion upon the stock is very great, in fact, as a rule is master of the situation and can be compared to a master builder constructing his foundation to suit the building to be placed upon it, and so it is with the scion, controlling the manner of root growth to supply the need of the tree and the variety of fruit grafted.

It is a fact well known to experienced nurserymen that the roots of every variety of apple, plum, pear and other fruit have a distinct habit of growth peculiar to the variety, and so strong is the influence of the scion upon the stock that some varieties of pear when worked on quince change the character of the root from the small fibrous nature which the quince generally has, to a few heavy or prongy roots similar to the pear root itself.

In apples, perhaps the two extremes in manner of root growth would be between the Northern Spy and Rhode Island Greening, the first taking a downward tendency, and when four to six years old from the graft one or two large roots only will predominate, while those of the Greening assume a spreading habit. May we not learn from this that the top forms the roots to correspond with the kind of soil that is best adapted for the different varieties.

Thus we know sorts like Rhode Island Greening and Roxbury Russett, having spreading roots, require a strong, heavy soil in which the roots will naturally run near the surface, this soil being necessary to produce their fruit in quantity and of the best quality. While on

the other hand, varieties like the Spy, Duchess of Oldenburg, Baldwin and Red Astrachan, whose roots have the downward tendency, will do best on a deep loam or a gravelly soil with a natural drainage.

We also have plenty of proof that the scion effects the hardiness of the root, we may instance the Wealthy giving the bottom such a mass of hardy, healthy root that makes it about the surest tree to transplant of any grown, as an extreme on the other side we may mention the Roxbury Russet: as a tree, one of the most tender, affecting the root similarly making it very uncertain and hard to transplant with success.

The influence of the scion is so prominent with some of the Western nursery men that they resort to double-working in order to obtain a tree suitable for their use. This is done by grafting the Hyslop Crab, which forms a hardy, fibrous root. When the tree is from one to two years of age it is budded at the collar to such sorts as they require.—(Applause.)

The PRESIDENT.—Undoubted authority, as Mr. Morris is, I still trust some of our own friends will discuss this admirable paper. I think this paper embodied in our report will be frequently referred to. I know, for myself, that I shall frequently look at it. I have caught several hints as the paper was being read, things new to me but perhaps not new to some of you.

MR. W. H. BLANCHARD.—I do not propose to discuss the points brought forward in the paper, but to move that the thanks of the Association be tendered to Mr. Morris for his paper, and that it be embodied in our Annual Report. Although I am not able to discuss it, no doubt there are others here who can offer suggestions, I will not, therefore, occupy your time further.

MR. T. E. SMITH, on rising to second the motion said: Though I am not in a position to discuss this paper, yet I will often resort to it and study it. There are many things in that paper full of interest to us all, yet there is room for study. I have seen many cases such as the writer has spoken of, and it is surprising to see the graft of one variety put on to a root growing vigorously and heavy—for instance—I had several Gravensteins which, after being some years planted, measured fifteen inches in diameter, while in proximity to them other varieties only grew to some three inches in diameter. I think, sir, that in some cases the root must influence the scion, for instance, put a Pear into a Mountain Ash and the result is that the Mountain

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Ash remains as it was while the Pear asserts itself. In this connection we may ask, does the sap come from the root or from the top, and if so, where is the difference, and there are many things in this particular branch of the subject which I do not understand, yet I have much pleasure in seconding the motion before us.

MR. T. H. PARKER observed that while the paper was one of great importance, and should be embodied in the Annual Report, yet he noticed some points in which the writer and some Michigan writers differed, while in others they agreed. As remarked by Mr. Smith, he had seen cases where the scion was twice the size of the original; in other cases the reverse. In some instances he had noticed a very great influence on the root by the scion, so as to almost completely change the shape of the tree. This was indeed a most pleasing subject for study, and one which he thought could be made a source of profit to fruit growers. Another important question in the consideration of this matter was the influence of the trunk on the scion, and, *vice versa*, on the flavor of the fruit. This was still an open question, and one on which a great variety of opinion prevailed. In some cases—Yellow Bellflower, for instance—the fruit is acidless, or at least nearly so, in others the acid is very noticeable; but on this point a great difference of opinion exists, and he considered that this and other points involved in the paper were well worthy of the serious consideration of the Association.

MR. HARRIS observed that, in common with others, he had noticed the irregularities of the effects caused by stock on scion, and scion on stock. He agreed with Mr. Morris, that where pears were grafted on to quinces the pears grew much faster than the quinces. The quince root seemed to stay. He had noticed that in this respect the Louis Bonne were perhaps worse than the Duchesse d'Angouleme. He also drew attention to the fact that these same trees took weak hold of the scions, so that he could pull them out, and although the trees bore well, yet the fruit was poor and scrubby.

The PRESIDENT :—How long have these trees been grafted ?

MR. HARRIS :—Some fourteen or fifteen years. The trees had attained a height of some six feet, with a circumference of from four to eight inches. As mentioned by the writer of the papers some grew well. The Duchesse d'Angouleme seemed to strike out better roots. Some other trees, planted out at the same time, were growing well, and

though the same kind of grafting was used, the trees looked more like standards than dwarfs.

MR. W. H. BLANCHARD asked if it was not usual to graft on to the quince, and whether the nature of the soil would not have some effect in producing the results referred to by the last speaker.

MR. HARRIS, in reply, said he remembered his father had some years ago planted a pear orchard in a rich, heavy loam—inclined to be wet—underdrained. The trees were still bearing as full as ever, and had grown about fifteen feet high and from eight to ten inches in circumference. The land around the trench in which these trees were planted had not been tilled.

MR. T. E. SMITH, in response to a remark by the President, as to dwarf trees, said he found that some pears were better as dwarfs than otherwise. When in Boston, he had worked for a nurseryman who had some 40 acres at Cambridge, which were planted in squares of 120 feet, parted off with rows bordered with dwarf pears six to eight feet apart, and around where the green-houses are situated an excavation had been made into which trees had been planted and then banked up with earth,—these trees had grown to an immense size, while those near the border were dying out very fast, and his employer had often expressed the belief that the former had taken root from the standard root.

The PRESIDENT asked if Mr. Smith had noticed anything disproportionate between the stock and the scion in the course of his practice, to which—

MR. SMITH replied that he had, and that it was a good plan to keep the earth well up around the point of union, and that most varieties took root from the pear stalk.

MR. T. H. PARKER said that, from observation, he thought it was better to plant dwarf trees as a general thing. He had had considerable experience in grafting into the crab, and he found that they increased in their bearing properties wonderfully, but it had a tendency to shorten their lives. He had himself grafted such trees, and had seen them die. He thought that for the propagation of dwarf trees better land and better trees were required.

The PRESIDENT :—We have still a part of the Vice-President's question unanswered—that in reference to the influence of the soil upon dwarfs.

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MR. SMITH :—The question of what soil was best adapted for quinces was one that had often been thought of and spoken of. He was very much interested in the question, and was glad it had come up for discussion; though at the present moment he was unable to answer it.

MR. BLANCHARD.—The point on which I desire information is—does the quince do well in all kinds of soil, or are there some kinds more suitable for it than others?

MR. R. W. STARR.—I think, from my experience with the quince, that to be successful with them you require a rather strong, moist soil, not a sandy soil. The quince requires to grow near the surface. It is exceedingly difficult to make the quince do well, except by heavy mulching.

Again, as to dwarf pears. I have had some experience with 25 trees, but at present I have not one dwarf pear tree on my place that is worth \$2. I do not know whether I have attended to them as I should have done, and perhaps that is where the fault lies, but I find that if you want to make a success with dwarf trees you must treat them as an infant from the first—if once neglected, if once they begin to fail, it is almost impossible to bring them up.

The action of the scion on the stock is this. For the first two or three years it will grow rapidly—no question about that—it seems to take all the vigor that the small fibres can give, and it will soon overgrow the stock considerably, but as soon as it becomes a large tree it overbalances the stock and the root has not the power to collect food enough for the top and to produce a good crop of fruit at the same time. The only way we can remedy this is by high cultivation. The only reason that any one can have for cultivating dwarf pear trees or dwarfs of any kind is simply for garden culture, where there is no room for other trees. We frequently have hobbies and we sometimes want to ride them, no matter at what cost, and dwarf trees are what an amateur may ride as his hobby.

MR. W. H. BLANCHARD.—I think you are correct.

MR. R. W. STARR.—This is a subject to which I have given a good deal of attention. I find that we must recognize the fact of the great influence the one has upon the other—for instance—I know of two Baldwin trees in a bearing orchard, taken from the same nursery and set at the same time, with like conditions of soil and culture. One tree matures its wood and foliage early, and bears bright, red medium

sized fruit ; the other grows late, the leaves are green until frost turns them, and the fruit is of a different appearance and quality, being coarse, not well colored, and immature. I asked myself the reason of this great difference—and set to work to try to discover it. I found a few “sprouts” or “suckers” starting from the roots of each tree, those around the first-named or early tree ripened wood and leaves very early ; but the others ran into the opposite extreme, the wood being soft and unripened, and the leaves green until frost killed them, thus proving that the stock of the first was an early sort, and the other very late in ripening. Following out this idea in many instances where I knew the stock to be an earlier variety than the scion, I have almost invariably found the fruit ripening earlier than if grafted on late sorts. From close observation I am satisfied that it may be laid down as a rule—That the time of the ripening of the stock has an influence on the wood and fruit of the scion. This fact may be of practical use to nurserymen if they will take the pains to go through their stocks in the autumn and select and take up a few hundreds of those that have ripened their foliage early, and use them to graft those varieties which need a longer season to mature than we usually have in this climate.

Again, the influence of the scion on the stock is well known to every observant nurseryman. The same peculiarities of form that are observed in the branches will be reproduced in the roots, no matter how many different sorts of stock are used. Northern Spy, for instance, will always shew a mass of slender fibrous roots, while King of Tompkins will give a few long, straggling roots, corresponding well with its peculiarly shaped branches.

REV. MR. AXFORD.—The inference I draw from the remarks of the gentlemen who have spoken is that there is a solution to the question in the effect cultivation has upon the tree. Mr. Starr has stated that quinces require a high cultivation. Now Mr. Harris' orchard is well cultivated, and as a consequence the roots of the trees would be cut off in cultivation. Again, in speaking as to his pulling out the graftings, Mr. Harris said some were difficult to remove. Now, sir, may not this be due to differences in the growth of the scion—one may have been of a deeper growing species than the other, such as Northern Spy, the roots of which going further down would escape being cut off.

MR. HARRIS stated that as to the tillage of the land in which the defective trees stood, one crop of grain and one crop of hay had

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been taken off the land, but with this exception it had been the custom to plough the land once or twice in the year since the trees had been set out.

MR. R. W. STARR explained that the trench row of trees referred to by Mr. Harris had been planted by the late Mr. Harris in 1860, and were in a very rich red loam, and were now in fact, growing on their own roots. (Reference was also made to the exhibition of one of the trees in Kentville years ago.)

REV. MR. AXFORD.—Those trees are not dwarfs now.

MR. R. W. STARR replied that they were standard trees.

MR. T. E. SMITH.—That is in substance the theory I spoke of.

THE PRESIDENT.—That the dwarf becomes a standard by having the earth above the collar.

The chief value of the paper, it seems to me, is in its suggestiveness, and that is the chief value, it appears to me, of almost all of those papers—not so much what they contain as what they suggest.

The motion for the adoption of the paper as part of the minutes of the meeting; as also a vote of thanks to Mr. Morris were then unanimously passed.

The meeting proceeded to consider the following paper by MR. T. E. SMITH:—

CARE OF YOUNG ORCHARDS.

Mr. President and Gentlemen:

In consenting to prepare this article for the present occasion, I little dreamed of the extent of the ground to be covered. I will therefore make a few suggestions from a practical standpoint, with a view to provoking discussion, merely touching upon some points of interest, while many others, equally important, must be left to others.

This whole beautiful valley, from Windsor to Digby, together with the slopes of the mountains on either side, is wonderfully adapted to the growth of fruit in general, and apples in particular.

In the selection of trees for a young orchard, too much care cannot be exercised. Purchase none but the best trees from nurseries near home, and grown on soil as nearly like that in which they are to be planted as possible. Taking trees from a prairie soil to our clay loam is a severe change, and trees from a fine, sandy soil to a wet or heavy soil, sometimes utterly fail. Nurserymen are

sometimes blamed for selling poor stock, when the real cause of failure has been from ignorance on the part of the planter, or exposure through shipping long distances, when the fibrous roots become so dried they do not recover.

I met a gentleman a few days ago, who said: "I have planted a great many large fruit trees, with wonderful success. I dig the trees, and, after cutting back the tops, leave them on the ground for two or three weeks, until the pores opened by cutting off the roots are dried up so as to prevent the escape of sap. Then I plant, and not one fails to grow." If the large roots could be exposed and the fibrous roots covered, this plan would have its advantages.

Trees should be planted about the same depth they grew in the nursery, first being careful to trim the ends of the roots with a sloping cut upwards. Dig two holes sufficiently large to receive the roots in their natural position, put in a few shovels full of top or cultivated soil—if it is not in a high state of cultivation, mix a little compost with it, but avoid green or coarse manure, and be careful to work the soil well up around the roots with the fingers, so as to leave no crevices. Fill to the surface with good soil and tramp down firmly, leaving the tree a little to the north-west, or against the prevailing wind. Trees should be planted on a square, 20 feet apart, giving 108 trees to the acre. In this way they form, while young, a *protection* to each other, and the first crop will pay for the extra trees. There will be room for all till they are 20 or 25 years old, when weak trees and others may be removed, and thus give sufficient space. Some orchardists are apt to run to extremes. I heard one, who had a thrifty orchard in a beautifully situated spot, say, "If I were planting again I would plant 50 feet apart." Another says, "If I had the privilege of planting my orchard again, I wouldn't begrudge £100." Said orchard did not exceed two acres. He considered he had not planted deep enough. I fear he would have followed the example of a *would-be* orchardist, who planted his trees two feet deeper than they should have been, with about four quarts of oats under each tree to raise them up.

In preparing to plant an orchard, first place stakes exactly where each tree is to stand, then take a board, say six feet long and four inches wide. Bore a hole in each end and notch in the middle. Place the notch to the stake where the tree is required, then insert a small peg say ten inches long in each hole at the ends, lift the

board, dig the holes on the notch in the and save mu to plant a lot oversee the v holes, and, b standing, I rapidly. Yo even, i. e., ha from the end

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board, dig the hole for the tree, replace the board, putting the end holes on the pegs that are still standing; then set the tree to the notch in the centre, and you have it exactly where the stake stood, and save much time and trouble thereby. Last spring I had occasion to plant a lot of large trees, but could not spare the necessary time to oversee the work. After arranging the stakes, I sent a man to dig holes, and, by using little twigs in the end holes, which were left standing, I could then proceed with the work of planting very rapidly. You will see at once the necessity of making the board even, *i. e.*, have the notch in the centre and the holes say two inches from the ends, so should it get reversed it will make no difference.

Fall planting is growing in favor, especially if the wood has been properly ripened. In such cases each tree should have a mound of chipdirt, compost, or earth, heaped at the base. This is beneficial for eight or ten years. It serves a double purpose, keeping the tree steady as well as the water from freezing around the trunk and injuring the bark. Mice, too, are kept from girdling, by this simple method. Care must be taken to remove these mounds in the spring. The *soil* should be carefully studied, and only varieties to suit it should be purchased. A Bishop Pippin will not do well on a deep, rich or wet soil, neither will a Blenheim succeed on a dry soil. If the claims of nature are satisfied, we are already a long way on the road to success.

It is very important to prune young trees from one to five years planted. Pruning of proper branches when small, saves the necessity of cutting larger ones a few years later.

I read not long since of a prominent fruit grower in Kent County, England, who pruned his orchard with his thumb and finger, which proved to be the finest orchard in that section. I have seen strong, healthy trees killed by pruning and cutting back too severely for grafting. The sap turns sour for want of room to flow freely through the accustomed channels, which brings on disease and often death. Thus another proof of the advantages of early and frequent pruning. When trees are small, the majority of orchardists do not realize the necessity of such careful management, as the limbs look small, and have plenty of room; but, remember, they will be closer together when they grow larger. Dull days in haying are favorable times to look after such work. A digging fork, a knife, and small pieces of dry, hard-wood, are about all the tools required, with an occasional stake for a crooked tree. Carefully look over each tree, prune out

such branches as are not needed, and, should a thin spot occur, draw a small branch in the required position, and tie to another limb, or tie a small stone on it to keep it in position. "Such branches as are not needed," I would classify under three heads,—1st, branches that are growing too high; 2nd, those growing too low; 3rd, too many growing in one direction. However, the best pruning for the benefit of the orchard I ever did, was cutting off three inches from the ends of the *whiffletrees*, and six inches off the top of the hames. Remove moss, bark-lice eggs, etc., and look out for borers,—if discovered, plug their holes up with a sharp-pointed peg, driven tight, and they never breathe again. Cut the peg off close to the bark and it soon heals over. I have had trees, the leaves of which had turned yellow and sear, plugged up, and in three days showed *spring vitality*. The sod or weeds should be turned under, (never leave a patch of sod around each tree) and, if swayed from proper position, straighten up to a stake, and remove all suckers carefully at their *lowest extremity*.

Ten minutes work on each tree may save hours a few years later, and greatly increase the value and beauty of the orchard. A young tree thus properly cared for will require less care in after years, as well as producing a better quality of fruit. A small tree can soon be examined, and, if I may be allowed to pervert that time-honored maxim, I would say, "Train up a tree in the way it should go, and when it is old it will not depart from it."

Avoid too many and unprofitable varieties. Three or four kinds are enough, and these, to insure success, must be selected only after a careful study of the soil and situation of the proposed orchard. If re-grafting has to be resorted to, care should be taken not to mix the varieties. Graft whole trees and whole rows of one kind,—it would save much confusion in gathering the fruit.

It requires three years to graft a tree, as too many limbs should not be cut off at once. Limbs about 1 to 1½ inches in diameter are the best size to graft, but, in cutting, keep in view the security of the head. In the use of the scrapers, great care should be exercised, as too much pressure will injure the bark.

MR. J. N. COLEMAN.—*Mr. President*,—It has been my aim in life to give as much as I take. I feel, however, that in my connection with this Society, I shall not be able to give as much as I receive. I acknowledge, sir, in joining this Association, I had a selfish motive. I have paid some little attention to horticulture, but find I have

thoughts which to have done thoughts mat passage of Sc in that, I thi the writer, " they were no I am not on Yankees. I introduction much prefer if strangers country would ought to enco home as possi aware of thei orchards has I that there is i to raise your experiment. experimenting Canard. It i never put an ashes on it, be the practice a is a mistake.

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thoughts which I cannot clearly express, as I might have been able to have done had I joined your Society years ago and had those thoughts matured. Mr. Smith, in the paper just read, has quoted a passage of Scripture about training up a tree, etc. There is something in that, I think, sir. It certainly does appear that the suggestion of the writer, "get your trees near home" is a good one, and even if they were not so good, I believe in patronising our neighbors, yet, sir, I am not one of those who like to raise a hue and cry about the Yankees. I think this country has been greatly blessed by the introduction and planting of American trees, not that I would not much prefer that Nova Scotia should produce her own trees, but if strangers had not introduced their trees here the people of this country would be much poorer than they are to-day. Still, sir, we ought to encourage the growth of our own trees and purchase as near home as possible, so that by their being quickly reset they are not aware of their removal. My experience in the matter of manuring orchards has led to a new departure on my part. I have a theory that there is no need of manure in an orchard. It is quite possible to raise your fruit without tillage or manure. I am trying that experiment. I am almost convinced I shall succeed. The trees I am experimenting upon were purchased from Mr. James Hardwicke, of Canard. It is some ten years since the land was ploughed. I have never put any manure there, but I have occasionally spread some ashes on it, besides this, the place was used as a wood yard. I think the practice and belief that an orchard must be manured every year, is a mistake. Fruit growers expect too much from their orchards.

Now, sir, I have as poor a piece of land as any in this valley. Potatoes have been grown on it without manuring it, until the whole of the potash and other alkalies have been taken out of it, yet I am not certain that my theory as to manuring will not prevail. I believe there is a great future before us all, nature has done much for us and for our trees, let us try and help her scientifically and in accordance with her wants.

MR. T. H. PARKER.—I differ from Mr. Smith in some points, one of which is as to the distance the trees should be planted apart. I have heard it advocated to set them from 15 to 20 feet apart; but, sir, I have concluded that any man who recommends it now must be a nurseryman. My experience teaches me that no tree should be set closer than 36 to 40 feet from its neighbour. Some twenty-eight

years ago I set an orchard planting the trees 20 feet apart one way and 25 feet the other; they are now fine looking trees, but it is my belief that were the trees placed on three times as much ground, I would get more out of it. In some cases the branches have overlapped those of the next tree some 6 feet.

The result of close planting is to run the trees up into the air, while under wide planting the same trees would have spread out their branches and been far more profitable. Under Mr. Smith's theory the trees will soon wither and die, while under the opposite system once the tree is strong and healthy, all it requires is light, air, and cultivation. This, sir, in view of the fact that we yearly are setting in this valley some thousands and tens of thousands of trees, is a very important subject. Were we to allow this theory to be propounded and go broadcast, we should be inflicting an injury on many who look to us for guidance and advice. I have, myself, suffered much by such advice. It is, sir, a theory which experience will absolutely disprove. I say it is the duty of the Fruit Growers' Association to arrive at some sound conclusion for the public good—not for this year or the next—I was going to say for a century ahead—and to fix as a standard distance that of from 36 to 40 feet apart.

MR. WM. MILLER.—Having had some experience in planting trees, I must say that my opinion is that those who plant only 20 feet apart will find that instead of their trees extending they will go upwards, and I suppose the atmosphere is better up there; 40 feet or thereabouts is a safe distance. Any one who has had experience with an orchard for a term of years will find that if he wants the trees to expand and become productive trees, plenty of room must be given to them from the first—contract it and up they will go. As a result of plenty of room, the speaker referred to the mammoth tree in his orchard.

The PRESIDENT.—We have already upon our records, in the printed minutes, the opinion of this Association that trees should be from 30 to 40 feet apart. I am here, gentlemen, to defend our past action, if you should desire to reduce the distance, but our opinion on this point has already been given.

MR. J. N. COLEMAN.—When speaking on this paper before, I forgot to speak about the distance of trees. I have observed that there are orchards that bear fruit yearly in large quantities, yet those orchards are planted very closely. I think, sir, it would be very

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unwise to establish a cast iron rule by which men in all localities and under all circumstances, should be guided. In my locality it is found preferable to use the close system, and, situate as I am, at the foot of a mountain, close planting is absolutely necessary as a protection.

MR. W. H. BLANCHARD.—The discussion shows that a compliment is being paid to Mr. Smith for the paper he has read to us, for notwithstanding the number of points brought out in it, only one has drawn any attention from the assembly. I have not had a great deal of experience, it is true, yet I think Mr. Smith is nearly right after all in his views as to planting trees. He says, put them 20 feet apart and you can afterwards cut them out and bring them to 40 feet. It seems to me that 40 feet is about right, and because our friends on this side have not the moral courage to go through their orchards and cut out the trees, it is not a reason that they did wrong in the first instance in putting them there. I think that the arguments adduced only go to prove that Mr. Smith is correct after all, and that following the one portion of his argument, the other must in due season, be followed to its full extent.

MR. T. E. SMITH.—I should like to give emphasis to the remarks of the last speaker, and draw the attention of the meeting to many cases in which thick set orchards flourished. The principal fault lay with orchardists themselves who lacked the necessary courage to cut out when necessary.

MR. T. H. PARKER.—How old are the orchards you refer to?

MR. SMITH.—Some are from 18 and 20 to 25 years, perhaps.

MR. PARKER.—That gives point to my prior remarks, an orchard is then only in its infancy—were those trees planted correctly in the first instance the owners would have had far better orchards to look forward to years hence.

After some further discussion of the question as to the proper distance of planting young trees, which was participated in by Messrs. Parker, Smith, Connell and the Rev. Mr. Axford, the prevailing opinion appeared to be that advocated by the writer of the paper, supplemented with careful thinning.

REV. MR. AXFORD moved that the paper be adopted and printed in the Annual Report.

MR. R. W. STARR seconded the motion.

The PRESIDENT, in placing the motion before the meeting, said: I think, gentlemen, you have come pretty near upon the point as to where trees should be put when young for their protection, if we can but get heart enough to cut them off in proper season. I have much pleasure in placing the motion before you, gentlemen.

The motion was carried unanimously.

By DR. CHIPMAN:—1. Is there an apple called *Jewett's Favorite*? 2. Is it identical with the apple called *Black's Red*, by Amos Black, Esq., of Horton? 3. Is the apple called *Wallbridge* the same?

MR. R. W. STARR.—*Black's Red* has been pronounced the same as *Jewett's Fine Red* or *Nod Head*, in the State of Maine, by parties who knew the apple. Both of the apples in question were grown by the late James Hardwick, in his nursery, but he never knew from whom he got the scions.

The PRESIDENT.—I suppose that is satisfactory. *Jewett's Red* and *Black's Red* are identical, but differ from the *Wallbridge*.

MR. T. H. PARKER's question as follows, was then taken up: What is the value of apples per barrel as they hang on the tree, or in other words—what does it cost to produce them?

REV. MR. AXFORD.—I do not know how true it is, but I have heard it stated that a dollar a barrel would pay.

MR. T. H. PARKER.—Some of our fruit growers have been complaining of the low price obtained for apples, and it will be well if we can ascertain what it costs us to produce apples, so that we may know whether we are making money or losing it by having an orchard.

MR. HARRIS.—If we have to depend for a living on apples or potatoes, will it not pay us better to raise apples at one dollar per barrel than potatoes at 60 cents a bushel. I should answer that the former employment was the better.

MR. J. N. COLEMAN.—It is my opinion that apples bring more than one dollar hanging on the tree, and when they do I begin to think of them as a luxury. I do not see how a poor man can buy a barrel of apples when they exceed \$2 a barrel. I am inclined to think this business of growing apples is very much like that of growing strawberries. When I began to raise strawberries, about 15 years ago, they were worth 40 cents a quart. I was as fond of the fruit then as I am now. Now they are not worth 10 cents a quart, and the sale is unlimited, yet I make money, and so can money be made by apple

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growers when they are worth less than a dollar a barrel. I believe that if every man, woman and child would partake of more fruit it would be the better for them. Indeed, sir, I am of the opinion that apples are better than doctors, and strawberries better than both—I consume about three quarts a day. (Laughter.)

MR. MILLER.—The question before us is one of dollars and cents. Let 75 or 60 trees be planted on an acre of ground, ten years pass before there is much to be got from those trees, which will each cost from 30 to 40 cents in the first place to plant them out. There is no loss to the ground by reason of the trees being there during the years of their minority, as I call it, for we can raise just as good crops with the trees on the land as without them; so, practically speaking, we lose nothing by having the trees on the ground until they come to their bearing state. After they begin bearing you may reckon just in this way:—Seventy-five trees, at an average of two barrels to the tree, would produce \$140 on the trees. Now, Mr. President, I would like to know what other crop you are going to put on the ground that, with as little labor as it is to gather the apples, will produce such a result!

I have had some experience as a farmer, and I know of no more profitable employment in connection with agriculture than apple-growing; and if we in Nova Scotia can always be sure of securing a dollar a barrel for our apples, I say it is a mine of wealth—the greatest mine of wealth that possibly could be given to the Counties of Kings and Annapolis. If we could but get at the secret of not having to manure the orchards, and could thereby plant the whole valley with fruit trees, it would be such a source of wealth that, in after generations, it would to our credit be said that we had laid the foundation of untold wealth. In my opinion—I have expressed it elsewhere and will express it again—there is no crop that the farmer can grow more profitable than apples at one dollar per barrel, on the tree.

MR. J. N. COLEMAN.—I have made a careful estimate of the capabilities of this valley for growing apples, and you will all look with surprise at me when I announce the result as \$10,000,000 per year.

MR. PARKER.—Is it not possible that the estimate of \$1 per barrel is too great? I simply wanted to know, from a financial point of view, what is the least sum I can produce apples for per barrel. If I can produce them for fifty cents, or a dollar, I want to know it;

and it is only by a discussion of the question, we can arrive at a conclusion ; yet I think the estimate of Mr. Miller too high.

MR. MILLER.—My estimate has been made in comparison with the cost of raising other crops on the same quantity of ground.

MR. COLEMAN.—I should not be afraid to attempt to prove that apples can be raised for fifty cents per barrel, on the tree.

The PRESIDENT.—You must take the question in its broadest sense. Of course, if you have but a small quantity of ground you cannot raise the apples for one dollar ; but if you take our farms in general in this valley, it seems to me that one dollar per barrel is too high an estimate. I have looked into this question carefully, and compared the figures produced from other crops, and I should say that from fifty to seventy-five cents per barrel will be a fair average from year to year. There is one thing which I wish to say in this connection. It seems to me that we are rather too fond, in our manner of speaking, of raising apples. Some of us think we should only raise apples in the valley. I contend that all over this broad Province of Nova Scotia, apples of some kind can be raised just as good and just as profitably as they can be in this highly favored valley. On the LaHave River, at Port Medway, and other places in almost every county in our Province, they can raise apples just as well as we can—perhaps not the same kinds—but of other kinds ; but do not let us have it go out from this Association that we think we are the only people who can raise apples.

MR. MILLER thought the difficulties of conveyance to a market was an insuperable difficulty in the way of the people of the districts, indicated by the President, disposing profitably of their apples.

MR. W. H. BLANCHARD.—Yet they find it profitable to haul their potatoes to a market at thirty cents a bushel, and no doubt they will yet find means to dispose of their apples. I do not think that Mr. Parker's question has been as fully answered as it deserves to be.

MR. SMITH thought it would have a bad effect on the market, were it openly stated to the world that a barrel of apples, ready for shipment, cost the farmer but one dollar per barrel.

REV. MR. AXFORD.—I don't believe I could raise them for one dollar per barrel.

MR. COLEMAN had no doubt if the marketable value of a barrel of apples was but fifty cents, profit would still be derived from it.

The meeting adjourned, to meet at 10 a. m. to-morrow.

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WEDNESDAY, February 11th, 1885.

The Association met at 10 o'clock.

On the meeting being called to order by the PRESIDENT—

MR. W. H. BLANCHARD moved that the paper from Mr. Wellington, of the Fonthill Nursery, be now read. This motion being seconded, by REV. MR. AXFORD, read as follows:—

SMALL FRUIT CULTURE,

The prospect for markets in the future, and the best means of preserving the crop.

The culture of small fruits is an important branch of Horticulture long neglected and is now assuming the attention and interest that its merits deserve, and although in its infancy as a separate business, we predict a vast extension in the future. As the peoples' wants and tastes become educated to these fruits, the demand will greatly increase.

About fifteen years ago, when small fruit growing was first entered into, in the Niagara District, it was more difficult to dispose of *fifty quarts* of berries in one of the local towns than it would be to dispose of *fifty crates* at the present time.

Taking it from a lucrative point of view, we should claim as much profit from five acres of small fruits, on suitable land, as one hundred acres from ordinary farming, if carried on by a man of energy, having a natural taste and liking for the business. The profits are very much increased where the party has a family of boys and girls to assist in picking the fruit, which is the principal part of the work.

We may note as an example of what may be done by a man owning four acres, for which he was in debt, nearly the whole amount, and whose principal source of income was what he earned as a day labourer:—

He was advised by one of the firm in connection with the Fonthill Nurseries, to plant his land out with small fruits, he having a family of girls (who were not allowed to go out to service) to assist him. His profits in less than three years were fully equal to his neighboring farmers, and in that time he was able to pay off all indebtedness, purchase a good horse and first class democrat waggon, which is used as a market waggon or a family carriage and otherwise improve his

surroundings, and has now leased land adjoining for the extension of his business.

We will quote one instance more which has also been carried on under our notice and advice :—

“A man, whom we will call William Good, having bought a farm of 50 acres, and going in debt for a good share of the purchase money, commenced planting it with large and small fruits, until at the end of about five years he had fully one-half planted, at which time, and before any of the large fruit had given any returns, he was able to free the farm from debt, besides building a house costing about \$1500. All this being from the proceeds of his small fruit sales.”

We do not know of any other business in which an industrious man of small means can so quickly improve his circumstances, and at the same time find pleasant and healthful employment for his family at home. On the contrary, perhaps there is no business where a failure is so likely to result, as when undertaken by an indolent or careless person, or one having no natural instinct for it.

Strawberries for market purposes.—The following of the old tested varieties are the most popular :—Wilson's Albany, Crescent, and Manchester. For the amateur the following may be added :—Charles Downing, Sharpless, Bidwell and Daniel Boone.

The best soil is from a light to a heavy loam, naturally dry or made so by thorough under-drainage. Perhaps no crop will vary more, either in yield or quality, and this, in proportion to the strength of soil and attention ; therefore, it will pay to give the soil thorough cultivation before planting, which should be done as early in the season as the land will permit. In field culture have a roller run over it after it has been well ploughed, cultivated and harrowed, thus giving a smooth surface. It is then marked out with a plough in straight furrows, from 3 to 3½ feet apart. The planters following while the soil is still moist and fresh, holding the plant in the left hand against the land side, while he draws the soil against it with the right, from the other side of the furrow ; plants being about fifteen inches in the row.

The furrow then is partly filled in with a hoe and is tramped with the feet, making it quite solid against the roots ; after which the furrow is gone over the second time with the hoe, leaving the soil on the top loose.

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Cultivation is mostly done with horse cultivator, except when necessary to use the hoe or hands to keep weeds out from the row. The cultivator should be run up one side of the row and down the other. In this way the runners of the plants are thrown with and close to the row; thus forming at the ends of the season a close matted row from 12 to 18 inches wide.

For garden or small plots, a line and spade will be used instead of the plough.

Raspberries, cap varieties.—In blocks, the varieties most popular are: Souhegan for early; Gregg for late Ohio for drying; Schaffer's Colossal, (a dark red) for canning, and Caroline (white.)

Soil, kind and preparation.—Same as for Strawberries; mark out in rows 6 feet apart; plants, 2 feet apart in the row.

It is an important matter in growing these fruits to pinch off the tips of the new growth the first year, when they reach the height of nine inches, and every year afterwards when about 18 inches high, which will be usually soon after the first of June. The plantation should be gone over at least two or three times to be sure that it is thoroughly done. This induces the plants to branch, forming a low spreading top, giving a large amount of bearing canes for the next season, and keeping them in such shape that they will not be blown and broken up by the winds.

The following spring the side branches should be cut off within two feet of the main stem, and the old wood entirely cut out, unless this has been done the fall before. The rows in this way are formed in hedge shape, which should be mulched, in the row, with straw or coarse manure after the first season, and cultivated between.

Raspberries, Red.—Cuthbert stands at the head of the list, with the following for early: Hansell, very early; Turner, medium early; Marlboro, a variety not thoroughly tested, although the testimony so far is very conflicting.

The Red Raspberries require a deeper soil than the other fruits mentioned, a deep, sandy loam being preferable. The preparation for planting, same as the Cap varieties. Pinching the new growth may be avoided, otherwise the treatment should be the same. The suckers outside the immediate row should be kept cut out as weeds, otherwise there will be a disappointment in the yield of fruit.

Blackberries.—For the cold section, Snyder, Taylor and Gainor are the only varieties to be recommended. They require a deep, sandy loam. Rows, seven to eight feet apart; planted two feet in the row. They do best when the new growth is pinched at about 3 feet. It is important to mulch in the row and keep suckers cut out, the same as with the Red Raspberries.

All of the above fruits do best where protected from bleak winds.

Currants.—Cherry and White Grape are the most popular sorts of the old varieties, with Lee's Prolific for black. The former will be replaced by the Fay's Prolific and Moore's Ruby, when the plants become plenty so that the price may be reduced. These require a deep, heavy soil, in which plenty of manure is well worked. Plant in rows five feet apart and four feet in a row, cultivating both ways. Keep the old wood pruned out of the centre of the plants each year.

Gooseberries.—Of the old native varieties, Smith's Improved and Downing are the best. Among the newer native sorts, Large Golden Prolific and Triumph will be found a great improvement. Of the foreign sorts, White and Industry are found to do the best in this country. The soil and culture for the Gooseberry will be precisely the same as for Currants.

Grapes.—The most important of all small fruits would take too much space to treat them fully in this paper, therefore, I will only mention a few varieties adapted to a climate like Nova Scotia. The following are best among the early ripening sorts:—Moore's Early, Early Victor, Worden, Hartford, and Delaware, and the old reliable Concord, where the season is long enough. Where the vines could be protected during the winter would add the following:—Lindley, (Roger No. 9); Wilder, (Roger No. 4), and Brighton.

The market value and disposition of the crops may be summed up as follows:—

Strawberries are considered a paying crop at five cents per quart when sold direct to the retailer or consumer, without express or freight, carriage and commission. This is also the usual price paid by canning companies.

Black Cap Raspberries are usually worth, in Ontario, 7 to 8 cents wholesale, and about 10 cents retail. These are also valuable for canning, and are about the only varieties of small fruits much used for evaporating, about four quarts making one pound of evaporated

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fruit, which finds ready market at from 30 to 40 cents per pound, wholesale.

Red Raspberries are in good demand in cities at about 10 to 15 cents, wholesale. On account of their tendency to settle and mash they should be marketed in pint baskets. This fruit is also valuable to, and eagerly sought by canning companies.

Blackberries will average about 10 to 12 cents wholesale, in cities, and are also valuable for canning or evaporating.

Currants are in demand by canning houses for the manufacture of jelly.

Gooseberries should not be picked until immediately after the Raspberry season, when there will be a scarcity of fruit and they will then find a ready market at good prices.

Moved by REV. MR. AXFORD, seconded by MR. MILLER, and carried unanimously, "That the thanks of the Association be tendered to Mr. Wellington for the excellent paper just read, and that the same be printed as part of the proceedings of this meeting, in the Annual Report."

MR. R. W. STARR.—I think the paper is a valuable one. It will lead us to think more of the subject-matter than we otherwise would have done. There is this, however, about that paper—the writer is not aware of our climate or soil; save what he may have acquired by reading; hence I think the experience of those among us who have devoted their time to this especial department, should have weight with us. In the matter of gooseberries, for instance, the two kinds mentioned are, no doubt, good; but is it not possible that we have native varieties of our own, or varieties originating in our own locality, that are superior to anything we can import? Our friend, Mr. Sutton, can doubtless enlighten us upon this subject, especially as I believe he is the originator of some varieties.

MR. SUTTON.—About thirty years ago I obtained some slips, and, from the seeds produced, I propagated from season to season, until now I have a species of gooseberry of some four inches in circumference. Their color is a yellowish-green; as bearers they are most prolific. I have taken great pains each year in assorting the roots, so that none but the very best are re-produced. One kind has a somewhat red fruit, and another a tint of white; but they are all very good bearers and grow prodigiously. For instance, some are

now seven feet high, which, for a gooseberry tree, I think you will admit, is somewhat of a height. These trees bear well every year.

The PRESIDENT.—Do they mildew?

MR. SUTTON.—No sir. My currants are the same. I propagated them from seed from season to season. For a good crop, nothing beats the *White Amphor*.

MR. COLEMAN referred at some length to the experience he had had in the past as to the great prolificness of the gooseberry, and proceeded to show that, while gooseberries grew well in their wild state, a system of cultivation tended to develop the fruit to three times its ordinary size. He had lately paid some attention to this special department, and was experimenting on a large scale. He was adverse to importing varieties, and was hopeful that in a few years hence a variety adapted to the soil and climate would be produced. The varieties he was experimenting upon were but recently planted, and, therefore, no satisfactory account could be given of the actual results. Yet they were, so far, so profitable as to lead him to continue his experiments—the results of which he would, in due time, unfold. As to the price of fruit, he was of opinion that the demand would regulate that, and expressed himself to be of a decided opinion that fifty cents per barrel would be remunerative for apples, and even five cents per quart for small fruits.

MR. SMITH.—Referring to the culture of wild fruits, I would call attention to the fact that a gentleman from Cape Breton, who required some gooseberry roots, sent an order to an agent in this district for half a dozen, which was promptly filled, by the agent procuring wild ones. Doubtless he will never be the wiser, if they grow under cultivation, as stated by the last speaker. There was one kind of grape—a prolific bearer—not named by Mr. Wellington,—the *Isabella*, which takes the place of the *Concord* in Canada.

The PRESIDENT.—I have here a drawing of the *Lee's Prolific*, referred to by Mr. Wellington; and if any of you are desirous of obtaining it, I will direct you how to do so.

REV. MR. AXFORD.—I notice the omission of a variety of grapes—the *Golden Pocklington*—which ripens a fortnight earlier than most other varieties. I have seen them grow well.

The SECRETARY pointed out that other papers were yet to be read, in connection with small fruits, and suggested the postponement of the discussion till all such papers had been placed before them.

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Mr. W. H. BLANCHARD moved that the order of the day be proceeded with, which, on being seconded and put, was carried.

The order of the day was then proceeded with.

ANNUAL ADDRESS.

The PRESIDENT then addressed the meeting, as follows :—

Ladies and Gentlemen, members of the Fruit Growers' Association and International Show Society of Nova Scotia :—

It is but natural that I should feel somewhat out of place in addressing you to-day as President of your Association. Occupying the position assigned by you to our late President at our last Annual Meeting, while with you I regret his absence, I feel how inadequately I can follow him in the duties of the chair. My previous training and occupation, however it may have fitted me to do with man since he left the Garden of Eden, could not give much fitness for his appointed occupation in his primary state.

Since the Wise Disposer of all things has not seen fit to permit me to have for the present at least, such a measure of bodily health as would fit me for such employment in His moral vineyard, as it was my privilege formerly to engage in, it appeared to me best to get me a garden that I might "dress it and keep it." Hence my connection with the fruit culture. This connection, beginning but in 1882, you can readily see that I have not had much time to acquire the art and mystery of fruit culture to a large extent. I feel, therefore, that my place is rather that of a learner than a teacher in the special line of subjects engaging your attention as a Society.

Not to trouble you further with personal matters, I may say that

THE FRUIT CROP OF 1884

was such as to call for thanks to the Great Giver of all good. The leafy month of June found our orchards and gardens abounding in blossoms. Fruit buds had wintered well and tree shrub and plant gave promise of a most abundant harvest. The unusually wet summer operated unfavorably upon the development of the smaller fruits, so that these gave but a short crop. Apples and pears were, taken as a whole, rather over an average crop as to quantity, but the quality of many kinds was very inferior. The tender-skinned varieties were badly spotted. Vandeveres, Greenings, Spitzenburgs and Bell-flowers were, in many orchards, scarcely worth picking; Baldwins

suffered to a lesser extent, but were in most cases not well colored, being dark, rather than bright red ; Gravensteins, Ribstons, Roxburys, and Nonpariels were good in quality as well as quantity.

In consequence of the large increase in the number of fruit-bearing trees and plants in Nova Scotia, it is probable that never before have we had so large a crop of fruit.

PRICES OF FRUIT

have ruled low. Our home markets were overstocked with inferior fruit all through the autumn and early winter. New markets in the Maritime Provinces were sought out by our buyers, and almost every town, village and hamlet which did not produce a sufficiency of fruit for home consumption was well supplied from localities more highly favored in this respect. We may well suppose, therefore, there will be in our Provinces in future years, a larger number who will understand that fruit is a necessary article of food.

The English markets for apples have, up to the present time been poor. Large quantities have been forwarded to them from the Upper Provinces and the United States, and yet the total amount received has been little, if any larger than it was in 1882, and not nearly as large as in 1880, still prices in both these years ruled higher than in the present season. We may suppose that our hard fruit, with its good keeping qualities, will realize better prices, so that the total amount received for the produce of our orchards and fruit gardens will be little, if any, short of that obtained in any previous year.

It is evident that we need to pay more attention to the raising of

SMALL FRUITS.

All the efforts which have been made in this direction prove that there are very few portions of our Province unfitted for the profitable growing of these, while it has been abundantly demonstrated that a given area of small fruits well cared for will give better monetary returns than the same surface in any other crop. Of course more labor is required than to bring to successful maturity the larger fruits or ordinary farm produce, but here is afforded a favorable opportunity to provide means to keep our boys at home instead of having them expatriate themselves in order to make a profitable subsistence. Almost unlimited quantities of grapes might be raised in the open air in the more sheltered parts of our Province, wherever a good protection against the north and north-west winds is found. Even

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comparatively tender varieties laid down in the autumn would winter safely and produce abundant crops. Cold graperies have proved a decided success wherever they have been tried, and they may be multiplied to an indefinite extent with profit.

It is worth while to make arrangements for the profitable disposal of our

SURPLUS FRUIT.

It is evident that our home markets are readily overstocked if we have a good crop. The English market will not take our apples to an unlimited extent at high prices. It remains for us to find out whether we cannot, by the construction of preserving houses, canning factories or fruit evaporators, so prolong the keeping time of the more perishable kinds of fruit as to obviate the necessity of causing markets to be glutted at one time and bare at another.

I commend also to your notice the necessity for making suitable freight arrangements, especially to England, so that our apples may reach market in good order, at as cheap rates as other goods or as apples do from other places on our continent, and not in large quantities at a time.

I am sorry to have to say to you that you have not succeeded in procuring a

FROST PROOF WAREHOUSE

in Halifax. Some movement has been made to construct such a warehouse at St. John, but the scheme has not yet taken a very decided shape.

It was found impossible to procure sufficient funds to permit your Executive Officers to send and maintain a suitable exhibit of our fruits at the

NEW ORLEANS EXHIBITION,

which we very much regret. It will be advisable for you to decide at the present meeting whether it will be best for us as an Association to prepare and exhibit a suitable show of our Fruits at the Provincial Exhibition to be held during this year. It will be well to consider that while our Fruits are pretty well known to our own people, yet it is desirable to give these continued reasons to have faith in the Fruit producing capabilities of our Province, and it is wise to show to the strangers who may visit our exhibition, that we do have confidence in ourselves and have abundant reason for such confidence. Should you conclude to exhibit, it will be as well, in my opinion, to provide that our smaller as well as our larger fruits be fully represented.

I am sorry to have to call your attention to the fact that one of the most eminent Pomologists of the day has recently passed from earth. I refer to CHARLES DOWNING of Newburgh, N. Y., whose death took place at his residence on the 18th of January, after a lingering illness, the result of a severe injury he received in New York in the latter part of 1882. Even in his illness his heart was in his work. I have been privileged to peruse a letter by him to a member of our Association, (Mr. R. W. Starr,) dated December 20th, 1883. In it he makes enquiries in reference to our Nova Scotia Apples in order to find out whether some varieties grown by us under certain names are identical with others. He adds in a postscript, "I am still confined to the house by the injury I received in New York by a railroad car more than a year ago. My back is still stiff and painful, so that I have but little use of it and can only walk a few rods at a time, when I have to lie down or sit down to rest."

Brave old man, in his eighty-second year, scarcely able to walk across the floor because of pain, busy as ever in collecting and recording information that might be of assistance to you and me and all others who attempt to grow an apple or a strawberry, that we might do our work more surely, pleasantly and profitably.

Let us all so live and labor that the world may be the better for our being in it, and when we are called to leave it we shall not have cause for useless regrets over wasted energies and time. (Applause.)

A motion was then put and carried unanimously that the thanks of the Association be given to the President for his able address, which were duly tendered by Senior Vice-President BLANCHARD in a few graceful words, to which the President replied as follows:—I did not feel like apologising, as I thoroughly dislike apologies, but now I feel bound so to do. I did not realise, until a few weeks ago, that I should have to make any report, and I then thought I should have sufficient time to prepare something I should not be ashamed of, but the arrival of the steamers and the consequent shipment of apples, with which I have something to do, came upon me, taking up the time that I intended to devote to you. I feel keenly, however, how far short I have come from the standard of the addresses on similar occasions, and I can only hope that, taking warning by what I feel to be almost a complete failure (expressions of dissent) this year, I shall try to do better in the next.

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The meeting, through Messrs. FISHER, MILLER and COLEMAN expressed their deep sense of obligation to the President for his speech, and trusted that at each subsequent meeting they should be permitted to enjoy a treat of such rare occurrence to them.

MR. R. W. STARRS' paper on—

“HOW SHALL WE RAISE AND SUSTAIN THE CHARACTER AND REPUTATION OF OUR FRUITS IN THE MARKETS OF THE WORLD,”

was then read by that gentleman as follows:—

One of the most important questions to engage the attention of the Fruit Growers of this Valley at present is—How shall we raise and sustain the character and reputation of our fruit in the markets of the world?

In answer to this question there are many points to be considered. Those that first present themselves to the mind, picking, selection, packing, and packages, have occupied the attention of this Association for many sessions, and have been pretty thoroughly discussed. These discussions, embracing the theories and experiences of our most intelligent, practical fruit growers, have been reported and published in some form or other from time to time, and the benefit derived therefrom can scarcely be over-estimated. But these discussions, valuable as they are, have not in my opinion covered the ground they should.

We must, if possible, grow none but good fruit, and to do this we must first select for planting or grafting, such sorts from the list of best marketable varieties as have proved best adapted to our several soils and localities, and then by careful cultivation of the soil and judicious manuring and pruning, keep the trees in the most vigorous and healthy state possible. It is allowed by every scientific and practical fruit grower that thorough cultivation of the soil is necessary for the healthy growth of trees, and for the production of the best quality of fruit.

Downing says:—“It is an indispensable requisite in all young orchards, to keep the ground mellow and loose by cultivation, at least until the trees are well established. * * * * When the least symptom of failure or decay in a bearing orchard is perceived, the ground should have a good top-dressing of manure, and of marl or mild lime in alternate years. It is folly to suppose that so strong growing a tree as the apple, when planted thickly in an orchard, will

not, after a few heavy crops of fruit, exhaust the soil of much of its proper food. * * * If we desire our trees to continue in a healthy bearing state, we should therefore manure them as regularly as any other crop, and they will amply repay the expense."

J. J. Thomas says :—" Whatever will produce a vigorous growth of corn or potatoes, will in general be the best for fruit trees. Sterile soils are unfavorable for both ; but doubly so for the latter, for while it only lessens in *quantity* the growth of farm crops, it lessens the quantity and greatly *injures the quality* of fruit. * * * Nothing for general use is equal to stable manure, and in ordinary cases it will be found to give the most uniform results—more especially if it is made the basis of compost with peat, muck, or turf from old pastures, with a tenth or fifteenth of leached ashes, and one-half that of bone-dust."

Beadle says :—" Doubtless the very best thing for the trees is to keep the ground thoroughly cultivated, the surface loose and friable, free from weeds and in good heart. * * * Hoed crops are the best to raise in an orchard, treating each tree as part of the crop, giving it the same manuring and cultivation as the rest. Cereals are not so suitable, and there can be nothing worse for a young orchard than to seed it down and let it lie in grass to be mown or pastured."

Patrick Barry once said :—" I will admit that fruit *can* be grown on good soil without either manure or cultivation ; but not of the best quality. I should as much expect to see a good crop of corn without cultivation as to see a heavy crop of first class fruit in a sward bound orchard."

These are a few of the authorities in favor of high cultivation in order to produce good fruit, and we must not neglect the lessons they inculcate, but endeavour to find out what is most needed to restore and build up the soil to the necessary state of fertility in order to produce regular crops of first class apples. It is no use trying to disguise the fact that this last year especially, we have grown and placed upon the market a great deal of inferior fruit. Baldwins, Greenings and Vandeveres, have been under-sized, wanting in color, and spotted. Yellow Bellflower or Bishop Pippins, are spotted, cracked, and deformed, these are among our standard varieties, and are very largely grown and cannot be discarded or re-grafted, except at great loss to the farmers. We should, therefore, look for the cause and try to find a remedy. I would suggest that one great cause is the exhaustion of potash and phosphates, and possibly

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lime, in our soils. We must cultivate the soil, and the custom has been to grow potatoes as a hoed crop in our orchards. Potatoes are very exhaustive of potash. The apple tree also contains more potash than almost any other, so there is a double crop to be provided for, and unless some return is made there must soon be a deficiency in the soil, and a consequent decrease in the health and vigor of the tree, which will invariably show its first effects on the crop.

We must supply the deficiency, whatever it may be, in some form of manure. Stable manure must continue to be, as in the past, the main dependence of the fruit grower; but, as orchards are increasing faster than the means of producing ordinary farm-yard manure, we must supplement it by commercial manures, or compost. If a compost be formed of black mud, or turf from old pasture or road-sides as a base, we must add lime, bone-dust, wood ashes, plaster, fish manure, salt, or liquid manure of any sort that may be available; not forgetting to use all the chip-dirt from the wood-pile, and we can add one-tenth of fresh stable manure, or one-twentieth of night-soil. Build all, or as many of these as we can get into a pile of consecutive layers, using the lime in a slacked state freely through the whole. Cover well with fine earth or muck, and then spread the plaster over all, to arrest the ammonia set free by the lime, that may not have been absorbed by the muck and earth. Now, after a few months cooking by quiet fermentation, we shall have a huge pudding, containing most of the elements of plant food, in such a form that when applied to the soil, some portion is available to the wants of each particular tree.

One of the best fertilizers to be got by those who live within reasonable hauling distance of our tidal rivers, is the "marsh mud" of the banks. This should be used as an occasional dressing, and its effects will be seen for several years. Wood ashes should be highly valued to restore the potash, and should be used whenever procurable. As a substitute, the German potash salt—kainit—is said to be good. Ground bone, or some other form of phosphate of lime, should not be neglected but be used occasionally. Salt, also, will be found serviceable, especially where marsh-mud cannot be got; but throughout this valley lime should be used as a fertilizer in our orchards to a much greater extent than it is. Our red sand-stone soils are nearly all deficient in lime, and there will be found but few orchards in Kings or Annapolis either that will not be benefitted by

a light dressing. This will be especially the case where green crops have been ploughed under for manure, and there is plenty of humus in the soil for the lime to act upon.

I commenced this short paper, by asking a question, or rather a problem, and, in order to solve it, I have given you the opinions of some of the best pomologists in America, if not in the world. I have also given you my own opinions, based upon observation and experiment, as well as experience, and I do not think the subject is nearly exhausted, or the problem yet solved. I should like, if there is time, to hear the opinions of every one present, and to know if it is not a fact that we must first grow the best qualities of fruit before we attempt to pack it. If we neglect our orchards we must expect inferior fruit when the harvest comes, and when we have inferior fruit it is impossible to make first-class fruit of it, no matter how well we may pack it.

The PRESIDENT.—You have heard this admirable paper. It is a most important one. The matter of fertilization is, perhaps, one of the most—if not *the most*—important matters that are just now engaging our attention. There are different theories in reference to it, and I may say that many of the most eminent pomologists have not that unanimity which satisfies me to decide upon any course.

MR. WILLIAM MILLER moved, and MR. SMITH seconded a motion that the paper be incorporated in the Proceedings of the Association, and form part of the Annual Report, which was carried unanimously.

The meeting then proceeded to discuss the paper.

MR. WILLIAM MILLER.—I observed in the paper just read one expression—that as to a high state of cultivation, and I desire to ask this one question in reference to it:—Will the state of cultivation advocated therein, obviate one fault that we all experienced during the past season—that is, the spotting and cracking of the apples? I notice that, in the paper, Mr. Starr seemed to lay it down as a maxim that a high state of cultivation went far to obviate that difficulty with our fruit; but I do not know whether experience will bear out that theory or not. I think that with the *Bishop Pippin* and the *Spitzenberg* a high state of cultivation would have given you the worst class of apples. If you found a smooth *Bishop Pippin* it would be in coarse ground. I would simply ask, sir, is there any way of obviating the disastrous effects of last year on our fruit crop? It seemed, sir, as though a contagion had attacked the varieties I have

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named. It was noticeable as the fruit formed on the tree. If there is any way of guarding against this, I should like to hear it from some one of the many experienced gentlemen present.

MR. R. W. STARR.—I would like to say a word with regard to the theory I have expressed. All those troubles are referable to a first cause somewhere. What is that cause? My idea is, some deficiency in the soil. What is that deficiency? My answer is that the manuring is only partially performed.

MR. WM. MILLER.—Why is it that one year the same soil will produce these apples perfect and the next year imperfect?

MR. CORNWALL.—I am not aware that I can give any direct answer to the question, but I read sometime since in an agricultural paper, letters from different parties, one of whom said the reason why apples were spotted was because they grew on undrained land—the other said the fruit would grow better in a wet, damp soil, and would grow still better again if it were not underdrained. Yet both of these gentlemen were supposed to be good authorities. My own experience has been this—that whenever we have a dry season I have the less spotted apples, if it has been a wet season I find I have more spotted apples—this is my experience, and I find the higher the ground the smoother and better the apples.

MR. SMITH.—In all probability both these gentlemen (those referred to by Mr. Cornwall) are right, and both wrong. It has been my experience that some varieties will do better on wet soil, and that others will do better on dry soil. In this respect I have some theories not yet sufficiently developed to make public. With reference to this subject I remember that the year of the great fire in St. John the black knot began to show itself in my plum trees, since then, on a dry, scorching day, the same black knot reappears, but whether this is a matter connected with the soil I am not prepared to say.

MR. J. N. COLEMAN.—I have, in connection with all such matters, come to the conclusion that experience is about the only sure guide. I have read of this manner and that manner of planting, manuring, etc., I have tried them and found that the only safe rule is experience! experience!!

MR. CORNWALL.—On highly manured dry land certain varieties will produce good results, and on wet soil other varieties will flourish,

yet I incline to the opinion that the fruits grown on a high, dry soil are better keepers than those grown a damp soil.

MR. STANLEY FISHER.—I think, with reference to the spotting, that it is a question of climatic condition entirely. Then comes the question, how is it that the fruit of a certain tree one year is perfect and fair and the next hardly marketable? If it were a matter of soil the same conditions would follow each and every year the tree bore, but being a matter of climate, I do not consider that we have any control over it. Then arises the question—what is the proper course to be pursued? To my mind there is no question about it—cut it down or graft it over. The way in which the fruit grows on the *Bishop Pippin* should teach every man a lesson, and in this connection, the question arises whether or not the quality of every fruit grafted into the Bishop Pippin will not be better than what we get from any other stock?

MR. HARRIS.—I should like to ask another question in this connection with reference to the King of Tompkins. One side of the apple will be watery while the reverse is well colored. Having a good many of those trees, I am particularly interested in the subject and should like to receive a solution of the question.

MR. PARKER.—The paper before us opens up a great question, and having in view the question under discussion, I think we should devote more time to the question of markets. In this connection I would like to read the following extract from "The Fruit Recorder" of November 1st, 1884, page 167:

APPLES FOR EXPORT.

"England's apple crop is short by more than one-half. The importers of American apples have prepared to receive a large quantity of fruit from this side of the water, thus opening a fine market for whatever surplus we may have. It will pay American apple growers to cater to this foreign market. Only the best apples packed in the best manner should be exported. Formerly American apples stood highest in the English market. Now they stand last, Canadian apples second, and Nova Scotia apples first. This change is due partly to the superior quality of apples grown in Annapolis, N. S., but mostly to the care with which they are picked and sorted, and the honesty with which they are packed. Softwood or second hand barrels are not suitable for the export trade. Hardwood barrels must be used."

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The PRESIDENT.—I should like to make a few remarks upon this subject. We were asked just now, if we were not going away from the subject of the paper now under discussion. I conceive we are not. To the general question—how shall we raise and sustain the character and reputation of our fruits in the markets of the world? Mr. Starr has replied, “by growing good fruit,” and then proceeds to ask—“How shall we grow good fruit?” To this query the reply is—“By fertilization.” I certainly think we are within the lines of the paper in considering this matter. From my reading and through my experience, I am inclined to the belief that the spotting of apples is due to atmospheric influences—it is a fungus growth. That kind of spotting, however, which causes the apple to crack and grow distorted, appears to have a different origin. Some of the best authorities assert that this kind of spotting is produced by an insect, and that the injury is done at a very early period in the history of the apple—perhaps in the blossom or shortly after the formation of the fruit. Many pomologists are making a speciality of this evil and are studying it with assiduity so that in a very few years, at most, we may hope that they will be in a position to tell us just what it is.

Referring to fertilizers, I find one of the best authorities stating that corn meal is an excellent fertilizer. Another says we are employing too many commercial fertilizers and not paying sufficient attention to those furnished by nature—that we are not taking out of the atmosphere the rich provision which God put in it. Another informs us that the droppings of our common poultry are equal to Peruvian Guano, which now sells in New York at from \$65 to \$75 a ton, and yet who among us estimated that our common barn yard fowls are worth a dollar to us for fertilizing purposes.

MR. COLEMAN.—I do.

The PRESIDENT.—There are but few who do so, and yet fewer who act upon that belief. One Professor in Michigan says that in Japan they have kept up the fertility of their soil for years and years by simply applying night soil, after some little preparation, in a liquid state. We are neglecting, it seems to me, just those bounties of Providence which are placed around us in unlimited quantities, and going hither and thither for fertilizers for our exhausted and worn out soils. It occurs to me that by doing as suggested in Mr. Starr's paper, we may produce the finest kinds of fruit—fruit equal, if not superior, to that of any other portion of the world—and so reach a

conclusion on the question of how to maintain the reputation of our apples in the markets of the world.

REV. MR. AXFORD.—I should like to put one question as to high cultivation, viz—How does a high state of cultivation affect the keeping quality of the apple—does not such cultivation by reasons of its maturing the fruit quicker, cause decay? It has been remarked that apples grown in soft, boggy soil will keep longer than those from trees highly cultivated.

Several gentlemen replied that a high state of cultivation tended to cause shrinkage and decay—yet it was not to be inferred that they were advocating non-cultivation.

MR. SUTTON.—I certainly think if more lime was used the results to the orchard would be beneficial, and after having tried the experiment and been successful, I incline to the opinion that we do not use sufficient lime,

MR. SMITH.—Lime is the best and cheapest fertilizer that can be used. Here again, however, comes in a question—which is the best of the many varieties? I favor shell lime.

The PRESIDENT read a letter from Mr. John Lowe with reference to the Antwerp Exhibition in May, 1885; and the Indian and Colonial Exhibition of 1886, and stated if any of the gentlemen present wished to avail themselves of such exhibition, Mr. Dimock of Truro, was the agent.

The SECRETARY thought at the time named any collection of apples would be very meagre, and he should not advise making an exhibit. If a chance offered for exhibiting in Antwerp or London during the winter he should certainly urge its being done.

A letter was then read from Hon. Charles W. Garfield, Secretary of the Michigan Horticultural Society, in which a tender of some 10 copies of their Proceedings for the years 1881, 1882, and 1883 was made for the use of this Association.

A short discussion ensued as to the importance of such a donation after which—

MR. J. N. COLEMAN moved, and MR. MILLER seconded, that the thanks of this Association be conveyed by the Secretary to the Michigan Horticultural Society, and to their Secretary, for the kindness displayed by them towards this Association, which on being put to the meeting, passed unanimously.

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The distribution of the reports, when received, was left with the Executive.

Attention was called to the Reports of the Ontario Association, and to the benefits to be derived from a perusal of their Reports.

The Question Book was then taken up.

On the questions—

“What kind of commercial fertilizers are best for young trees? Are bone meal, superphosphate, potash, fish pomace, lime, plaster and wood ashes good? How should they be applied and in what quantities?”

being read—

The PRESIDENT considered the question had been answered by Mr. Starr.

MR. COLEMAN remarked that the particular information required was with regard to the enterprise he was about to enter upon.

MR. R. W. STARR would ask if Mr. Coleman's question had reference to the growth of small fruits or the preparation of orchards.

MR. COLEMAN replied it was asked in reference to the preparation of the land for receiving young trees.

MR. STARR stated his experience led him to the conclusion that the land could not be made too rich to grow fruit. Something was required to start the trees and make them grow vigorously, and to this end a fertilizer was required that would produce rapid growth. In his opinion a high state of cultivation should be maintained first, last and all the time.

MR. COLEMAN, while being aware of the facts stated by the last speaker, had yet to solve the problem of what would be the best substitute for barn yard manure when such could not be obtained.

MR. R. W. STARR had already given his ideas upon this subject. Failing stable manure he had indicated a substantial compost.

MR. COLEMAN understood that only had reference to the production of apples.

MR. R. W. STARR.—And also to the cultivation of trees. The result of the application of the compost would be an increase of wood, and fruit would be produced as a necessary consequence. Where there was no formation of wood there would be no production of fruit.

MR. PARKER was not so sure that the reasoning of the last speaker applied in all cases. It was a notable fact that frequently fruit trees sprouted out in all directions—formed wood rapidly—and yet produced no fruit. He inclined to the belief that this was a result of over-feeding.

MR. COLEMAN again remarked that it seemed the question was unanswerable. He had not asked the question for the purpose of learning how to propagate apple trees for the production of fruit, but to elicit information, if any of the gentlemen present possessed it, as to the substitution of some commercial fertilizer for manure.

REV. MR. AXFORD had read of a compost in substitution for manure; such compost would, he thought, be applicable to the case in point. It was composed of black muck, lime and salt, in certain proportions. From the nature of its constituents he was of opinion this was the very thing for a young orchard.

The PRESIDENT was of opinion that fish pomace combined with some earthy basis, would meet Mr. Coleman's want. Were he about to put out an orchard he would use some such substance, compounding it with dry peat or other material, so as to disintegrate the nitrogenous properties of the fish pomace and mix it with pulverized gypsum to hold the ammonia. He understood Mr. Coleman desired to plant next spring, he (Mr. President) would, however, advise him to wait for another year, and meantime sow some green crop—clover, buckwheat, or field peas, and plough it in.

MR. SMITH stated that a crop of sorrel was most nutritious when ploughed in for young trees.

MR. STANLEY FISHER thought Mr. Coleman should apply each kind of fertilizer to his trees—one to this tree and another to another tree—he (Mr. C.) would then be able to communicate the result to the Association and probably a vast amount of information would be derived of advantage to all.

MR. PARKER remarked that the cheapest and best fertilizer he was aware of was the hoe and the plough. (Laughter.)

On the question—

“What sum should be estimated as the average price per barrel for picking and packing as they are usually prepared for market?”
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MR. R. W. STARR said he was of opinion that a crew of five men could, in a day of 10 working hours pick 50 barrels—this was the highest average attained.

The PRESIDENT.—Having the question answered thus far, that five men will pick 50 barrels—how many men will pack these 50 barrels, the apples being spread out on a table ready for packing?

MR. MILLER thought two men should pack them without heading the barrels.

The SECRETARY being called upon said, from recent experience, that a crew of 5 or 6 men, which was to be preferred to a larger number, would pack about 50 barrels, or an average of 10 barrels per man per day, when the stock was good, including nailing, pressing, marking and other work necessary to place the apples in a shipping condition.

MR. R. W. STARR would say that in giving the average as 50 barrels for 5 men's work, that everything had been previously prepared ready to proceed rapidly with work.

MR. MILLER considered the average of 10 barrels per day per man too high an estimate, a better estimate would give 6 barrels per day. Much depended on the manner in which the work had to be performed, some orchards being more rapidly picked than others, according to the growth of the trees.

After a few remarks of the same general scope as those above—

The PRESIDENT stated that the result of the discussion seemed to be that 8 men would pick, pack, and get ready for shipment some 30 barrels in one day.

The question of wages was then briefly discussed by Messrs. PARKER, MILLER and COLEMAN, with the result that \$1 per diem was the average paid.

The meeting adjourned till 2 p. m.

AFTERNOON SESSION.

WEDNESDAY, *Feb. 11th, 1885.*

The Association met at 2 P. M.

On the meeting being called to order,

Mr. LOOMER read his paper,

"ON SMALL FRUIT CULTURE,"

as follows:—

It is but a short time since the subject of small fruit growing has engaged the attention of the farmers of this part of the country.

In my opinion the subject is one of vast importance to the farmers of Nova Scotia, especially to those of Kings and Annapolis Counties.

In view of the failure in quantity, quality and price of the staple article of export, namely potatoes, every thinking man must see the necessity of turning his attention to something that will be more remunerative. There is no doubt that the cultivation of small fruit is vastly more profitable than that of potatoes.

As I have been more particularly engaged in strawberry culture, perhaps I cannot do better than give my experience since I commenced.

I have been fourteen years engaged in the cultivation of this delicious fruit, and I find that as many bushels of strawberries can be grown per acre on light soil as potatoes, and the average price of strawberries is six times that of potatoes, which more than pays for the extra labor; besides which the strawberry does not exhaust the soil as much as the potatoe. The mulch that must necessarily be applied helps to keep the soil in a good state of fertility, and when the vines are done bearing there is a good crop of leaves to plough in.

After getting all the information on the subject of strawberry culture that I could, and believing it would pay small farmers to engage in it, I purchased in the spring of 1870 two hundred plants of Geo. V. Rand, Esq., of Wolfville. I got three varieties, namely, one hundred plants of the *Triomphe De Gand*, and fifty each of *Wilson's Albany* and *Boston Pine*. The *Wilson's Albany* I found to be the most productive and best marketing variety; next to this was the *Triomphe De Gand*, a very fine flavoured berry, but not so prolific as the *Wilson*; the *Boston Pine* did not succeed on a loamy soil, so I did not continue to propagate it.

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The next autumn I set two thousand plants, about one thousand five hundred of which were the *Triomphe De Gand*, and the remaining five hundred *Wilson's*. The former winter killed so badly that after two years' trial, I abandoned it and now confine myself to *Wilson's*, which I find always gives good returns with proper treatment.

MODE OF CULTURE.

I practice hill culture which enables plants to stand the drought better, it is easier to keep them free from weeds, and a better quality of fruit is produced than by the matted row system. The ground is manured in the row as for turnips, rows are three feet apart, and plants set one foot apart in the row. I set the plants as early in spring as the ground will permit, keeping them cultivated and picking the vines and blossoms off the first season.

MULCHING.

Mulching is indispensable to success. The proper time to mulch is on the first snow after the ground freezes up for winter; the object in mulching is to keep the frost from coming out of the ground during the thaws which occur in winter; as alternate freezing and thawing is injurious.

I remove the mulch as soon in spring as the ground stops freezing, parting it off from the plants and letting it remain between the rows to keep the fruit clean, or if the ground needs fertilizing I rake it into windrows, apply the top-dressing, run the cultivator among them, and spread it back between the rows.

PICKING AND PACKING.

Too much care cannot be exercised in picking and packing the fruit for market. My method has been never to allow any packing done in the field. I have the berries brought in and thoroughly overhauled by competent hands, under my own supervision, so that not a quart of fruit will go to market in bad order. In this way I have not lost a quart of berries in nine years.

OTHER SMALL FRUITS.

My experience in other small fruit has been limited. I have two varieties of currants, namely, the *Cherry*, and *Lee's Prolific*, both of which are fairly prolific.

Of gooseberries I have two varieties, viz, the *Downing*, and *Smith's Improved*; the latter proves to be the most productive, bearing four times that of the former under the same treatment.

I have also two varieties of raspberries, the Cuthbert and Gregg, both of which promise to be good bearers.

After fourteen years' experience, I am convinced that there is no more profitable enterprise for small farmers to engage in than the cultivation of small fruits; an enterprise which is destined in the near future to become one of the most important industries of this Province.

Mr. PARKER rose to make a motion, and in so doing said: A feeling has been expressed of the desirability of amalgamating the association of small fruit growers with this Association. Many here present are members of both Associations. The only question is, how shall the amalgamation be effected? It is a matter worthy of our attention, and means should be devised of carrying out the expression of opinion to which I have referred. With these few remarks I beg to move that the thanks of the meeting be given to Mr. Loomer for his paper, and that it be incorporated in our Annual Report.

The motion, on being seconded by Rev. Mr. AXFORD, was put and carried.

The PRESIDENT, on behalf of the meeting, in a few well chosen words thanked Mr. Loomer for his paper, and further remarked that it was just such a paper as was required to throw light upon a subject which would yet occupy some time and attention by farmers.

Mr. J. N. COLEMAN's paper on

STRAWBERRY CULTURE

was then read by that gentleman as follows:—

Your Secretary has advised me that it was the wish of the Executive of your Association that I should contribute a paper upon the culture of the strawberry, to be read at your annual meeting. Thanking you for the privilege granted me, I most cheerfully comply with the request.

I first began the cultivation of strawberries in 1872, and that season I set out 100 plants. They grew so well that the next year I set out 1000, and they again did so well that we had all the fruit necessary for family use and a few hundred quarts for market. I came to the conclusion that it would be a profitable industry to engage in, and so continued from year to year to increase the size of

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my patch. I experimented until 1877, since which time I have made strawberry growing a business.

My first year's experience in field culture was disastrous, and from no fault of climate, soil, or cultivation, but simply because I neglected to cover the plants during the winter. Hitherto I had not covered them, but the larger plantation was in a more exposed situation and I lost all the plants on $\frac{3}{4}$ of an acre, except five. Fruit that season brought from 25 to 30 cents per quart. You will believe me when I tell you I have never lost any since, from the same cause.

VARIETY CULTIVATED.

I began with Wilson's Albany and Triomphe de Gand, and while the former continued to rise in my estimation, the latter together with any and every other variety that I have tried continues to decline, and I believe if I had had any other variety in cultivation during the very rainy seasons of 1881 and 1884, a loss of at least of one half my crop would have been the result. I do not wish to be understood as condemning other varieties of fruit further than to say that none of them, so far as my experience goes, is as well adapted to the situation and soil of my farm as Wilson's. The soils upon which I have experimented most are—sand, loam, sandy loam, gravel and gravelly loam, all having dry subsoils. Whenever I have planted on the same, or any other soils, the subsoils of which were wet, the results have not been satisfactory. During cold weather, stagnant or percolating water is ruinous to the tender rootlets, causing them to turn black, and in almost every case, to die. I have purchased plants grown on wet ground, some of the roots of which were discoloured, and they have always proved a failure.

MANURES AND FERTILIZERS USED AND HOW APPLIED.

While experimenting and before I made a business of small fruit growing, I manured broadcast and ploughed in and practised "level culture." I should still continue to do so if I could make or purchase manure enough, believing as I do that the land cannot be made too rich for strawberries. Ashes leached and unleached, and every kind of manure and compost made upon the farm, roadside and ditch, sods well rotted, clay pulverized by frost, chip manure and rotten wood, wood mould and swamp muck, bone meal and superphosphates are all good. In 1881 I planted an acre of land that

was very poor and would grow nothing but sorrel. I put 400 bushels of muck which had been exposed to the frost of winter and was well pulverized, in the drill, and then added 500 lbs. of Neiley's fertilizer, and set the roots of the plants in the muck (without covering the latter with earth), filled in the drill, leaving the crown leaf of the plant about one inch above the surface. They made a wonderful growth; the foliage was so luxuriant as to nearly cover the ground, the rows being 30 inches apart, and from that lot I gathered 800 quarts of as fine fruit as I ever raised, gathering it in from 60 to 65 days from the time the plants were set. I should add that the season was a very wet one and favourable for the growth of both plants and fruit. There was a very cold snap on the night of October 5th that year, followed by heavy gales. I was in Northern New York at the time, and on the 4th a blizzard swept over the country, reaching here on the 5th. When I arrived home on the 1st November the plants were wholly denuded of their leaves, and notwithstanding they were well covered, 50 per cent. of them died, and 50 per cent. of those that survived bore no fruit. The lot gave so poor a return that I only kept it bearing during the season of 1882. I am unable to say positively which contributed most to the result—the original poverty of the soil, the over stimulant of the muck and fertilizer, the large yield the first season or the severe frost, followed by high winds before covering, but I incline to think that all these things had a bad effect upon the plants.

I now manure in the drill, using 400 bushels to the acre, plough the land in the fall, cross plough in the spring and harrow until the ground is free from lumps and clods, then open a drill by ploughing two furrows, one away from the other, and spread the manure evenly, then turn both furrows together, being careful to cover the manure as deep as possible, after which I rake down the drills, removing all the stones, lumps and sticks, being careful not to take too much earth off the manure. The field is then ready for the plants, the earth is fine and mellow, and the planter can plunge one hand into the drill and with the other take a plant from a basket which he will have before him, and with four rapid, skillful movements the hole is dibbled, the plant set, and the workman moved one foot forward in the row, ready to repeat the process. A few more words about the application of manure and fertilizers and I will have done with that branch of the subject. Last spring I planted $\frac{1}{4}$ acre and used 200

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lbs. bone meal in the drills, immediately under the plants, and they did well. The land was thin and poor, but the season was favourable, and if the yield of fruit should be as good as the present condition of the plants indicate, I shall use bone meal largely in the future. No better method of manuring and planting can be adopted than to use well rotted manure or compost put in shallow drills and set the plants in the same, mixing earth in around the roots, fill in the drill and keep the ground level.

PLANTING AND CULTIVATING.

When I manure broadcast and can have my land prepared in the fall, I commence to set as soon as the frost is out enough to receive the roots, and not one in a thousand fails to grow. If plants are not set until the weather becomes warm, and the land dry, a large percentage die. There are various methods of setting plants, one of which I have already described; another is to have drills about the depth of the roots. Holding the plant in its place with the left hand, with the right dash in a handful of earth on each side,—the plant should then stand alone in an upright position. After a few rods have been set fill in the drill with a hoe; if the weather is cool or cloudy, a row can be set before finishing up. Another method not so good as the last, is to have strong, healthy, even sized plants, with strong crown leaves, and drop them in the drill, leaning them against the side of same, and finishing the work with hoe. I can drop and trim them up nearly as fast as I can plant potatoes, but it is not a good system. I have dug, trimmed and set 4000 plants in a day (by the method first described in this paper), and 3000 in half a day; in the latter case however the plants were prepared beforehand.

For field culture I put the rows three feet apart and the hills one. If the land is in a good state I let the plants rest in the rows, as they are not so apt to winter kill as when kept strictly in hills. Continued and thorough cultivation is necessary to success. The ground should be stirred once a week and oftener if possible. No weeds should be allowed to grow among the plants. I make use of plough, cultivator, hoe, hack, spading fork and steel rake.

COVERING IN WINTER.

There is difference of opinion among fruit growers as to what is the proper condition of ground and plants for covering. Some say

the ground should be frozen hard and that the plants should, in no case be covered until that time, and all, as far as I know, consider that condition a good one, but when a cultivator has a large plantation it is too much risk to wait for that state of things, and my experience is, that it is better to cover *too early* than *too late* and to cover before freezing, rather than to have the ground frozen and then thaw out again. I have never had loss from early covering, but have from late. Freezing and thawing is what injures plants, especially in spring. Snow is the best and most natural covering; brush, therefore, is excellent, because it holds the snow. Rushes are good, and so too is any kind of coarse grass, providing it is cut before going to seed. I would advise persons raising strawberries on a small scale to cover with evergreen brush in the fall, take it off in the spring and cultivate the ground thoroughly until the fruit buds appear, and then mulch. After the fruit is gathered remove the mulch and save it for further use and continue to cultivate the ground and remove runners during the remainder of the season. I use from 10 to 12 tons of mulching and 20 to 30 tons of brush yearly, placing brush in the old beds and mulch in the new. In the fall of 1883 I put brush on a portion of my new patches, not having mulch enough, and notwithstanding it was the most exposed part of the field, and what I considered the poorest land, the yield was greater than elsewhere. Formerly I removed the mulching from the plants in the spring, but from study of their habits and growth, I find their lifting powers is such that in almost every case the crown leaf will come through without aid, and where it does not, I wait until an upward bulge is seen in the mulch, when I make a small opening for the leaf; by this treatment the plants have the covering close to their stems, the ground is kept moist and cool, and the fruit free from grit.

I have not had much trouble with insects, occasionally a plant would die, but I did not seek to ascertain the cause until last season, when I was visiting Mr. Edgar Foster of North Kingston, Aylesford, and observed that his plantation was very spotted, and learned that the larvæ of the June Bug, or large, white grub was the cause. After my return I found them working among my plants. They are easily found by the drooping condition of the leaf, and if not under that plant are sure to be found on their way to or under the next one. I found a large number of them, many being from one to two inches in length. There were, at least, 1000 per cent. more than in any other

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season, and I hope they will not continue to increase. Since commencing this paper I have observed that a writer in *Purdy's Fruit Recorder* recommends placing meadow holes in the patches, and says they will destroy all the grubs.

PICKING, PACKING AND MARKETING.

I have usually obtained my pickers from the families of my neighbours, the children of whom have their school vacation about the time of the fruit harvest. They have to be drilled to do the work in a proper manner and soon tire of the restraint, the result being confusion, annoyance, and often considerable loss of fruit. Small fruit growers who are located near towns or villages can at all times get pickers of the right sort, who soon become professional pickers and are responsible for their work. Women and half grown girls are the best for such work, they are active and nimble-fingered, and careful to do no injury to the vines and unripe fruit. I have had some young men, who have picked more than 100 quarts in a day, but unless personally interested, men do not continue long at the work.

I would advise all those contemplating engaging in the industry on a large scale, to locate near towns and cities, for two reasons, 1st, to enable them more readily to obtain manure, and 2nd, to obtain the necessary help. Mr. G. H. Magee, of Somerset, has wisely adopted the plan of raising just what fruit he can take care of without depending upon the assistance of others, and I believe him to be the most successful small fruit grower in the country, and a much better authority in all things pertaining to the industry than I am. My friend, Mr. George Loomer, of Coldbrook, gave me the first idea of fruit growing, and I may say that my success is largely due to having imbibed his strong faith in the business. I obtained my first plants from him and consider myself his pupil.

I believe there are hundreds of acres of land bordering on the Cornwallis and Annapolis rivers well adapted to the growth of small fruits. The facilities with which sedge and other coarse grasses that are seedless can be obtained for covering in winter and mulching in summer, would be of great advantage to the grower. I think even heavy soils could be made suitable for small fruit growing, by tile-drainage, providing the land is slightly rolling, so that no water can stand.

As regards packing, I have been using the square box until this season, and in cases containing 36, 45 and 54 each. I am now

making the octagon box, to be packed in crates instead of cases as formerly. They are much more difficult and expensive to make, but the trade seems to prefer them. I consider the 45 quart crates the best size for the purpose of shipping in, but would advise all large growers who expect a home demand to provide a number of small cases of sizes from 6 to 36 quarts each, cheaply made. This demand is on the increase, and it is very inconvenient to make cases when all available help is busy picking, packing and shipping fruit. It is my belief that I shall sell at least one-half my next year's crop in this valley. I do not suppose, however, that this market is one that can be depended upon for any great length of time, as farmers will not continue to purchase what they can so easily raise.

I have frequently been asked, "are you not afraid that the production will very soon exceed the demand?" I have no fears on that subject, but should such a state of things ever exist, a speedy and effective remedy can be applied by the introduction of evaporating and canning establishments.

I have, so far, sold the most of my crop in this Province. The greatly increased production in this and the Province of New Brunswick, has naturally lessened the price, but the demand is much greater now, as the price is within the reach of all classes. Horace Greeley's advice to labourers and mechanics always was—when strawberries and beef were obtainable at the same price, to choose the former. I myself very nearly subsist upon them during the season, and I consume at least three quarts per day, my principal diet being bread, fruit, sugar and milk, and it is doubtful in my mind if any better food can be furnished hard-working men. So I say, to all in the country possessing farms and gardens, plant fruit of all kinds, consume all you can at home and sell the remainder.

I believe we need have no fear in regard to markets. The line of steamers now established to Bar Harbor gives direct and speedy access to American markets, and we can raise fruit as cheaply here as in any part of the world. It is no confutation of my argument that we can sell our fruit in the American market to say that the Americans send their fruit to ours. When the native fruit is out of season in the New England cities ours in the western counties of Nova Scotia is just in perfection, then follow the eastern counties of Nova Scotia proper, and then Cape Breton. I predict a great future for this country with its great resources and its possibilities for varied and

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I believe that by the time trees and fruits are planted upon every available square rod of ground in this valley, the demand will be equal to the supply, and this Province will have world-wide notoriety, and this valley be the richest spot on the face of God's green earth.

REV. MR. AXFORD moved and MR. C. R. H. STARR seconded, that the thanks of the Association be tendered Mr. Coleman for his valuable paper, and that it be printed in the Annual Report, which, on being put was carried unanimously.

MR. R. W. STARR would like to know if any new varieties had been experimented upon, and whether any such variety was better for cultivation in this Province than Wilson's Albany.

MR. SMITH was of opinion that of the new varieties the *Charles Downing*, *Oliver Goldsmith* and *Triple Crown* were the best, the flavor of all being good.

REV. MR. AXFORD thought acidity might be caused by the proximity of the plants to rotten wood, at least he had noticed that both sorrel and wild strawberries were partial to such a situation.

The PRESIDENT asked Mr. Coleman if he had tried sawdust as a mulch.

MR. COLEMAN replied that he had not.

MR. PARKER had seen some reference made to sawdust mulching, but the opinion expressed was that it made a sour soil.

MR. COLEMAN remarked that he had heard that sawdust was a pretty good mulch for trees, but he was not fully aware of its effect on plants.

MR. R. W. STARR inferred from the opinion given by Mr. Charles Brown, that the *Wilson's Albany* was the most productive and best paying strawberry for that part of the country. (Yarmouth.)

MR. PARKER remarked that while the soil was different in various parts of the country, yet against all other varieties, Wilson's seemed to carry universal sway.

The PRESIDENT was of opinion that a fair summary of the discussion would be that Wilson's Albany was the most suitable variety for this country. With respect to the Sharpless variety, if the berry could be made to grow well, which could sometimes be done by good

cultivation, a large sized berry would be produced, but ordinarily it was mis-shapen and almost always with a white point.

MR. COLEMAN said if he were going to plant ten acres he would set one-half Wilson's, one quarter Wilson's and balance Wilson's. (Laughter.)

MR. SMITH said he had found the *Jucunda* to be a good variety in certain soils, and even Sharpless produced a very good berry on some soils.

The further discussion of small fruits was postponed, it being intimated that many points raised by one paper would be found answered in another.

AMALGAMATION WITH THE SMALL FRUIT GROWERS' ASSOCIATION.

The attention of the meeting having been called to this subject—

The PRESIDENT.—I may say, as President of this Association, that we have been thinking over the possible amalgamation of the two societies. We have felt that our interests are identical. Perhaps we are not, as an Association, progressive enough for our friends in the small fruit Association,—perhaps we are old fogyish. My own impression is that we want new blood to quicken us so that we may keep pace with the progressive spirit of the day, and if we can in any way amalgamate, if we can quicken our pace, or by the introduction of new blood into the organization, get into a better position, we are quite ready to do it.

In the meantime, if we must have two associations, let us work together in harmony until the time comes when we can unite, and to that end we desire that any report which the Small Fruit Association may wish to make should be made through the medium of our Report. If we can meet the case by any modification of our Constitution we will do it.

MR. PARKER.—I think the interests of the Associations are one, and we should take some step, perhaps just at this juncture, to express our appreciation of their efforts and let them see that they have our co-operation.

The PRESIDENT.—I think we have hitherto confined our attention to the apple and the large fruits, to the neglect of the small fruits, and so caused the formation of the society referred to.

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MR. COLEMAN.—No blame can be attached to this Association for that reason, especially in view of the fact that the culture of small fruit is only now in its infancy.

Moved by Vice-President PARKER, seconded by REV. MR. AXFORD, and passed unanimously :

Whereas, the small fruit growers of the Annapolis Valley have formed, or purpose forming, an Association ; and

Whereas, we believe the aims and interests of the small fruit growers to be identical with those of this Association, and feeling that we require their co-operation and our combined efforts to promote the best interests of all fruit growers in Nova Scotia ;

Therefore resolved, that we extend greetings to the promoters of the Small Fruit Association, and respectfully invite their hearty co-operation and union with us in the accomplishment of the results we are all striving for.

MR. COLEMAN.—I think the only difficulty will be that they will be inclined to think that our business will be very likely to get the *go by* in the meetings and in the Reports. Another slight difficulty will be in the ability of this Association to squeeze the business of the two Associations into the time now devoted to one.

REV. MR. AXFORD.—I think this may be prevented by introducing a by-law for our consideration, that a fair share of the time of the meeting be devoted to the consideration of their especial business.

MR. W. H. BLANCHARD.—I think if the members of that Association will read these minutes they will find that their interests have been attended to here, some five-sixths of the time of the meetings has been given to the consideration of small fruits and their culture.

The PRESIDENT.—I take it, so far as apple culture is concerned, we have got nearer the limit of knowledge than in that of small fruit, and we are now endeavoring to work up ourselves to a proper position in that respect, and that is the reason why we have, during these meetings, given that subject so much time.

The further consideration of the matter was left with the Executive.

RASPBERRIES.

MR. WELLINGTON'S paper, which had previously been read to the Association, was referred to by the SECRETARY, and the parts relative to Raspberries re-read—

To which the PRESIDENT answered by citing from pages 97 and 98, Ontario Fruit Growers' Association Reports, 1882 :—

"What varieties of Raspberry are most desirable for marketing, drying, and domestic use?"

"MR. DEMPSEY.—This question was to have been introduced by a paper from myself. Unfortunately my time has been considerably limited recently * * * It is not necessary for me to say anything more on the subject of their culture, than that the red raspberry requires very different treatment from the black caps. They require considerable shade, and if we can get shade in some way without reducing the fertility of the soil, it is very much better than if we are obliged to plant them in the shade of trees. Such a site is very difficult to obtain, however.

"MR. BEADLE.—Which is it that wants shade?"

"MR. DEMPSEY!—The red ones—the common wild varieties and their seedlings. When it comes to a question of which varieties are profitable for drying and domestic use, the first thing we have to look for is a variety that is sufficiently hardy to endure the severity of the climate. We find in experimenting with our cultivated berries that such varieties are very few. First among the red varieties I would place the Highland Hardy, for a farmer or for any person who was an amateur grower. For market purposes I do not think we require it at all, from the fact that it comes in conflict with the strawberry—comes in a little too early. An amateur grower wants a few early raspberries, but we do not want them to interfere with the strawberries. Next I would place on my list the Philadelphia Red—not on account of its quality—the flavor of the berry—because it would rank third in regard to that point, but it will certainly produce more fruit than any other variety I have ever seen grown yet. The yield is simply enormous. I have seen on a row of these berries only thirty rods long, six girls picking from morning to night, and not get through with the single row. So you can judge what an acre would produce of these raspberries. I would place next as amateur berries the Clarke and Herstine. The difference in these varieties is very slight when we come to compare profits. The Herstine is not so likely to become small and crumple up as the Clark. It is not so soft as the Clark, and I think it is fully as prolific and fully as hardy. I would place next the Turner and the Reliance. Those are seedlings of the Philadelphia. I think they are nearly as prolific as the Phila-

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delphia—perhaps quite so, and they are nearly double the size of the Philadelphia.”

“But I fail to find any improvement in the flavor; they are very near the same. But were I to be confined to the cultivation of one raspberry I would choose the Cuthbert. The Cuthbert so far with us appear to be perfectly hardy. I have never seen a cane frozen. Of course it has only gone through two winters with me. It seems to be quite prolific. We do not get so many bushels to the acre of it as the Philadelphia, but I certainly think one bushel of it quite equal to two of the Philadelphia. It seems to be sufficiently firm to ship any distance that we can ship strawberries. I think I would be justified in saying that it is a first quality berry with regard to flavor. The Cuthbert would be very profitable for drying purposes. I find that people who have got berries from us prefer the Philadelphia to all other varieties for making raspberry jam. When you come to the black cap varieties they are easily cultivated. It seems like no labor at all to grow a few rods’ square of any kinds of raspberries in fact.”

MR. R. W. STARR said that in all the reports the *Cuthbert* and *Queen Marguerite* stood ahead.

MR. SMITH said that in Massachusetts the Black cap varieties grew wild in the forests and prairies far superior to those grown in the garden. In the white varieties probably the best was the old white Anthony.

MR. W. H. BLANCHARD said that in the paper referred to he had noticed that the writer advocated the pinching of certain varieties and he inferred that shortening was necessary only on those kinds named.

MR. R. W. STARR thought that shortening was indispensable on all kinds.

MR. W. H. BLANCHARD.—How high do you have them?

MR. R. W. STARR.—About 2½ feet.

MR. W. H. BLANCHARD.—Have they supports?

MR. R. W. STARR.—They support themselves then.

THE PRESIDENT.—Mr. Wellington seems to recognise shortening in the black caps but not in the reds.

MR. SMITH.—That is the general idea.

REV. MR. AXFORD.—He goes over the black caps frequently to keep them down.

The PRESIDENT.—He advises pinching the black caps to 9 inches the first year and 18 inches the second.

MR. COLEMAN.—I have heard that there are growers who practice pinching to the extent that the trees are formed like a hedge, and the basket can be placed on the top while picking the fruit.

MR. W. H. BLANCHARD.—Will canes pinched back this spring give fruit?

MR. COLEMAN.—You prepare the canes by pinching back this year for the next year's fruit.

MR. W. H. BLANCHARD.—Would it be safe to cut them back this spring to three feet?

MR. COLEMAN said it would be better to cut back as soon as possible.

MR. LOOMER said some persons disapproved of the *Gregg* raspberry, yet he had found it good enough for the table, though poor for the market.

MR. SMITH thought it had a mildewy appearance that went against it. He did not see why it could not be evaporated. Formerly this fruit was not marketable, but this he was happy to say had been on the change lately, and there was a good market in Halifax at this time for this fruit.

MR. C. R. H. STARR said it occurred to him that the red raspberry was the better to grow by reason of the greater demand for that variety by syrup manufacturers and others, and if it evaporated equally well as the black caps it would do no harm to grow it in great quantities, as the market was demanding this sort of fruit.

The following paper on

CRANBERRIES,

By Wm. McNeil, Esq., was, in the absence of that gentleman, read by the Secretary:—

Being requested by the Secretary of your Association to give some information on what he terms my successful cultivation of cranberries, including details as to location, soil, mode of cultivation, varieties, gathering and marketing, prospects for the future requirements, &c., &c., I would say in reply that it is a pleasure for me to be of service to any of my friends that are interested in the culture of this valuable fruit. I fear, however, that it would be trespassing

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on the privileges of those whose interests are more identified with the success of large than small fruits should I more than glance briefly at some of the more important features of the above requirements.

I believe (as far as I am aware) that I was the first to introduce cranberry culture into our Province, and my want of success is due rather to my want of practical knowledge of the business than from any fault of soil or other condition necessary to their growth. What I have learned of their nature and habits has been more from experiment than precept or example.

Our American cranberry is known to be a hardy, trailing evergreen vine, and is found growing in many of the low, swampy grounds of our Province, and yields one of our most delicious tarts. Although it has been gathered from its native haunts from the earliest settlement of our country, yet it is only within a few years since it has become an object of cultivation. Experience has probably not yet fully developed the most certain means of attaining the greatest success, but enough is already known to assume that their culture is well worthy the attention of the farmer. There seem to be three distinct varieties or classes, with several sub-varieties in each class possessing different degrees of excellence in regard to colour, size, flavour and productiveness. It is said that while some varieties have been known to yield from 100 to 300 bushels per acre, others with the same care and attention would produce a great growth of vines with but little fruit, and that of inferior quality. The soils best adapted to the cranberry seem to be those of a low, moist, sandy nature. There are other soils that can be rendered suitable by preparation and irrigation.

Swamp or Bog Culture.—The usual method is to drain the land as dry as possible by main and lateral ditches. The distance apart must be determined by the nature of the ground; and the spaces between the drains thoroughly cleared of moss, roots, and other rubbish, my own practice is to draw it into a long narrow heap the length of the plantation. After it has become dry we set fires along the entire length of the heap at intervals of eight or ten feet, where they continue burning several weeks, reducing it to ashes. After the ground is frozen and covered with snow it can be hauled away, and makes a valuable fertilizer. The beds should be levelled up or slightly rounded. After this is done it is thought advisable

by many growers to have the entire surface covered with sand from three to six inches deep; we should say as a rule one inch of sand (after three inches has been applied) to each foot of peat below. Many however have succeeded without doing this, and it saves much labour in the original preparation of the land to dispense with it; but we should recommend the use of clean, coarse sand if it could be obtained without too much cost. It prevents the weeds from growing so fast, and the expense of after culture is very much less.

The manner of setting the plants depends on the kind used; if set with rooted plants grown for the purpose of transplanting (which are the most reliable) mark or line the ground three feet apart and set the plants one foot apart in the row, pressing them firmly in the soil much the same as in setting strawberry plants. It is as well to place something like a small bush or twig in the rows at intervals of a few yards, to mark them, and serve as a protection to the plants in weeding.

If runners or vines of old plants are used it is best to mark as above or drill, and place the vines lengthways the row and press them into the sub-soil, with a staff, a few inches, which will cause the plants to assume an upright position when the earth may be pressed to them by the feet of the operator. If the place is situated so that it can be overflowed, great care should be observed to have the dam perfectly tight, otherwise the supply of water might become exhausted in winter and the ice settle and freeze to the plants and remove them by the next rise of water.

After culture would consist of keeping the ground clean of weeds by the frequent use of the cultivator, which should be constructed in such a way that it would not cover the plants in its passage between the rows; the rows should be kept as clean as in the cultivation of other small plants. This system of cultivation should begin before the weeds start, for if the weeds get possession it is almost impossible to overcome them without destroying the plants, and the bed would be much longer coming to bearing. As the season advances the plants would throw out runners, which would attempt to cross the spaces between the rows. These runners should be trained lengthways the row between the parent plants where they would soon root themselves, when several additional runners would start immediately from those, which in like manner should be trained by the frequent use of the cultivator. By autumn they would form one continuous line of plants a few inches wide.

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The following seasons the same order of cultivation must be maintained, the line of plants becoming wider each year, and so closely matted as to almost prevent the weeds from growing in the rows. The spaces would close the third or fourth year, when further cultivation would be unnecessary. A plantation cultivated in this way is supposed to bear a paying crop the third season, and increase in productiveness for several years after. If the plantation can be flowed the water may be let on the 1st of November and remain until the 15th of May. A bed should never be flowed in the growing season. It may be desirable in some respects to have a bed flowed, but we do not think it necessary on every soil. We would prefer a moist, sandy soil, with ditches arranged in such a way that the water might be backed in them to within a few inches of the surface when required. Our own is a shallow bog and surrounding upland. A part is flowed by heavy rain and spring freshets. Our best crops are on the high ground, yielding in favourable seasons from one to two bushels per bed. There are some locations so favourable to their growth that if the plants were only inserted into the soil they would grow with but very little previous preparation. Such places might be described as low, moist meadows, producing a thin growth of water grass; when if cranberry plants were set one or two feet apart and pressed into the soil they would soon root, and being evergreen, take possession of the ground and become masters of the situation. The grass would be protection for the young plant in summer and prevent the frost from heaving the ground in winter. This might be called a very careless method, but the expense would be very much less, and when it came to bearing the plants would probably be as productive as any. When plants become fully established they will subdue the most obstinate kinds of water grass and rushes. The above we have proved by accidentally dropping a few plants where they were not observed. They rooted in the moist soil amid the grass roots, and grew better than those set the usual way. We will give an instance of this system by a correspondent of the *Boston Advertiser*: "Having a piece of swampy land of muck bottom, with a depth of from one to ten feet, I procured a few roots of cranberries and stuck them out rather carelessly a few years since, and that is all the care they have had. This season they have borne abundantly. When picked we found by actual measurement that the product was just five pecks to the

square rod. These sold by the bushel for four dollars per bushel, amounting to five dollars per rod."

Great care should be observed in the selection of plants. Persons unacquainted with cranberry culture are very liable to be deceived by the appearance of them. Barren plants are usually very strong growers, and those taken from natural meadows are very likely to be mixed with seedling varieties, which, like the seedlings of other fruits, are very seldom true to the original. There is also a risk in the importation of plants on account of insects and diseases that infest them, which, like the potato bug, are unknown here, and probably will remain unknown until introduced from abroad. The *New York Tribune* says: "The worst difficulty growers have to contend with is the scald or rot; a disease comparatively unknown until the last few years, and which has destroyed crop after crop on many plantations that were once considered the best in the country." Propagation is simple and easy by layering the plants in August. Cover the rapidly growing vines with an inch or two of earth, and they will soon root and make perfect plants for the following season. In this way beginners can multiply the plants very fast from a bed of two years' growth by extending the runners across the spaces and bedding them like strawberry plants.

Gathering.—The crop should not be gathered until fully ripe or early in October, as until then it has a disagreeable flavour. The fruit is then coloured. A cranberry rake is sometimes used, but we prefer to gather by hand: raking injures the vines and bruises the fruit. Children can earn from fifty to seventy-five cents a day at picking at one cent per quart. The berries should be winnowed before they are barrelled. If put in tight casks or barrels and filled with water it is said that they will keep to be shipped to any market.

Marketing.—We use common apple barrels and have realized in local markets this season ten dollars per barrel, they may be sent to Boston with as little risk as apples or potatoes, where good fruit has sold for sixteen dollars per barrel this season.

Setting plants.—September and October are the best months for fall setting, or in April, May and June plants may be set as before directed. It will be remembered that there should be three feet of space between the rows, which can be kept clean by the frequent use of the horse hoe at small expense.

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Early September frost will sometimes injure unripe fruit, but after the berries are fully ripe they may remain on the vines until there is danger of the ground freezing. If fires are made near the bog late in the evening when it looks like frost, the smoke will settle like a cloud and protect them.

We might give a few selections that may be of service to some of our friends from an association of cranberry growers formed at Cape Cod. We select the following items of interest:—

“The President was of opinion that maple and common brush swamp was the best bottom for the cranberry. He had no experience with sand bottoms.

“Nathaniel Hinkley, of Barnstable, said that he had been several years engaged in cultivating cranberries, and was satisfied that there was a great variety of fruit. Some would grow best on high and some on low land, some on peat, and some on sandy bottom. He could see no advantage from sanding so far as his own cultivation was concerned.

“H. Hall said he owned the cranberry ground which his father occupied as such 58 years before. The vines bear as well now as ever they did. There are three or four sorts of cranberries where only one kind grew originally.

“O. Brooks stated that one year he had the vines entirely destroyed by the vine worm, and the next year the same vines bore a heavy crop of fruit without the least appearance of the worm, no measures having been taken by flowing or otherwise to destroy them.

“Mr. Stubbs, of Wellfleet, said he had three crops of vine worms in a single year, but had discovered that chickens let loose upon a cranberry bog would effectually destroy them: seventy-five chickens to the acre would destroy every worm without the least injury to the vine or berry.

“B. Jenkins, of Barnstable, said he had cultivated on salt marsh bottom with sand three or four feet deep. Is not troubled with the vine or fire worm, but sometimes has the fruit worm. Propagators try sowing seed. He thought several sorts would come from the seed of a single berry; some late and some early, some dark and some light coloured.

“J. Freeman said he could see no change in the form or quality of his fruit for upwards of twenty years. Gets about one bushel per rod on an average.

"C. Cahoon, of Harwich, said that loose sand and peat muck were the essential elements for the growth of the berry. He had flowed his vines when in bloom, but invariably every blossom would be killed. He had let the water off about the 15th April (May here) and had flowed occasionally afterwards. Sometimes he had three bushels to the rod.

"Another gentleman in referring to supply and demand says: Cranberries sell in the cities of this continent at from eight to ten dollars per barrel, and when the supply shall have increased sufficiently to meet the demand here, if that ever should happen, the unsupplied cities of Europe will afford a market for all our surplus, which can be shipped across the Atlantic with less risk of damage than apples."

We will give an instance of reclamation of a worthless bog owned by Dr. Miller, of Franklin Co., Mass.: "Something like ten years since this swamp was covered with a dense growth of alders, while maples and other swamp shrubs covered the ground. They were cleared off and a ditch cut through the swamp, for the brook which before ran through a very crooked channel. Ditches were then opened to the uplands on either side leading to the main ditch. A dam was constructed across the swamp which served the purpose of flowing it and also for a road to pass across it. In the winter it was flowed and sand was drawn on the ice and spread, and in the spring it was set with cranberry plants. About twelve or fourteen acres of this swamp have been planted, and it is so favourably situated that it can be covered with water in a little more than an hour's time.

"The crop the previous season was eleven hundred barrels of very nice fruit of remarkable size. The crop was all picked by hand and cost nearly \$2000. Two hundred persons might have been seen at one time on that swamp picking cranberries. After gathering they were winnowed and the soft berries culled by women and girls preparatory to barrelling.

"The fruit has generally been sold so far at the current price, though some of it brought \$15 per barrel. Calling the average price \$10 per barrel, the eleven hundred barrels will bring the snug little sum of \$11,000."

We believe that Nova Scotia's resources for variety and production of fruit is second to none, and superior to many. Not only can we enjoy the luxury of the fruit of our own soil every day in the year,

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but our advantages for growing cranberries are so great that we may be able to contribute largely to the supply of other countries that are not so highly favoured. Markets are coming into existence that a few years since were unthought of. Railroad and steamboat facilities are constantly increasing. The almost unprecedented popularity of Bar Harbor and Mount Desert is bringing the wealth of the South as well as the business of the North, to our very doors.

Brother farmers, we have reason to thank God for His goodness, and may He give us hearts to appreciate the many privileges and blessings He has bestowed upon us. "Surely the lines have fallen to us in pleasant places; we have a goodly heritage."

A motion for the incorporation of the paper was then moved by Mr. C. R. H. STARR, and seconded by Rev. Mr. AXFORD, and passed by the meeting unanimously, as was also a vote of thanks to the writer for his lucid paper on a subject of such importance to small fruit growers.

MR. COLEMAN said he was sorry that Mr. McNeil was not present. The great point in growing the Cranberry was that it needed no mulching or manuring. It would grow on land which had heretofore been considered waste land. Of all the branches of agriculture none was so profitable.

MR. R. W. STARR said he had spent some little time during the past summer in going through Cranberry plantations in the west and in looking at the natural facilities for the production of this fruit in the future. They might talk as they pleased about the future culture of the apple in the valley, but it was not to be compared, at present, with the chances there were for value to be received hereafter from the growth of the cranberry on the waste lands. There was great truth in the statement that there were acres upon acres of barren land which would yet be mines of wealth to those who had the patience necessary to convert them into cranberry beds. With reference to the flooding of the markets and also to the raising of more cranberries than could be consumed, he thought it was useless to suggest such a possibility. It was a well-known fact that cranberries kept longer than apples. Take, for instance, last year's cranberries, those could be used next June, and then be as good as now. It was merely a question of filling up the barrel with water after the berries were packed. At the head of the Cornwallis Valley lies the Cariboo Bog

containing many thousands of acres, yet he would venture to say that there was not one acre in that bog which could not be made to grow cranberries. There were banks all around it.

Then go still further back and there will be found immense quantities of land scarcely bog or scarcely sand, easily flooded, yet useless, save for this industry. It was his impression, formed from journeying through the country, that in the future, cranberry culture would rank high in the industries of the people.

MR. COLEMAN said he considered this industry of such importance that he intended planting largely in the near future, and he had no doubt his venture would be successful. He heartily concurred in the remarks of the last speaker, that the future of cranberries was a great one.

MR. JOHN STARR said as he had never grown cranberries he must not be considered an authority on the subject. While in the State of New Jersey he had had especial opportunities for a full investigation of the subject. He had investigated it thoroughly, had questioned the producers of the berries and the merchants engaged in the business, but his researches had led him to think this industry a very poor one.

MR. PARKER said he had never grown cranberries and consequently could not give the meeting the benefit of experience in the matter. This, however, he was aware of, that whereas special soils only were suited to apple culture, the cranberry could be grown anywhere and everywhere. He would, however, refer to one case within his knowledge, that of Mr. Henry Shaw. It was well known that that gentleman had received very good prices for his cranberries—some \$16 a barrel. He would ask what meadow-land in Nova Scotia could produce a better income per acre than had been produced by this little patch of Mr. Shaw's. From the large amount of information conveyed by Mr. McNeil's paper, he would not hesitate to say that there was vast wealth in the growing of cranberries, especially in view of the fact that no fertilizers were needed.

MR. COLEMAN said he had been informed by Mr. Shaw that that gentleman intended to invest every dollar he made from his cranberry business towards its development. The only thing needed to make this industry a most thriving one was a population, so that they could have plenty of boys and girls to pick the fruit, as for the overstocking of the markets, the cranberry was a good keeper, and that went some distance towards removing the anticipated difficulty.

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The PRESIDENT said he would like to say a few words in reference to wild cranberries. Mr. McNeil had stated there were some three varieties. He would rather say three classes, and two of these were divided into sub-classes. Down in the East, from where he came, he knew he could count some 20 kinds; one, the fox berry, grew on high banks, it required no water, no bog, and came to maturity early. Another species, called the cinnamon or spice cranberry, grew in bogs, this was occasionally speckled like a partridge's egg. This kind kept well till spring and was much sought after, as it was considered the very best. Another species, called the bog cranberry, was occasionally speckled, and sometimes red, at others almost white; this was a very round berry and ripened only after the frost, and was at times left on the plants all the winter and picked in the spring. Another species, that referred to by Mr. McNeil, was found there, the *large cranberry*. This species was large and shaped like the *Bishop Pippin*. Others were globular. There were also some kinds generally white on the one side with a beautiful red blush on them. Then there were other intermediate varieties which had no doubt been crossed. In the matter of flooding, care should be taken not to kill the plants as well as the insects, which had been done by a friend of his in Shelburne County.

MR. MILLER coincided in the views expressed by former speakers as to the great value of this industry, but he thought he would be justified in going a little further as to their keeping qualities. Cranberries would keep equally well with the very best varieties of apples. They could be shipped with less risk than apples, and sold in London for something like \$20. As to overstocking the market it was a very remote contingency, the growth of the apple trade sustained this, that the greater the production the greater the demand.

MR. COLEMAN remarked that the statements of Mr. Miller were so far within the truth that he must coincide with him. The time was, within his recollection, that if two gentlemen engaged in the apple business chanced to be in Halifax on the one day with their fruit, the market was glutted. What was the case now with regard to apples would also be the case with cranberries and other fruits. The public required fruit and more fruit, and yet the more they received the more they required, and it was the duty of the farmers to supply that demand.

MR. MILLER.—I admire Mr. Coleman's enthusiasm in his occupation and in his endeavors to raise the standard of small fruit culture.

REV. MR. AXFORD.—I feel some interest in small fruit culture, especially the cranberry, and as I have a piece of land suitable for the purpose, I desire to know the best method which I must pursue in order to attain the desired end. The land is peaty for about 2 feet.

MR. MILLER.—The nearer you get to barren land the better will the cranberries grow, and I should advise the burning off of the peat.

THE QUESTION BOOK was then taken up.

PEARS.

“What are the best varieties to cultivate?”

THE PRESIDENT.—We have a paper in the Report of 1882 from Dr. Burnet, on Pears, which goes fully into this question, but I do not know whether it meets all the requirements of the case or not.

MR. R. W. STARR.—I have grown some 25 or more varieties, but certainly not a single one of them could equal the *Bartlett* for profit. It stands highest in Nova Scotia as well as in Massachusetts for profit in culture and for profit in the market. There is an earlier pear than the *Bartlett*, *Clapp's Favorite*, and it is a hardy tree, but there is not so much money in it as in the *Bartlett*. *Clapp's Favorite* is somewhat earlier than *Souvenir du Congress*. With pears my experience is very similar to that of Mr. Coleman with his *Wilson's Albany*. I say *Bartlett* always heads the list.

MR. SMITH.—I feel great interest in this subject. Will it be advisable for everyone to grow nothing but *Bartletts*? *Jargonelle* is a good pear and brings five pounds per 100 in England. They are grown to some extent in Guernsey and Jersey for the London markets. Will it pay us to raise pears for the New York, Boston and English markets?

PLUMS.

Is it profitable to raise plums? What are the best varieties, and what kind of soil is best suited for them?”

MR. MILLER.—I would say it was profitable to raise them, as they can be planted among the apple trees and occupy no ground.

MR. C. R. H. STARR.—If the orchard is not too close.

MR. MILLER.—I mean in an open orchard.

MR. BURNS.—When I first commenced farming I went into the plum trade heavily. After some ten years the trees began to fail from the Black Knot. I replaced these with *Magnum Bonums*, still

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the Black Knot kills them. If I am not successful with some of the *Masters* which I have started I shall give up plums. So far, I have not been successful.

MR. COLEMAN.—I have an acquaintance who thinks of going into the plum business to a great extent. Some of his trees, now out for about four years, bore a bushel each last year. He thinks the soil is well adapted to the raising of plums. I know it was supposed that there could not be an apple produced on the north shore, but I believe we could raise fruit on the mountain if we wished, the only drawback to our so doing is the want of a bit of a wood on the north and possibly on the west.

The PRESIDENT.—In speaking of the growing of fruit in other sections of the County, I remember some years ago spending my holidays with my uncle in the County of Antigonish, right on the shore of the Straits of Northumberland. His orchard produced some 50 or 60 barrels of plums, which were shipped to Newfoundland. When the Black Knot came it destroyed all the trees.

MR. BURNS.—I have raised some 25 kinds of plums of the very best varieties in the county, and have cultivated some 41 kinds, yet all have failed till now I have gone back to *Masters* again. I will give these some little cultivation and see if that will produce better results. Plums will not, it appears, grow with me.

DRAINING.

The next question referred to was :

In underdraining for a young orchard, is it better to place the drain between the rows or directly under them ?

MR. R. W. STARR.—I think experience in this matter teaches that the drain should be placed as far from the trees as you can get them. The great trouble in draining appears to me to be that the small fibrous roots will get into the joins and the result is that they soon fill the drain. The drain should be sunk as far from the trees as possible, and as deep as possible, to keep it from filling. No matter how carefully the drains are laid, filling is only a matter of time.

The PRESIDENT.—One advantage from that method is that when filled the drain can be easily opened.

MR. PARKER.—Would it not be better to lay a stone drain at once.

MR. MILLER.—The pipes should be joined that closely that the fibres could not work their way in.

MR. W. H. BLANCHARD.—Does not the collar prevent that?

MR. MILLAR.—Birch bark is now used for the purpose of covering the joints, but still the drain soon becomes useless, and even worse than useless. I know I frequently wish the drains were somewhere else when they get choked up.

MR. R. W. STARR.—One way of preventing this is to use cement in the joints, the water percolates through the body of the tile. Indeed, this is such a difficult matter to get to perfection, that a gentleman in England offers £100 stg. for a perfect drain-pipe. The prize is not yet taken up.

MR. PARKER.—I am personally interested in this matter, and I have concluded that if the ends of the tiles are cemented sufficiently you will keep out the roots. I am sustained in this view by the experience I have lately had with my cellar, from which I wished to exclude water, and I found, after some fruitless attempts at bricking it, 1½ inches of cement has done the work to my perfect satisfaction.

The PRESIDENT.—I have recently had some experience as to underdrains, having seen one at the residence of Mr. Fullerton. This drain was cemented as closely as possible, but on going to the outlet I found the pipe running half full.

THE PROVINCIAL EXHIBITION.

The PRESIDENT.—Are we to exhibit as an Association at the forthcoming Provincial Exhibition?

MR. HARRIS.—Where is it to be held?

The PRESIDENT.—The Central Board of Agriculture has the matter in consideration. Kentville has offered \$6,000, but I understand it has been intimated that if it were made another thousand we would, in all probability, have it here. It is stated that Cape Breton has offered \$12,000, in addition to which Cape Breton lays very great weight on the fact that they have never had it there. Dartmouth, aided by Halifax, is also bidding to have it there.

MR. R. W. STARR.—I do not know that as an Association we should be placed in the position of Exhibitors. I think our work should be to encourage the members to exhibit. Were the exhibit for a foreign country, the Association would probably be the best able

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to exhibit. As an Association we might be able to aid the prize list with our funds, and so partially fill up the gaps usually found in prize lists.

After some further discussion it was finally decided that the Executive should be empowered to correspond with the managers of the Exhibition relative to the prize list in the fruit department.

STANDING QUESTION.

MR. R. W. STARR moved that the following be a standing question:—"What are the most profitable apples to grow for foreign markets?" and in doing so, said; My object in moving this, sir, is that it is a question which will be answered one way this year and another next, and so on, from year to year, and we want a record of those answers for guidance.

The motion, on being seconded by MR. STANLEY FISHER, was then put to the meeting and passed.

The meeting adjourned to the Railway Restaurant where the following discussion took place during the evening:—

THE FROST PROOF WAREHOUSE.

MR. W. H. BLANCHARD, on rising to speak to the above question, said:—I think, Mr. Chairman, that we should place on record some statement in reference to the necessity for a frost proof warehouse, and in this connection I would move the following resolution:—

Resolved, that the members of this Association recognize the very great necessity of a frost proof warehouse in Halifax, the want of which is being more fully realized from year to year. In view of the increasing products of the country, such a warehouse is indispensable, and we sincerely regret that the efforts already put forth by this Association have not resulted in procuring the desired protection for perishable products.

This motion having been seconded by MR. WM. MILLER, was carried unanimously.

MR. PARKER referred to the fact that the Grain Elevator was but little used for the purpose for which it was erected, and suggested that a portion of it might be utilized for the much needed frost proof warehouse.

HON. J. W. LONGLEY considered the mode of loading would be somewhat hard on the fruit

MR. MILLER said the want of such a warehouse had not been felt in the past so much as it would be in the future.

MR. PARKER said the present necessity for a warehouse was greatly felt, and unless provision was very shortly made for the erection of a warehouse, serious loss to the Province would be the result.

MR. INNES was decidedly of opinion that the site for such a warehouse was at the Richmond depot, where the vessels now received their cargo of fruit from this part of the country.

HON. J. W. LONGLEY said he was satisfied that Halifax was the only suitable place for such an erection. Halifax was the third port in North America in the number of steamers sailing from it, and that should have some weight in influencing the location of the warehouse.

MR. C. R. H. STARR said he was of opinion that the most practicable place for the erection of the desired warehouse was on the second story of the present freight shed at the deep water terminus. He had the best authority for saying the project was a practical one. There would be little or no difficulty in strengthening that building to make it sufficiently strong for the desired purpose, and the room thus obtained would afford ample storage. This would concentrate the shipments of all the freight at one point, and the changing of births by the steamers would be avoided, besides the risk of the harbor being frozen over at Richmond. Pressure should be brought to bear upon the Dominion Government in relation to this question. Petitions should be circulated throughout the Province at once, and a determined effort made to secure the erection of such a warehouse at the very earliest moment, in order that next year we should not be laboring under the disadvantage we have heretofore had.

MR. P. INNES begged, with all due respect to Mr. Starr, to differ radically from that gentleman. Probably no one in the assembly was aware of the difficulties that would have to be surmounted in having the warehouse at the deep water terminus. In the first place what convenience existed for the conveyance of the fruit from Richmond to Halifax. The W. & A. R. R. had no right of way to the deep water terminus, the Government would not give them one. At present a charge of \$2.50 was made for every car load run by the W. & A. Railway from Richmond to the deep water terminus. Were the site indicated by the Secretary chosen the fruit would run the risk of being frozen while waiting at Richmond for conveyance to the

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deep water terminus. As to the probabilities of Halifax Harbor freezing over it was not to be considered. The fruit now going forward was shipped at Richmond and a frost-proof warehouse erected there would meet the demands far better than elsewhere.

Mr. C. R. H. STARR was of the opinion that if the difficulties referred to could not be overcome the Dominion Government should take over the W. & A. R. R., (Hear, Hear.), and run it in connection with the I. C. R.

Mr. J. N. COLEMAN, after referring to an interview with Sir Charles Tupper on the subject of the School Bill, and the admission of that gentleman that the people were paramount when their demands were just, pointed the conclusion arrived at by applying it to the present discussion. The people required a frost-proof warehouse; the demand was a just one and should be complied with—if not they should remember that the formation of the Government lay with them.

Mr. A. S. FISHER said the remarks of Mr. Innes brought forcibly to his mind the injustice done the people of this part of the Province by the Government. A grain elevator could be constructed costing some \$150,000 for the people of Upper Canada, yet to the fruit growers a warehouse was refused; even running powers were refused over a line built with the money of the people. It was simply preposterous. The people of this county should stand shoulder to shoulder in this matter and not stand silently by. Energetic efforts should be made till at least some measure of justice in respect to this matter was meted out to them.

After an animated discussion on the subject, the executive were empowered to carry out the suggestions of the meeting and circulate petitions to the Dominion Government, and take such other means as they thought necessary to secure the required storehouse at Halifax.

A motion to this effect being offered, was carried unanimously by a standing vote.

ANNUAL DINNER.

The members of the association with their guests sat down, at 7.30 p.m., to a bountiful repast, spread in Mr. LeCain's best style, at the R. R. Restaurant. President HART presided, supported by Drs. ARMSTRONG and RAND. Senior Vice-President BLANCHARD occupied one Vice-chair, supported on the right by Hon. J. W. LONGLEY, M. P. P., P. INNES, Manager W. & A. R. R.; on the left by the Secretary. The other Vice-chair was occupied by Vice-President MILLER, who was supported by Messrs. Dodge and Harris, the local representatives in the Provincial Parliament.

The wants of the inner man having been well attended to at the expense of the splendid table provided by Mr. LeCain, the following toast list was proceeded with; the toasts being drunk in nature's beverage—the purest, the best.

"The Queen" was proposed by the President and responded to by the whole assembly rising and singing the National Anthem.

The Chairman then proposed "The Governor-General and Her Majesty's Forces" coupling with it the name of MAJOR STARR, who in response said:—Mr. Chairman and Gentlemen, I thank you for the honor you have done me, but in the presence of such an assembly of learned and reverend gentlemen I must say my courage is hardly equal to the occasion. It is one of the toasts, sir, to which I presume all loyal Canadians should ever be ready to respond—although we might not be able in eloquent terms to say all the fine things we would like to, yet let it be more or less we have to say we take it for granted that no man with a true British heart will fail to say "Amen" to this toast.

"The Dominion and Local Parliaments, and Municipalities" was then given and responded to by Hon. J. W. Langley, M.P.P., M.E.C., who said:—Mr. Chairman and Gentlemen,—I thank you for the kind manner in which you have honored the toast just drunk.

I feel, Sir, that it would be unjust to the position which I occupy in the Province at this time, if I failed to take advantage of this gathering to express certain views and sentiments upon the topics which are of interest and moment to the Fruit Growers' Association.

I must say, Mr. President, that in sitting down at this table to-night, I was compelled to call to mind the scenes and incidents of

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a similar gathering one year ago—when the place you now occupy was filled by another representative of the County of Annapolis in the Fruit Growers' Association—who had the honor of being its head. It will not be wondered at by those who know the relation that existed between us, if I hesitated to reply to this toast. Though the late Avard Longley is no longer identified with the great and important industries of this Country, I think, Sir, though it may not become me, on account of relationship to say so, I am justified in saying that, during the whole period of his life's work, he enjoyed the respect and confidence of his fellow men. I regret, sir, to be called upon to refer to this. I am happy, at all events, to see in his place another gentleman from Annapolis County. It is true that the people of King's County have developed the largest amount of science and theory as to the culture of fruit, yet, sir, while the people of King's County have been engaged in the development of the theory and science, our people in Annapolis County have been raising the fruit, which is one of the most important elements in fruit growing, and, although I see surrounding this table many representative men of the County of Annapolis, I think they will not disagree with me when I say that no better representative of the fruit growers of Annapolis County could have been placed in the high position you occupy than yourself, Sir.

It is to be regretted, Sir, that on the occasion of this our annual celebration—and I speak of it as *our* annual celebration, because I think the secretary will bear testimony that I have been for some time a member of the Association—a larger body has not been gathered together. But no doubt it is owing to the inclemency of the weather.

This Fruit Growers' Association is, I venture to remark, the most important organization of the kind in Nova Scotia to-day,—this is, no doubt, a very broad and sweeping remark, but if we merely confine ourselves to a simple statement of facts, it will, I think, be concurred in by those who are present. Now, sir, what is the fact as to fruit growing in the world at large? If we look abroad over the face of the earth, we will find that fruit is produced only in certain belts on the earth's surface. The United States produce fruit, but a very large proportion of the soil of the United States will not bear fruit at all. Michigan, for instance, is one of the great fruit growing States. But, sir, there are portions of that State where the fruit tree cannot

be cultivated. Ontario is a fruit growing Province, yet the cultivation of the apple is confined to but few of the counties of that Province, and even in those counties only a certain portion. Great Britain is a fruit growing country, yet if you examine into the fruit growing capacities of that country you will find that there are counties that do not raise fruit at all. Therefore, I say, that though in almost every part of the Globe we may find apples grown, yet in no part of it do you find that apples can be grown equally as well as in certain parts of Nova Scotia. Here in most portions of the Province fruit can be grown—even in the Island of Cape Breton, surrounded as it is by the Gulf of St. Lawrence and its influence, apples and all other fruit can be raised. I have eaten apples myself, picked in the northern part of the County of Inverness. We can raise apples in Lunenburg, Digby and Yarmouth, yet it is found that while in the several counties apples can be produced, there is practically only one spot in Nova Scotia which, by its character, is specially adapted for the profitable raising of fruit in large quantities, and that belt commences in the vicinity of Windsor and continues through the Annapolis Valley to Bear River. The fruit growing part of Nova Scotia, although not situate in the tropical region, or in that portion of the earth's surface which seemed to be smiled upon by a pleasant climate and warm sun, this Annapolis Valley, is one of the finest fruit growing belts in the world, and it is prepared in its special line, to compete with all other portions of the world, and, perhaps in some respects, it surpasses them all, at all events it has its special advantages—in some lines it cannot be equalled, far less excelled. Having in mind this especial fact that in Nova Scotia exists this fruit growing belt, let us recall a period of 25 or 30 years ago, in relation to fruit growing. What was the estimate of the average man throughout this valley with respect to his orchard? It was treated at that time with indifference; it was neglected and turned into pasture. There were some men who derived profit from the fruit, but as regards fruit growing as a business, so far as it related to the development of this important industry, it was regarded as of very little consequence. Indeed, it was one of the despised and neglected industries of Nova Scotia.

What first gave an impetus to it? The formation of the Fruit Growers' Association. If any person in this room challenge (I use the word deferentially) this statement, let him show me any institu-

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tion in Nova Scotia, that is, of a commercial and industrial character, tending in its operation to advance the material prosperity of the country—let him take all such institutions of a similar character in Nova Scotia, and show me any one of them which, in the short period of twenty-one years, has made such immense progress in fostering and developing an industry as has been made by the progress in the culture of fruit in this Province. Why, sir, from this small beginning, we have seen this enterprise starting up through all the fruit-growing belt. We have seen the growth of fruit rapidly extending; till now the amount of fruit grown has increased tenfold. We have seen the culture of fruit develop amazingly. We have seen the very best varieties of fruit brought to the very pink of perfection, and we have seen the fruit going out of this valley—the produce of this same industry—working its way through the markets of the world and competing favorably—in some respects triumphantly—with all the fruit-growing belts of the world at large.

I say, Sir, this Fruit Growers' Association is one of the finest and most valuable which exists within the whole Province of Nova Scotia.

Let us consider here whether all has yet been accomplished. We have seen, it is true, immense profits; we have seen the Fruit Growers' Association a reality, and even that is something we should congratulate ourselves upon. Is it not a satisfaction to know that an institution should exist here, which by merely giving out a formal notice that it desires to meet to discuss the question of fruit raising, can bring together from three different counties, gentlemen interested in this subject of fruit growing—representative men who bring with them a large amount of knowledge of this special industry?

I can but inadequately express the satisfaction and pleasure I felt in attending the meeting to-day, where I heard these same representative men discussing, in a most earnest manner, the different methods of fruit-growing, all of which were of deep interest to those desirous of the improvement of this material industry. I regard those discussions, sir, as an index of the amount of knowledge and science brought to bear on the fruit growing properties of this country, which would not have been dreamed of twenty years ago.

And now, sir, it seems to me that I am about to touch on a moot point. I noticed to-day that the members of the Association, when in deliberation, vented their ideas with the utmost freedom, notwith-

standing the fact that they fully understood that, in the next moment, their immediate neighbors would contradict them. The greatest differences of opinion were expressed, as Mr. Coleman will bear me witness, yet no one complained when others differed from him.

Having dealt now, to a certain extent, with the progress which has been made in this industry by this Fruit Growers' Association, let us look a little ahead—to the future. All I say here on this point is merely a matter of my own views, drawn from whatever information I have been able to obtain, and it is simply put forth for what it is worth. If it is worthy of consideration by the fruit growers of this country, it should be considered, because it will open up new and enlarged ideas of fruit growing.

I have said, sir, that our fruit is competing successfully with the fruit grown in other parts of the world. Now is it not possible that there are elements in our fruit which can defy competition—elements in which we stand alone? If called upon to name our highest variety, some might declare the *Gravenstein* to be the finest specimen grown in this country, or the *Ribston Pippin*, and others might name also the *Yellow Bellefleur*. Yet, in my judgment, the best is that in which, from a commercial point of view, we have to meet the least competition in the markets of the world.

If we raise the *Bishop Pippin*, New York, Michigan, Ontario and England can do the same, and so we are only placed in an equal position as regards it in the markets of the world, and, in so far as we are more distant from the centres of population than those places, we are at a disadvantage, and, therefore it is manifest that we are exiled, in certain parts, from a market. The State of Michigan produces a larger variety of apples than we do; Ontario surpasses us in color, which is, to my mind, of no intrinsic importance; but of great importance, in so far as it affects the market value of the apple.

The great practical question is, how can we cultivate fruit in such a manner as to produce the largest degree of profit from the transaction? Let us consider this question for a moment. We raise a variety in this Province called the *Nonpareil*. I understand, from good authority, that they are cultivated more successfully in the County of Annapolis than in the County of Kings; but I imagine it is only a question of soil, and it would not be difficult for King's County to raise this kind of apple in the course of time. From my standpoint, the *Nonpareil* is not a very delicious or a very desirable

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apple in any form, yet there is one quality of it of importance. Raised in the County of Annapolis, it can go to the London market and to the great centres of the world at the latter end of May and even later, in a perfect condition. Is there any other belt in the world that can send an apple to compete with it? This is a question which the fruit growers of this valley should put to themselves. Because, if not, they may lay it down as an axiomatic fact that the teeming millions of this earth are bound to have apples at all seasons of the year, and are bound to pay for them. I have been informed by a gentleman in Nova Scotia, who was in London and Paris last season, that he saw *Nonpareil* apples, raised in Nova Scotia, sold in London at prices ranging from two pounds to two pounds ten shillings sterling per barrel, and no competition whatever to meet. He traced these same apples farther; he went to Paris and he found there the *Nonpareil* alone—with no competition—sold in Paris at ten cents apiece. I have made an estimate in my mind of how many apples a barrel of *Nonpareils* would contain. The *Nonpareil* being a small and closely-packed apple, I think 600 to the barrel would not be a large estimate for *Nonpareils* of average size. Now, if there are 600 in a barrel of *Nonpareils*, which are sold in Paris at ten cents apiece, it would amount to \$60 per barrel. Bearing this fact in mind, I want to know why it is that we are devoting our time and energy in this valley, to the cultivating of apples in which the whole world can compete with us, when we have it in our power to raise an apple with which we can defy competition, and with which we alone can supply the demands of the millions in the great markets of the world in certain seasons of the year?

They can grow the *Nonpareil* apple in England, in the United States, and in Ontario; but, sir, the *Nonpareil* apples grown in England, the United States, and in Ontario are worthless after the last days of April are past—worthless, as a rule, after the last days of March; but here in this favored vale, we raise an apple that, when the productions of other countries have ceased to have a commercial value, has reached the point in which it is entirely *king* in the markets of the world.—(Applause.)

Now, sir, another question occurs to me in connection with this fruit raising in the Annapolis valley. If it pays, as it does pay, beyond all other enterprises in this country, why is not every energy bent towards the attainment of the utmost perfection in this art. It

is true, money is made by the raising of meat ; but we are not *par excellence* the beef raising section of this Dominion. We can be beaten in it by various other parts of the Dominion. Neither are we a wheat-growing people. Why, even as a cheese and butter making community, we are surpassed by the people of Ontario and Quebec. But, in the matter of fruit raising, it is the *one* thing in which the profits far exceed those of all the other agricultural employments in which the farmer can engage.

Were you to engage in the line of apple raising alone ; or, were you to combine with apple raising the small fruit culture, of which we heard so much during the discussion this afternoon, it would be found that in a soil like that of this valley—a soil naturally formed for the production of fruit—a larger profit would be produced than in any other business to which the farmer could devote his attention. This is an incontrovertible fact, and I do not think anybody here to-night will challenge it, though I know it is not wise for me to assert anything dogmatically before an auditory composed of gentlemen so well versed in the subject as I see before me. I say it will not be contradicted that fruit raising in the Annapolis valley is the most profitable branch of agriculture in which the people can be engaged. If this is the fact, why not raise more fruit ? If this is the fact that the actual profit from the produce of one acre of an apple orchard is greater than the profit from the produce of one acre under other cultivation, will not that profit be increased by an orchard of two acres of apples ? And so must the proportion of profit be increased by raising 20, 30, 40, 50, or even 100 acres.

In connection with this matter, I might touch upon another question, and I remark upon it with the more confidence, because, when I entered the meeting of the Fruit Growers' Association, I found them discussing it—one of the most vital elements in connection with agriculture in this country—that is, the question of manuring. It seems to me that the whole question in relation to agriculture in Nova Scotia—including the Annapolis valley—is the question of manuring. If you could satisfy me of the probability of my properly manuring 100 acres of apple trees, then I would at once commence to cultivate 100 acres ; and if the trees so hastened on, would mature at a fairly early period, I would expect to make a fortune. We have not realized in the past the vital importance of this industry on the interests of this country. We have seen young

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men leave the farm for a mercantile life, and what was the consequence? In a few years they are bankrupt. We have seen young men abandon the farm and take to sailing ships for more speedy gain, and disastrous results were, in the great majority of cases, the consequence. As a rule, we find these men, instead of making their fortunes as they expected, glad to come back once more and seek comfort and competence in that source of wealth which is embraced in the cultivation of the soil. We have seen men embark in fishing enterprises. We have seen men invest their thousands, even their millions, in this country, in manufacturing enterprises—sugar refineries and cotton factories—which have proved to be most losing operations.

Let us take into consideration what profit in this country is left to the man who chooses to cultivate thoroughly and to the fullest extent that industry which the capacity of the country will allow him. Suppose I say I will devote 20 acres entirely to fruit growing, having the orthodox quantity of trees—fifty—upon each acre. This 20 acres will give me 1000 trees. If these 1000 trees are properly developed and reach their full stage, they will be of a very poor class unless I get two barrels of fruit from each tree,—that is, 2000 barrels of apples. If these apples are worth each \$2 per barrel, I have \$4000 per annum as the result of 20 acres of orchard lone. Of a course we have to take into consideration the cost of the land, the cost of the trees, and the interest for a period of ten or twelve years, so that I will have, as the net result, say \$3000—allowing for picking, packing and other expenses. Then multiply that by 5, which would be equivalent to 100 acres of orchard, and I have \$15000 a year as a net result from an orchard of 100 acres, devoted entirely to fruit raising. If we look at the matter in this light, and the profits to which I am referring—which are the actual results day after day in the Counties of Kings and Annapolis, from two, or three, or four acres; when we consider the sources of wealth in this country; when we consider the fact that the world is not only growing in population, but the demand for fruit is growing in every section of the globe—take the city of Halifax, for instance, when I went to that city to live some twelve or thirteen years ago, I suppose there were but four or five shops in which fruit was sold especially, now, I venture to say, there are twenty-five shops, all showing good results, and, though the city of Halifax has not increased more

than 20 or 30 per cent in population, yet it has increased more than 100 per cent in its consumption of apples; and what is going on in the city of Halifax is going on throughout the world—it will be found that the consumption of the world has not been tested to its fullest extent, and, therefore, I say, that were the whole of Annapolis valley turned into an orchard, it would not materially affect the markets of the world.

Sir, there is a tremendous source of wealth in fruit growing in this Province of Nova Scotia, and this Fruit Growers' Association has, by the zeal and enterprise which it has displayed in directing attention and lifting up the Fruit Growers' to a sense of the importance of the work in which they are engaged, done marvels to increase the wealth and material prosperity of this Province.

Depend upon it, Sir, we shall see the men who have left their farms for the seemingly more money-making ventures of life, coming back to the soil as a sure pledge that it will best sustain them and gratify their desire for wealth and secure the advancement of the Province.

I feel, Gentlemen, that I have occupied too much of your time, and will give way to others. I feel a great interest in fruit growing and in this Fruit Growers' Association. I believe we have had no development to be compared to that which we shall have in fruit growing in this great fruit growing belt of Nova Scotia, and we have no idea of the wealth that will be attained and the fortunes that will yet be made in this great Province, and whatever may be the wealth of this section, its influence must be felt in the general prosperity of the whole Province.

The next toast proposed by the Chairman was "The Clergy and other Learned Professions" coupled with the name of Dr. Armstrong. That gentleman responded as follows:—I have great pleasure in being present at this meeting, for I regard it as an assembly of the leading men in an important industry of this country. The Fruit Growers Association, as I understand it, sir, has a great and important work to perform—the gathering up and circulating of intelligence towards improvement in the art of growing fruit of a superior quality—the development of this great industry and the benefitting, by this means, of the people. I think every man ought to feel an interest in the country in which he lives; pre-eminently ought a minister of the Gospel to take a great interest in the country in which he resides—in

its capacity especially benefit of excellence a pride in upon us. Annapolis stands pre particular be afraid that char the table that in six such fruit a country within m agricultur advancem comforts meeting interest ta many peo and, too, tors, and part in t Here I lo gentlemen *propria p* the whole law, his h Railroad amongst improving endeavour discussion of the poe dinner is advanced gathering

its capacities, its productions, its improvements in every line; especially as these are for the interests of the people, and for the benefit of society—in fact, sir, fitted to raise the standard of excellence in every respect. I believe, sir, we ought to feel not only a pride in our country but a gratitude for the many favours it confers upon us. If I have been informed correctly, this great valley of Annapolis—stretching from Annapolis to Kings and on to Windsor—stands pre-eminent in the world as a fruit-producing region—excelling particularly in the superiority of its apples. Why, sir, need any one be afraid or ashamed to live in a country that can produce fruit of that character (referring to a plate of large “King of Tompkins” on the table before him which was picked from Mr. Harris’ orchard), like that in size, flavor and color. Why, sir, it does one’s eyes good to see such fruit and to anticipate the flavor gives enjoyment. We live in a country that I am glad to say has improved in various respects within my own recollection—there have been improvements in agriculture generally: but in fruit-growing particularly has great advancement been made, and as an accompaniment to these have the comforts of home life been materially and enduringly increased. This meeting is to me an indication that there is, in some quarters, great interest taken in this industry of fruit cultivation, and no doubt by many people. Here might we find gentlemen from Kings, Annapolis, and, too, from the *great City of Halifax*; legislators, lawyers, educators, and men who have handled the plough—all of whom have taken part in the developing of the industries of this beautiful country. Here I look around me and I see the Starrs (applause). Here I see gentlemen of the press: the *Western Chronicle* is represented *in propria persona*—almost; the *Wolfville Star* is present lighting up the whole valley, and here is the *great Recorder*, of Halifax, with his law, his history, interest and power in the Province. We see the Railroad Representatives, and our Members of Parliament, are also amongst us. This indicates interest in this great enterprise of improving the method of fruit growing in the country, and in endeavouring thus to benefit the people. I understand that in the discussions, which I am sorry to say I was unable to attend on account of the poor state of my health—though I believe this Fruit Growers’ dinner is going to benefit me—(a voice—I am so glad Dr.) many advanced ideas upon the art of fruit culture were promulgated. This gathering is then a very important event for it means improve-

ment, it means increase of knowledge on this great element of Provincial prosperity. Methinks the mission of this association includes the stirring up of the people to the development of their farms, their homes, their country and an attempt to put away extravagance;—I was going to use a strong word—that demon of extravagance that has done and is still doing so much to cripple the country. Teach the people to husband their resources—to do this would be a blessing and the means of effecting incomparable good. Yes, sir! I feel an interest in this country. (Hear! Hear!) I feel an interest in the Fruit Growers' Association and wish it prosperity and success in the future. (Applause.) I regard every thing that is adapted and designed to benefit mankind as a gift from God. Let us go on in this good work and may we be prosperous. In truth do I take an interest in the prosperity of all mankind, but in the people of our own country before all others. So may this country prosper, may this community and its people prosper, may this Great British Empire and its people prosper and become glorious, (Applause) and thoroughly welded together, and when the day comes, Great Britain will stand erect and firm, triumphant over every misfortune that may assail it from the north, the south, the east or the west. Let its enemy come from any country soever—Russia, Germany, or Austria, conquering ever, defeated never, our glorious country will weather every storm. (Applause.)

The PRESIDENT proposed "The land we live in," coupling therewith the names of Messrs. W. H. Blanchard and A. Stanley Fisher.

MR. BLANCHARD, responding said:—I had something to do, Mr. Chairman, with the preparation of the programme for this evening, and I thought I had taken care to have my name omitted from the list, but by some ledgerdemon on the part of our good friend, the Secretary, it has been introduced. After the speech from the gentleman on my right, in which he has so eloquently and admirably portrayed the agricultural and pomological resources of our country, it is unnecessary that I should occupy much time in discussing this toast. It would indeed be a poor soul who could not say something of "The land we live in," and when a man gets to such a pass the sooner he gets out the better for the land he dwelt in—we do not want any such people cumbering our ground. Sir, I have not language to express the love and admiration which I hold for this our country. When I travel abroad, as I occasionally do, I take a map with me,

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and I have sometimes felt I was trespassing upon the good nature of fellow-travellers, when I displayed my map and brought our country to the notice of those who had scarcely ever before heard of us. Some three years ago I happened to be in the City of Paris, at an hotel there I sat at table near a gentleman from the United States who was discussing with a mutual friend, sitting between us, this great American Continent. Referring to the wheat growing belt of the United States, the American gentleman remarked that the United States could feed Europe—knowing that statistics had been compiled by the American Consul at Winnipeg, conclusively showing that three-fourths of the wheat-growing belt of this Continent lay to the North of the 49th parallel, I interposed with the remark that Canada could raise sufficient wheat to feed Europe and the United States besides. (Hear, hear.) I felt proud, Sir, to be in a position to make this statement, and of being able to bring to the notice of those independent citizens of the United States, the fact that we could compete with them on their own ground. (Cheers.) Yes, Mr. Chairman, I am proud of this, “the land we live in,” and although we may not be able to produce the luscious fruits and boast of the lovely climate of the “Sunny South,” yet we can boast of a climate and a soil in this, our Nova Scotia, that make her a “meet nurse” for those hardy sons of toil who too frequently enrich other lands by going “down to the sea in ships” and drawing therefrom their finny treasures, or by plowing the western prairies, making them laugh with golden corn. I have seen fair landscapes on the Susquehanna, the Juniatta and the Merrimac, on the Thames, the Tyne and the Seine, but none fairer or more desirable than along the courses of our own Avon, our Gaspereaux and Annapolis.

“Land of my sires, what mortal hand
Shall ere untie the filial band
That knits me to thy rugged strand.” (Cheers.)

Mr. A. S. FISHER, in responding, said:—Mr. Chairman and Gentlemen, I feel myself placed in a somewhat peculiar situation to-night. I am aware that heretofore in the course of my life I have blundered, but when I look around me, when I call to mind the eloquent speeches we have heard from the gentleman who have preceded me, I feel that I have made a greater blunder than ever in consenting to speak without preparation. Where it another theme I was asked to respond to I would pray to be excused, but to this

"the land we live in," "this Canada of ours" with all its immensity, stretching from ocean to ocean, with all its illimitable resources, I feel constrained to speak.

Here, in the near future, will be the home of teeming millions. Let us recall to mind for a moment that to-day the United States supports upwards of 40,000,000 yet it is no larger than "this Canada of ours." The United States, supporting this immense population, presents to-day no better prospects than the Dominion of Canada. There are millions in the world who need the very things we have to offer them. Our natural resources are equal if not superior to theirs, our only want is a greater population to foster and develop those resources, and the only question is how is it possible to bring into play those many blessings with which Providence has endowed us. When we look at the various resources of the land we live in, our beautiful climate, our woods and fisheries, when we look at its mines and minerals, when we look at its public works, and its thousand and one other natural advantages which we all enjoy, when we think that our only need is labor to develop our rich resources, then it is that pride in our country swells in our hearts, and we feel, as did the last speaker, regarding our American friends—we can let them down. The day is coming, and is not far distant, when those immense public works now in progress will be completed and the whole country opened up, and when those great highways shall be utilized, the whole face of the country will be filled by the millions who shall be able to enjoy God's rich heritage as we enjoy it to-day.

Whilst we think of those things as Canadians, there are other feelings which must enter our bosom more nearly connected with our Provincial home—Nova Scotia. The very words cause a thrill of pleasure to rush through our whole frame as it does to one who has been absent from his home when he again puts his foot on his native soil. Nova Scotia, the home of our childhood, may it be the place of our burial. To my mind, Sir, there is no country upon which God has placed his divine impress so surely as on this our native home—no country in which a man may make his home so comfortable and happy—no other land on which He has so unsparingly shed His blessings. Look at the thousand and one influences for happiness that surround us—the purling brook that comes down the mountain side—the forests primeval supply all the requisites—our meadows, our pastures where our flocks can feed and where we can gather their

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food for the winter. This, after having listened to the eulogy on fruit proclaimed by Mr. Longley, may seem insipid. He has brought prominently before us the one great boon that God has given to us, in this great valley, in fruit. To my mind his is the final solution of that question—a solution which assures to us not only now but to those endless generations to come—and he has pointed out to us how this boon can be utilized both for these and for us.

True it is that at the present time there is a sort of depression passing over our country of which we all more or less feel the effects. What is the cause of this? The general depression is felt all over the world, both by rich and poor, yet to my mind there is no reason why we in this favoured valley should ever feel hard times. The rich provision that God has made for us, and the resources which are placed within our reach, if properly utilized, will give plenty for each and all of us. The great trouble has been that heretofore we have been luxurious in our habits, and farmers, who living in other countries would be only able to support their families, are living at a rate which the people of other countries can only do by having vested interests and an annual income.

Another point in this connection is the lack of laborers; so many of our young men and our young women, under existing circumstances, have been driven away, I might say expatriated, from their country. The bone, muscle and sinew of the country has gone, and, with few exceptions, only those who have a vested interest in the country have remained. Now the question is what is to be done to place us in a different position? The only thing required to make the country one of the greatest is to have a government wise, economical and capable in all its departments; a government knowing the resources of the country and how to utilize them and to save them, then with the blessing of God resting on the people we will not only enjoy His blessings here, but we will have time and leisure to consider not only the things of this life but also those of the future. (Applause.)

“The teachers of our country,” coupled with the names of Dr. Rand and the Secretary of the Society was then proposed and enthusiastically received.

Dr. RAND in reply said:—The hour is so late that I can only say how deeply I was impressed with what I heard at the meetings and at this assembly. The interest that calls together so many gentlemen

at this time is one that must impress itself very forcibly upon every man who has any interest in the resources of this country. Some of you may remember that I had the pleasure of being with you at Wolfville last year. Since that time I have more than before had brought under my attention facts connected with the interests of this valley, and I very heartily endorse the line of observation made by Mr. Longley. I believe—and I have been led to believe by my own independent conclusions—that the interests of this country lie very largely, indeed almost altogether, in this valley, from Digby to Windsor, as far as regards the development of fruit culture, apple culture, and the culture of small fruit of which we have heard. I have sometimes put it in this way. Well, now, here is a man who has a family of young fellows growing up. He says to himself, how may these young men, by the time they are forty years of age, be independent. What pursuit, business or calling can they enter upon so that when 40 years of age they will be independent men. Now I argued this way—it may be full of fallacies—you must judge. Here in all this valley from mountain top to mountain top the soil is adapted to the growing of apples and also to the cultivation of small fruits. Some is adapted to one particular kind of fruit some to another, but all the soil in this valley is practically suitable for fruit raising. Suppose he puts out 1000 trees, well in twenty years these trees are getting up pretty full in the head and bearing, he is now 40 years of age—the trees are 8 or 9 years before bearing—that is 8 or 9 years from the time set out. I saw in Mrs. Johnstone's farm some trees which that lady stated to have been but some eight years planted, and I could hardly believe it, in view of their fruitage, only for her assurance. By the time he is 40 years of age he is in possession of 1000 apple trees. Now taking an average of four or five years we find that the price of the product of the tree will be about five or six dollars a year on the average. Is that right? Very well. Now if that young man is able to make a living by the raising of small fruits and otherwise until his orchard of standing fruits is in full bearing he finds himself, when 40 years of age, with an invested capital, well, at six per cent. of \$100,000.

That is his position. Is not that so? (A voice—that is so.) It must be remembered that the apple tree has more vitality in this valley than elsewhere and will live all the way from 100 to 200 years, while in many other countries 25 years bearing kills the tree.

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Well, Sir, there is an investment which is going to yield on the average a more permanent income than any cotton mill or any other form of manufacture or industry that he could go into, even after you discount my calculation by one-half. If this is the truth, or anything like the truth, it comes back with ten-fold force that the duty of those engaged in this valley in farming is to make fruit-raising *primary* and all other forms of farming *secondary*. I do not wish to enlarge here on those views. I think the country is already well impressed with the importance of this great industry. As to overstocking the markets I believe they will regulate themselves, and the better the quality produced the steadier the market will be.

I wish to say another word in response to this toast, "The Teachers of our Country." I beg to thank you, Gentlemen, for the hearty manner in which the toast has been received. It shows that the gentlemen here assembled recognize the relation which exists or ought to exist between the industries of the country and its intelligence. I am not here to discuss the subject of technical education, but I affirm without fear of question that the more real and genuine the work of the teachers of the country, the greater must be its advancement in all lines of progress. When the teachers of the country shall be found worthy as a class to be reckoned by society at large as members of a learned profession, I have no doubt that every form of industry will receive adequate attention so far as the institutions of the country may permit. (Applause.)

MR. C. R. H. STARR said :—This, as you are aware, Mr. President, is the 21st anniversary of our Association. Until to-day we have been boys, but we have now attained our majority. Heretofore we have been learning, perhaps we have been teaching a little, but of one thing we may be certain, and that is that we hope to learn more and then to help teach others. That is our aim and our object. Yet I think we have to learn a good deal more and teach a good deal more before we reach the standard pictured by some of the gentlemen who have preceeded me this evening. If there is any one thing the country is deficient in it is in education in certain lines—I mean technical education. If you take up the Reports of Special Committee appointed by the Dominion Government, and enquire into the agricultural condition of the country, you will find this question asked: "What difficulties are the agricultural classes in the Dominion labouring under," and in nearly every instance you will find the same

answer, "They are laboring under a want of education in their particular branch of business." In other words, they are laboring under a want of agricultural and horticultural education. This Association is, in a measure, educating a certain class of people in the art of fruit growing. I must acknowledge to have learned a little, and for what I have learned I am largely indebted to members of this Association. I only wish, Mr. President, I were able to speak without preparation, as I am called upon to do, but it is rather embarrassing, after listening to the eloquent remarks of the learned gentleman who has just preceded me. Thanking you for the hearty manner in which you received this toast and the attention you have given to these few remarks, I beg leave to resume my seat.

"*Our Railroads and Steamboats*" was then proposed by the PRESIDENT, to which—

MR. P. INNIS in response said:—I have to thank you for the honor you have done me in coupling my name with this toast. It is only proper that in connection with the meeting of the Fruit Growers' Association, mention should be made of railroads and steamboats, because without railroads and steamboats it would be impossible for the fruit growers to get their fruit to market, which is one of the most important considerations in connection with the industry. The agents of the steamers and railways have been doing you good service in providing conveniences and facilities which enable you to reach the markets of the world expeditiously and cheaply; but in so doing I find we have hitherto proceeded altogether on wrong lines. The talk of the apple shippers is that there is no monetary profit from the business; but from the statements of gentlemen here to-night I am forced to believe there is millions in it. (Laughter.) Instead of grinding our rates down, both by railroads and steamers, I think our tactics will have to be changed, for if twenty acres planted as an orchard represents a value of \$100,000, it is about time we got a little better paying rates out of the business. And in this connection I may say that I do not doubt Dr. Rand's statement in the least. Taking the value of the trees at \$100 each—and this is the price some farmers charged the railway when it wanted to cut down apple trees for right of way—fifty trees to the acre, gives a value of \$5,000 for one acre, so 20 acres have a value of \$100,000, which just makes the same amount as that arrived at by Dr. Rand. This being the fact, I am justified in concluding that there must be millions in this

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fruit business ; notwithstanding which, freight rates have been so cut down that at the present time apples can be sent from any station on this line (the Windsor and Annapolis Railway) to London, G. B., for \$1 per barrel. The credit of this cheap rate is due largely to the Furness line of steamers, and I fully expected that a representative of that line would have been here to-night, but on account of the *Newcastle City* sailing to-day he has been unable to attend. He, however, has written me in answer to some questions I put to him with reference to the rates from Halifax, which were alleged to be higher than those from St. John, Boston or Montreal. I will read you his letter in order to show you that the rates here are lower than from any other of the more important ports :—

“*Dear Sir*,—Your favor of the 15th to hand. Referring to the rate of freight on apples from Halifax being higher than from Boston or other places, and asking that you may be put in a position to explain the same to the numerous shippers who are complaining, in reply we beg to say that we wrote to the Boston agents of the line and also privately to an outside party, so that the agent's figures might be confirmed, and the reply comes from both sources as follows :—

Boston to London, October and November	3/6 to 4/	per barrel.
“ “ December	3/ to 3/6	“
“ Glasgow, Oct., Nov. and Dec.	3/ to 4/	“

In reply to our enquiry from Montreal we find :—

Montreal to Liverpool, September	3/6	per barrel.
“ London, September	3/	“
“ “ October and November	4/	“

From New York our friends write : The average rate on apples to London during the past three months has been 3/per barrel, Glasgow average rate 4/.

Now, with these facts before you, we think you should be able to satisfy shippers that they positively are not paying more freight than American and Canadian shippers, and we may here add that for this advantage they are indebted to the Furness Line of Steamers.
* * * You are at liberty to read this letter at the meeting of the Fruit Growers' Association.”

He further advises me that the rates from St. John are the same as from Halifax. Thus you see, gentlemen, you have every advantage in shipping from Halifax. One thing I would strongly recommend you to do is to support the line from Halifax. It was felt to be a

necessity that you should have a line of steamers direct to and from London, and you have, as the result of that state of feeling, the Furness Line. I am sure you will admit that the agents of that line, in conjunction with the Windsor and Annapolis Railway, have done their utmost to try and please shippers. With regard to the Windsor and Annapolis Railway, I can only say that a great deal of misunderstanding seems to exist with reference to the rates charged by this railway, and I would here reaffirm that there is no Railway Company in Canada whose tariff of rates is so low by from 10 to 15 per cent., as that of the Windsor and Annapolis Railway. In this connection comparisons are frequently made with the rates on the I. C. R., but those who make such comparisons should also bear in mind the fact that that railway is practically subsidized to the extent of the interest on its costs—or \$2000 per mile per annum more than what the Windsor and Annapolis Railway cost the country. If we were subsidized to the same extent per mile we would receive some \$186,000 per annum, and we could then afford to give rates as low or lower than those of the I. C. R. But we cannot tax the people of the country to pay the interest on the cost of our line, and, therefore, I ask, is it fair to compare this road with that, the deficiencies on which the people are taxed to make good, as well as to pay interest on the capital involved in its construction. The comparison does not hold good at all.

I am not aware I have anything further to say with reference to steamers or railroads, yet I would like to add a few words concerning the shipment of apples.

It seems to me, from my observation and experience, that if this apple business is to be successfully carried on it must resolve itself into the hands of Capitalists or small Joint Stock Companies. With packing houses in each District, the putting up of apples will become a business and shippers will have every interest in making and maintaining their good name—while purchasers will be assured they are purchasing from a reliable packer, and that the quality is of the kind represented. In addition to this warehouse system, there must be a frost proof warehouse at Halifax, so that shippers will not run the risk of loss. Why, gentlemen, within the last three days there have been sent over the railway to Halifax between 9,000 and 10,000 barrels of apples, representing in the neighborhood of \$25,000 to \$30,000. This property has run the risk of being injured by frost

through the absence of the merest chance incurred. This question has been frequently stand at one time and but nothing has yet Windsor and Annapolis reply that we do not and it would not in the circumstances in people of this section Dominion Government can build an \$10,000 is begrudged should call upon you urge your just claim matter in relation to attention.

I am in favor of you are inclined to think if you will only consider involve, you must consider place for its erection.

Thanking you, gentlemen and the enthusiastic manner to resume my seat. (

"The Press" was name of Messrs. Wood

MR. WOODWORTH I had not before known connection with this I have received it I be be afforded me than to-night.

The press in an acknowledgment of being connected with one of the oldest in the I am merely second-hand

through the absence of such a warehouse at Halifax. It was just by the merest chance that the weather was favorable and no damage incurred. This question has now been before you for some time; it has been frequently before the Dominion Government, and I understand at one time an amount was placed in the estimates for its erection, but nothing has yet been done. It has been asked—why don't the Windsor and Annapolis Railway Company build one. I must say in reply that we do not own one dollars worth of property at Halifax, and it would not be a proper investment for my company under the circumstances in which they are placed. I think the least the people of this section of the country should do is to call on the Dominion Government to erect a warehouse for them. That Government can build an elevator costing some \$150,000, yet a paltry \$10,000 is begrudged you for a warehouse to protect your fruit. You should call upon your representatives in the Dominion Parliament to urge your just claims on the Government, for no more important matter in relation to this section of the county can engage their attention.

I am in favor of such a warehouse being in Halifax. Some of you are inclined to the opinion that St. John should be chosen, but if you will only consider the extra handling such a location would involve, you must come to the conclusion that Halifax is the proper place for its erection.

Thanking you, gentlemen, for your kind attention to my remarks and the enthusiastic manner in which you received this toast, I beg to resume my seat. (Applause.)

"The Press" was then given by the CHAIRMAN, coupled with the name of Messrs. Woodworth and Pineo.

MR. WOODWORTH in response said:—I am extremely sorry that I had not before known that I should have been called upon in connection with this toast. For the hearty manner in which you have received it I beg to thank you. No greater pleasure could be afforded me than that which I experience in meeting you here to-night.

The press in an acknowledged power in the land, and I am proud of being connected with the oldest newspaper in the county, if not one of the oldest in the country. True, sir, it grew before my time, I am merely second-hand at it and I can only hope that when I leave

the field of action others will take it up and carry it on successfully, so that its power and influence may be used for the advancement of the cause of justice, right and truth.

MR. PINEO said:—My sympathies are in full accord with those of the company, and I would that I were able to do justice to the kind manner in which this toast was received, but feeling my inability to do so, I beg to be excused and will therefore resume my seat.

The CHAIRMAN then proposed "*Our Sister Societies*," expressing the sense of gratification he felt in calling upon Mr. J. N. Coleman to respond.

MR. COLEMAN responded in his usual eloquent style and concluded as follows:—

I must say a few words as to apple culture. Mr. Longley, in respect to apples, said that an orchard of 50 acres would produce so much, and 100 acres so much. I think his statements are within the bounds of possibility. I know an apple tree which stands some half mile away from my house that is worth to-day \$800, and there are others worth from \$500 upwards—value being estimated upon growing results at average prices.

As to manuring, I am firmly of opinion that apples can be successfully raised without stable manure, especially if we could take the soil before it is exhausted by potatoe growing or grain growing. Were green crops, such as clover, buckwheat and rye ploughed in, I think the quality of the soil would be better adapted for apple growing than by manuring. I think ashes, plaster, lime, fish bones and sods can be used to advantage. I need not here refer to any experiments in connection with the subject, as the results will be known in due course.

Mr. Longley has stated that apples were sold at ten cents a piece in Paris. In this connection I would state that I have been informed that in Butte City, Montana, the terminus of the Salt Lake and Northern Pacific Railroad, the same price rules. Is not this a most gratifying fact that within 2,000 miles of us is a market open for our fruits at a most remunerative price.

After some short remarks as to the adaptability of the valley to the production of small fruits, Mr. Coleman resumed his seat amid applause.

"The Ladies" was then proposed by the Chairman, coupled with the name of Mr. W. H. Fry. That gentleman briefly responded.

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Hon. J. W. Longley, in a few well chosen remarks, then proposed "The President and Officers of the Association."

REV. MR. HART, President of the Association, said:—I do not know when I was so surprised as I am now. I had supposed that my duty to-night would be simply to preside and call upon others to respond. Still I am loth to sit down without acknowledging your compliment to the officers of this Association. My connection with the Society is, as you are aware, of very recent date. Providence seems to have thrown it in my way or called me to it, and I feel myself compelled to acknowledge, as did another member yesterday, that in joining this Association I had a selfish motive. I felt the necessity of the knowledge which it is the object of this Association to impart. My location in your valley was a providential one. I need not refer to my journeyings up and down the valley in search of a resting place, nor to the kindly efforts of a friend to secure for me the beautiful place I now possess. I need not tell of the many pleasures I have in beholding in my garden the processes of fructification and ripening, or speak of the calmness and peace I feel when sitting there surrounded by my well-laden trees, shut out from the turmoil of the world. Some time ago when attending one of your shows I was prompted to write to a New York journal—the *Tribune*—concerning the fruit-giving capabilities of Nova Scotia. I took occasion in that article to call attention to the quality of the fruit and the number it took to reach from one side of a table to the other. My effort was so far a success that I was called upon to write an article on Apple Culture in Nova Scotia, which, I am pleased to say, was shortly reproduced in other papers and in England. Still, while praising our fruit, those journals called attention to the poor manner in which it was packed. This was some ten or twelve years ago, and since that time we have made great strides towards perfection, both in quality and packing, the full results of which are not yet fully recognized.

It will be remembered that some time since I was appointed to go down to the Nova Scotia Legislature respecting an exhibit of our products at the New Orleans Exposition. I went and saw some of the members on the subject, I did not see them all as some of them dodged me (laughter), others, amongst them the Hon. Mr. Longley, stood by me. I need scarcely say I used my best endeavours to induce them to give us a grant for that purpose, and I believe we

would have had the money if the Government had had it to give us. "The Dominion Government should have given you the money," said one, "we have not sufficient to meet the requirements of our various services." Another said that it was altogether absurd to give the rich farmers and fruit growers of Annapolis money to send fruit down to New Orleans and then proceeded to tell me there was some poor fishing district that required 20 miles of road. One member even informed me that he had voted against us getting our usual grant of \$300. I replied that he surprised me and asked him if he was not aware that for every dollar voted to the furtherance of the objects of the Fruit Growers' Association we had contributed to the wealth of the country one hundred dollars. When in Yarmouth, a few months ago, I saw the Vice-President of that county who enquired how we were getting on with regard to the fruit exhibit at New Orleans. I was sorry to have to inform him that we could not send an exhibit as we were unable to raise the necessary money. I recounted to him our endeavours to get money from the Local Government and our inability to raise it amongst ourselves. He said he would be able to raise it, but, Gentlemen, we have not yet received it. And now a word as to the Association itself. Our number is not yet so large that we do not require others. Let every fruit-grower in the valley join our Association. Frequently gentlemen engaged in fruit culture in the valley are asked to attend the meetings and join the Association, but with what result? They reply that they know all that they can learn on the subject, and what need have they of joining the Association. My answer to that is they can join the Association and teach us that of which they are in possession. Gentlemen, notwithstanding such statements I have yet to learn of the man who has not learned something by reason of his connection with this Association. I have yet to find the man who knows a tithe of that which is yet to be learned in connection with fruit-growing and packing. We are but just waking up—we are almost at the beginning of the great study which nature has unfolded before us—we are just at the A. B. C. of it, and it will be long, long years before we have reached the last. Gentlemen, I thank you for the kind attention given to my remarks, and with pleasure resume my seat. (Cheers.)

MR. MILLER, Vice-President for Annapolis County being called up, said;—It would be presumption for me to undertake to say

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anything after what has been stated here to-night. Every phase of the subject has been exhausted. I was thinking while our President was speaking, of our former methods of cultivating the soil and clearing the land. But I suppose most of you have already arrived at a conclusion in regard to this subject.

In the early days of clearing the land our forefathers invariably made for the hill tops. This was first cleared while the vale and meadow land was neglected—the lot cleared the house was then pitched on the hill top and the clearing gradually lowered. That time has gone by and while the hill tops are not neglected the vale is cultivated and what has been the result. Whilst from the hill top our fathers could get but meagre crops, now we from the vale and meadow are rewarded by bounteous ones. Yet, Sir, notwithstanding our advance in this respect there is something that remains to be done. In many places the bogs and barren spots of the valley have been neglected, but from to-day we can begin a new era for we have learned that even the morasses and bogs of our land may be turned into a source of profit. Remarks have been made as to the value of apple trees. Mr. Innes has told us that the value of an apple tree was one hundred dollars, but I wish to say that there are many trees that Mr. Innis could not buy for \$100, but the value of which would be nearer to \$500. There are trees in my orchard from which 20 to 30 barrels of apples have been taken on an average, and I venture to say that such a tree would produce a greater income for me than that which I should receive from an investment of \$500. Indeed, Sir, it would be a loss to me to have it taken up at such a price.

As I have stated before, our people are beginning at the bogs and arid places of our land, and they are being led on to the conclusion that that which they had previously considered worthless may become an immense source of wealth, and in this connection I have not the slightest hesitation in saying that within the next decade all those barren places will be made available for the raising of small fruits. Those who have tried this industry have found it productive—they have found that when compared with other agricultural industries the cost of cultivation is very much less than the cost of raising other products. True this special industry is yet in its infancy, but we may look hopefully for its enlargement in the future, for in a very short period of time it will, through the energy of our population, become one of our greatest sources of profit, and a most material and valuable

adjunct to the many other industries that tend to the general prosperity of our country. Of this we may be assured that this Association, tending in its operations to the advancement of its members, will cultivate within us the knowledge specially adapted to the requirements of this industry. Thanking you for the kindness displayed in coupling my name with this toast, I beg to leave the floor and resume my seat. (Applause.)

HON. J. W. LONGLEY remarked that with reference to the statements that had been made concerning the inability of the Provincial Government to aid in the sending of an exhibit of fruit to the New Orleans Exposition, it was but too true the Government had no money to give. It would, however, be well for the Association to bear in mind that a Colonial Exhibition would be held in the coming year, and he trusted the Local Government would be enabled to assist the people of the Province to make some special exhibits of its productions. Personally he was of opinion that those exhibitions conferred an everlasting benefit on the country.

MEETING OF EXECUTIVE.

Lyons' Hotel, Kentville, Feb. 12th, 1885.

Present.—President Hart, Senior Vice-President Blanchard, Messrs. Coleman, Parker, Miller, and the Secretary.

The subject of the Frost-proof Warehouse at Halifax considered.

Resolved, That the Secretary be instructed to draw up petitions and have 150 copies circulated, through the Vice-Presidents, in the counties most interested.

Resolved, That a delegate be sent to Ottawa to urge this matter upon the Government.

Resolved, That the Secretary be the delegate with the President as substitute.

After discussing other matters of minor importance, the Executive adjourned.

The following letter was read at the Meeting, but as it could not be read, I gladly give it a place.

DEAR MR. STARR, Sir,

In compliance with your suggestions that may be made, you think well to do so at the meeting next month. It has been a low priced crop and there were more buyers than even now there are so many Blenheims, etc., they will have had been very few apples going from the United States where direct lines run rule for the remainder of the arrivals and the quantity kept in mind, the demand drops off when rhubarb course it is to be had in March, and in April always has a great effect we are continually being is a most difficult matter to arrive in Nova Scotia a great turn up or down, send on regularly the

APPENDIX.

The following letter came to hand too late to read at the Annual Meeting, but as it contains so much of interest to apple shippers we gladly give it a place in this volume.

LONDON, 28th January, 1885.

DEAR MR. STARR, *Secretary N. S. F. G. Association:*

In compliance with your request, I have sent you a few notes and suggestions that may be of some service to your Society, and if you think well to do so, you are at perfect liberty to read the letter at the meeting next month. The present season, so far as we have gone, has been a low priced one, of course the great quantity of apples that came in from the States and Canada were bound to keep prices down and there were more apples in Great Britain than any of us supposed, even now there are some good English apples to be had, Wellingtons, Blenheims, etc., they are making a great price, it is true, but many buyers will have home grown apples while they last. There have been very few apples from Coutinent, in fact a good many have been going from the United States to Hamburg, Bremen, and other ports where direct lines run ; it is quite impossible to say how prices will rule for the remainder of the season, it entirely depends upon the arrivals and the quantity to come ; there is one thing always to be kept in mind, the demand here for apples for cooking purposes always drops off when rhubarb becomes moderately cheap and plentiful, of course it is to be had at Christmas, but it does not get plentiful until March, and in April it generally becomes very cheap, indeed this always has a great effect on the trade, of course one of the questions we are continually being asked is what prices are likely to be, and it is a most difficult matter to advise upon, by the time our advices arrive in Nova Scotia and are acted upon, things may have taken a great turn up or down, we consider that the safest and best plan is to send on regularly the whole season, and not spasmodically, so to

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speak. Continually sending, we are confident, is the best paying plan ; of course, one of the most important matters in connection with the apple trade is *Packing*. We cordially tell you we don't think apples from Nova Scotia are better packed this season than they have been hitherto. Many senders pack their apples well, thoroughly tight and all through alike, but there are still a lot of loose packers ; we notice the loose packing especially in apples bought by dealers from growers, we invariably find when apples are sent direct by growers they are well packed. Another matter to be specially seen to is the excessive use of *Excelsior*—a little of it is first rate, but better have none at all than too much. We have had a lot of apples with enough *Excelsior* on the top of the barrel to stuff a good sized cushion, now buyers want apples, not shavings, and, moreover, it gets pressed on the voyage and gives the app'es room to rattle, so that it is useless for the very purpose it was intended for, *i. e.*, to prevent apples being bruised top and bottom—far better pack apples tight without *Excelsior* than loose with it—and we may also mention that although Nova Scotia has not advanced this season in packing, Canada and the States have undoubtedly found it to their interest to pack better. We have had a lot of Canadian and a fair share of States apples, and the majority are very tight, indeed many marks we had were splendidly packed and opened as level as it was possible to pack them. We are sorry to say the great majority of Baldwins, Spys, Greenings, and in many cases Spitz and Vandeveres from Nova Scotia this season have been decidedly inferior, and it is surprising they have sold so well as they have done, they have come mostly small and mildewed ; not large, clean and bright. Buyers here like apples clean. In the first three sorts you have been beaten entirely this season by Canada and the States, they have been sending some really splendid stuff, many of their Baldwins have been more like King of Tompkins for size. Of course for Gravensteins, King of Tompkins and Ribstons, Nova Scotia has been first. I strongly advise you to try and improve your Baldwins and Greenings.

Fallowater.—A few barrels of these have come under my notice, and I strongly advise you to cultivate this apple. All those I have seen have been large, clean and very bright, of course it will never make a great price, being only a green apple ; but I am sure they will always sell well. Another apple I have seen a few barrels of is

Cox's Orange Pippin.—This is a great favorite here and should be

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To the Editor

DEAR SIR,

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grown. We have had others marked C. O. Pippin, but they were not the right sort, they should be yellow and red.

King of Pippins is another apple we should be glad to see more of if you can grow them a fair size and color. We have had some not larger than good sized walnuts, they are no use, but if as large as the ordinary Ribston would always sell. We still continue to receive Talman, Munson, and Pound Sweets, these are all quite useless here, and if you have any opening in local markets send them there.

I have done what I could to bring your apples to the front. I gave the show at Crystal Palace in October my own supervision, and we had allotted to us an entire avenue in front of the great Handel Orchestra. We also had some Nova Scotian apples on show at the Royal Horticultural Society's show at Health Exhibition, end of October. At the Chrysanthemum Show at Crystal Palace in November we had a very nice, small collection; this, of course, was a great innovation, no fruit being allowed besides this lot. I trust, therefore, that your Society, who were good enough to make me an Honorary Member, will be satisfied with what I have done. We were put to some considerable expense over these shows for printing, (I sent you, I think, a specimen of how I had that done,) carriage, etc., etc., and I wrote the Minister of Agriculture, at Ottawa, asking if there was any fund at his disposal out of which he could reimburse us, as I considered if there was we were entitled to it, but I had a reply to say nothing could be allowed. Assuring your Society of my best endeavours, and trusting that the apple trade will continue to increase.

Believe me, faithfully yours,

JOHN LOWE.

P. S.—I have arranged with Crystal Palace Company to have a Show of Apples in November, *i. e.*, a month later than last Autumn. This should enable you to make a fine display, far better than last. We shall give a Silver Cup, as before.

This letter from MR. JOHNSON to the *Western Chronicle* is so full of interest to apple shippers that any comments from us are quite unnecessary:—

To the Editor of the Western Chronicle:

DEAR SIR,—The large number of your readers who are interested in the apple trade will, I think, be sufficient excuse for my

intruding a short letter upon your columns regarding points of vital importance to our fruit growers.

* * * * *

Having accompanied one of the largest shipments of apples ever made from Nova Scotia, I may relate my experience for the benefit of my fellow fruit growers. The first drawback our fruit met with after leaving the orchard was at Halifax, where the handling was *scandalous*, many barrels were broken even in taking them from the cars by rough usage. Then the barrels were rolled from twenty to thirty yards so roughly that the captain of the steamer felt called upon to remonstrate with the men. If this cannot be mended we must find some other port for shipment.

After being put on board the boat in *some way*, I speak from experience when I say that our fruit never had better care and attention than this cargo which came by the *Newcastle City*. If all of the Furness Line Steamers have as careful masters as Capt. Valder, I say to my friends "ship all your fruit by the Furness Line." But after arrival at the docks at London they have to run the gauntlet of sundry jars and jolts, which must prove fatal to everything but properly packed fruit. It is now that we realize that if our fruit *must* be subjected to this rough usage, the use of excelsior in packing becomes an absolute necessity, every packer who omits it does so at the peril of having all his fruit spoiled.

I would strongly urge packers to put a large handful of excelsior in the barrels before placing the first layer of apples, which should be of as uniform appearance as possible, and not larger than the average, then the barrels should be well shaken as each basket is put in. It is absolutely necessary to have a solid foundation, such as a flat stone, then when the barrel is filled raise it and drop on end say from ten to fifteen inches and perhaps repeat the operation, and instead of trying to fill so many barrels, try to get all the apples possible into each barrel. Then when the barrel is full put two large handfuls of excelsior on the top, then you can force the bottom in without injuring the fruit. If treated in this way the shippers will have fair cause of complaint if the fruit does not reach consumers hands in good condition.

The competition which our fruit has to contend with this year has been a very severe one. The English crop, though not a large one, was very fine indeed, and much larger than was supposed early in the

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season. Then such fine United States apples have rarely been offered in this market, especially Baldwins, and ours being for the most part inferior this year, suffered much from the comparison, and only the best, bright colored ones, could get any attention from buyers. It is quite evident that the high prices and ready market of the last few years has made our people careless in the selection of fruit for shipment. It is only when fruit is scarce and prices high in consequence, that inferior fruit will pay the expense of shipment to this market, and then its introduction only injures the reputation of Nova Scotia fruit. This is more noticeable in the Baldwin than any other apple we export, some specimens grown under favorable circumstances making good prices, while others equally *sound* are hard to dispose of at half price. Probably in no market in the world is the difference between wholesale and retail prices so great, and marked, as in London. This matter has attracted the attention of producers on this side of the water, in proof of which I give the following extract from one of the county newspapers.

"Profits of fruit selling."—"Some of the London papers have lately been commenting in rather severe terms on the prices at which fruit and the finer kinds of vegetables are sold, comparing them with those paid to the growers and making this startling statement, viz. : if ever the time should come when producers will get fifty per cent. of prices paid by consumers in London, then might we expect farming to be a profitable business." From this our fruit growers will not fail to see, that every effort made to place them more nearly in control with the actual consumers must necessarily be of great advantage.

I have full faith in the future of our little Province, as a field for the successful culture of the best varieties of long keeping apples for the supply of this and other European markets, and all that is required is united action on the part of our people in growing only the best varieties, and *properly packing*, then they need not fear competition.

As I remarked before, this year has been a very exceptional one, and the low prices realized have been largely owing to circumstances beyond our control, but not likely to occur again soon, besides, the great depression which everywhere exists has reduced the price of everything beyond any previous experience.

Through the kindness of a friend in London I have been enabled to place some specimens of our best fruits in the hands of one of the

largest dealers in Antwerp. This will unquestionably lead to good connections and open up a new market for our fruit. Sir Charles Tupper has kindly offered every assistance in his power, in aid of the object of the fuller development of the apple trade. Trusting to this offer I have entered a strong *protest* (in behalf of the fruit growers of Nova Scotia) against the practice of the Customs Officers in opening every tenth barrel of apples in the search for dynamite. I admit this might be needful with reference to shipments from United States ports. But one scarcely looks for sympathisers with the *dynamite fiends* among Nova Scotia fruit growers. Sir Charles has promised to call the attention of the Government to this matter at an early day, and use all his influence to have some distinction made with reference to our fruit. I have placed a collection of some of our best varieties on exhibition in his office, and will place similar ones in the Canadian Office at Liverpool and elsewhere, when they will be most useful, of which you will doubtless hear again. Wishing you every success in your efforts to give your readers the current news at less than cost, and thanking you for your valuable space which only the importance of the subject to so many of your readers has induced me to intrude upon.

I remain, yours truly,

A. H. JOHNSON.

IN the autumn of 1884 an editorial appeared in the *Morning Chronicle* of Halifax, in which reference was made to the careless manner in which apples were packed for the Halifax markets. The statement was made, that at least one of the editors of that journal would contribute no more to the enlightenment of heathen abroad, while so many men at home needed to be taught of the error of their ways. The attention of the Fruit Growers' Association was called to the need of some system of inspection of apples, which called forth the following letter :—

To the Editors of the Morning Chronicle :

DEAR SIRS,—The editorial in your issue of 21st inst., referring to the necessity of apple inspection, was timely, and I am glad that the matter has been once more brought before the public. I am sorry that you were so unfortunate as to get apples so badly scamped, but if it will lead to the sending of a missionary to our valley to induce us to better things, you may not eventually regret your misfortune.

I fear that not even the Fruit Growers' Association can recommend a feasible plan of apple inspection. One must be very expert to pick over suitably, and pack carefully, twenty barrels of any kind per day, and when you consider that but a few weeks of the year can be devoted to the sorting of fruit, you will see that a small army would be requisite. Within five miles of where I write, we would need thirty inspectors at least.

The matter, however, is very largely in the hands of buyers. If these will refuse to purchase apples except under warrant, and when the fruit proves to be not as stated, return at seller's expense, and if buyers will give fair prices for warranted, and but small prices for unwarranted fruit, the inspection will regulate itself. Still, if it can be managed, inspection is desirable, and I am sure that our Association is ready to take any action practicable, but no suitable plan has been suggested, and we have none to offer.

J. R. HART,

President N. S. Fruit Growers' Association.

Bridgetown, Nov. 20th, 1884.

At this time, when our people are eagerly looking for information upon the culture of small fruits, the following articles seem peculiarly adapted to their requirements. The first two are from the pen of D. W. Beadle, Esq., Secretary of the Ontario F. G. A., and author of the *Canadian Fruit, Flower and Kitchen Gardener*, from which they are taken; the remainder are from the *Primer of Horticulture*, by Charles W. Garfield, Secretary of Michigan Horticultural Society, and were written at his solicitation.

THE CRANBERRY.

We desire to call attention to the cultivation of this fruit, believing that there are many acres now lying wholly neglected, covered with rushes, coarse grasses, stunted bushes, and possibly intermingled with vines of the cranberry, which are well adapted to its successful growth, and which, by the application of a little labor and capital, might be made to yield a handsome revenue. At present this fruit brings high prices in all the cities of this continent, selling readily at from eight to ten dollars per barrel; and should it ever happen that the supply becomes equal to the demand in America, the fruit can be put up in barrels and shipped with perfect safety across the Atlantic.

Cranberry plantations have been found to yield an average crop of one hundred bushels to the acre, taking one year with another, though it is no uncommon thing to gather two hundred and three hundred bushels to the acre. It is one of our hardiest fruit bearing vines, growing wild in many of our marshes; it is very prolific, requires but little care after being once fully established, and will remain without renewal on the same ground, and continue to bear abundantly for an indefinite length of time. The fruit is much esteemed and in good demand, and, when properly handled, will keep fresh a twelvemonth and bear transportation without injury.

In selecting a location for a cranberry plantation, it is highly important to avoid those places where the water must be stagnant,—such soil is sodden and cold, and the roots will rot in it. If it cannot be so drained that the water will be at least one foot below the surface of the soil, it is unfit for cranberry culture. Yet we have no confidence in an upland plantation. The cranberry is a semi-aquatic plant, and requires a constant supply of water, therefore, it is necessary to select a place that can be abundantly supplied. It is also very desirable in our climate that it should be well sheltered from cold, raw winds, and if it have a southern exposure so much the better. If it be possible to secure a piece of ground that can be overflowed at pleasure, having in reserve a sufficient body of water higher up, for this purpose, it will be of great advantage.

This may often be secured by erecting two dams, one above the cranberry beds and another below. By means of the upper dam a body of water may be kept always at hand, which can be let on to the cranberry plants at pleasure; and by means of the lower dam with properly arranged gates, the water can be kept on the beds at any desired level. In this way the plants can be protected from late spring frosts that would kill the blossoms, or from very early autumn frosts that would injure the fruit before it is fully ripe. During winter the water should be kept so deep that it will not be frozen through to the ground, and this way protect the plants from too great a degree of cold.

During the summer the water should be drawn off to about one foot below the surface of the beds, so that the roots may find moisture all summer, and yet the soil above not be filled with stagnant water. Again, the water should not be too cold, some locations that are supplied with water from springs in the adjacent bank are unsuitable,

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because the water is very cold. This may sometimes be remedied by cutting a ditch along the border, and drawing off the cold, icy spring water, or gathering it into a reservoir, where it will be warmed by the sun and air before it reaches the plantation. The soil must not be too rich. The vines may grow in good alluvial soils, and seem very flourishing but they will not bear fruit. Clay and marl are wholly unsuitable, and heavy soils in general are not adapted to the growth of this plant. Air, water, and pure sand form its food, and where these can be had in suitable combination it will thrive best.

Cranberry cultivators say that the best soil is beach sand. This is the soil of the celebrated Cape Cod cranberry plantations, either naturally, or supplied artificially. The sand is light and porous, admitting air and moisture freely to the roots of the vines, while weeds and grasses, which would choke them, can not grow in it. When beach sand can not be had, any clean sand—the more free from all mixture of vegetable matter the better—may be used. Some have found pure gravel—the cleanest is the best—to be a good substitute for sand. Next to beach sand is peat, and this is almost always present in wet ground. The peat requires some preparation before it is fitted for cranberry culture. The top turf requires to be taken off to a depth sufficient to remove all roots of grasses and weeds, and the bared surface left exposed to the action of the frost and weather for one year. This treatment will make it light and porous, preventing that caking and cracking which is sure death to the cranberry. Where the soil is not naturally either a sand or peat, and the location seems otherwise well-suited to the cultivation of the cranberry, it may be possible to supply pure sand or gravel. After taking the turf off from the beds to a depth that will remove all the roots of grass and weeds, the bared surface may be covered with sand to the depth of four or five inches or with gravel to about half that depth.

Overflowing the beds can be very easily effected if the arrangements in the way of dams already suggested have been provided. About the end of October is the proper time to let in sufficient water to overflow the plantation to such a depth that the water will not be frozen through to the ground during the winter. The water should be allowed to remain until such time in the spring, usually in May, as the weather becomes mild and vegetation commences, when it should be drawn off just to the tops of the vines. This will give the plants the benefit of the increased warmth of the weather, yet at

the same time protect them from frosts. The water can be allowed to remain at this point until the season has become so far advanced that the danger from frosts is past, and then it should be drawn off entirely. The necessity for this arises from the extreme sensitiveness of the blossoms, and the same is true of the unripe fruit to frosts. If it be possible to have a reservoir of water retained by a dam above the beds, with which to flood the plantation at will, the water may be drawn off earlier in the spring, and a longer season be thereby secured, than would be safe without such an arrangement; for, if a frosty night threatened after the water had been drawn off, the plants could be again covered with water from the reservoir, and thus kept safe from the frost. Again, in autumn, the unripe fruit could be protected from premature frosts, and sometimes the entire crop preserved, by letting on the water whenever danger of frost was apprehended at night, and drawing it off in the morning.

In this way, also, the plants may be protected from the ravages of insects. It is liable to attacks from two kinds of worms; one of these destroys the vines, the other the fruit. By submerging the vines for a few days, as soon as these begin to appear, they will be drowned out and the plantation preserved.

Planting the cranberry can be best done in the latter part of May or the beginning of June. The roots are placed in the soil, the vine spread out and covered so as to leave only the tips of the branches out. Set in this way each branch will form a plant. The closer they can be set the sooner they will cover the ground. The cranberry will also grow from cuttings. Some planters run the vines through a straw cutter set to cut them in lengths of about two inches, and sow these pieces broadcast over the ground. These are then well harrowed in, when they soon root, spring up, and speedily cover the ground. Others plant in drills, but the method pursued is of little consequence if the ground has been so thoroughly prepared before planting that there will be but few weeds to contend against. If the ground is likely to be full of weeds and grasses, it will be necessary to plant the vines in such a way that they may be thoroughly weeded out, for the cranberry is not able during the first year to choke them, but on the other hand is in great danger of being choked by them.

The cultivation is confined chiefly to the three years immediately after planting, and consists in keeping all grass and weeds from getting a foothold. The best method of doing this is not by hoeing, but by

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pulling the grass and weeds up with the hand, loosening the ground if necessary with a digging fork, so that the roots of the weeds may be drawn out entire. After the third summer the vines should have so fully covered the ground as to choke out all grass and weeds and require but little attention.

In selecting plants to set, care must be taken to procure fruitful plants, for there are plants which are very fine looking and vigorous, but which yield little or no fruit. In gathering plants from our marshes, some attention must be paid to this matter by noting during the previous autumn those which are fruitful, or labor and time will be both lost, and great disappointment follow.

THE RASPBERRY.

The varieties of the Raspberry in cultivation among us are derived either from the European or from the Red and Black Raspberries of America. Those that derive their origin from the European or from the Red American multiply by suckers which come from the roots, while those that spring from the Black Raspberry are increased from the tips of the canes, which, bending over until they reach the ground, take root at the extremities. In the autumn the suckers may be taken up from the parent plant with a spade, and those that take root at the tips of the new canes, may be removed by cutting *the rooted tips* off from the parent cane, and lifting *them* from the soil. These may be then planted out where they are intended to remain, and covered with coarse manure to the depth of five or six inches. Treated in this way they will make stronger plants during the next season than when set out in the spring. If the transplanting is done in the spring, the plants should be mulched to the same depth, as a protection to the roots against the heat of summer.

The raspberry produces the best and finest fruit in a deep, moist, and very rich soil, and whenever these conditions can be secured no difficulty will be experienced on account of the character of the soil. But it will be at once seen that such requirements can not be met in land that is badly drained, or where a hard unbroken subsoil is allowed to lie near the surface. There are places where the ground is naturally underdrained, the soil of good depth and great fertility, but these are highly favoured spots, and most cultivators will find it necessary to prepare ground by deep ploughing, the application of manures, and perhaps under-draining. If water stands in the soil at

a depth of eighteen to twenty inches from the surface, it must first be removed by underdrains, for nothing is more injurious to the raspberry than stagnant water at the root. This may seem strange to some, after having already said it delights in a moist soil, but plants make a great difference between moist and wet. A thoroughly under-drained clayey loam is the very best soil naturally for the most economical cultivation of this fruit. The plough should run as deep as possible, and if the plough can be followed by the subsoiler, right behind it, in the bottom of the furrow, so much the better.

The plants should be set in rows, six feet apart, and two feet apart in the row. Six feet may seem to be a great distance between the rows, but if the plants have proper culture it will soon be found not to be too much for convenient use of the cultivator. In a small garden, where the horse and cultivator cannot be used, rows may be set four feet apart. If set at two feet apart in the row, the plants will soon form a continuous hedge, and any suckers appearing between the rows, unless wanted for a new plantation, should be treated as weeds and thoroughly cut up.

The plants should be prepared for setting out, by cutting back the cane or top, to within three or four inches of the root. A growth of leaves or shoots is not wanted from this cane; such growth only serves to exhaust the plant; but what is wanted is a good strong growth of new shoots from the root. These will survive the winter and produce fruit the next summer, while all the growth from the top of old canes will only die when autumn comes, and if this top should bear fruit, as it very likely will, the effect is to exhaust the root and enfeeble, if not wholly ruin, the young root sprout that forms the cane for the next year. If no sprout comes from the roots, and survives the summer, though the top you plant may bear leaves, and shoot and fruit, in the autumn it will die and the whole plant with it.

The raspberry is a sort of biennial plant, the canes that come up from the root this season will bear fruit next summer and die in the autumn, and if from any cause no new canes come up during the summer to supply their place, there will be nothing to continue the plant another year and it wholly fails. For this reason it is best to cut away the top when planting, leaving only enough to show its position after it has been set out.

The cultivation during the first year after planting will consist in keeping the soil well stirred on the surface and free from weeds.

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Those who wish to economize ground and labor may plant bush beans between the rows, without injury to the raspberry plants. In the autumn or very early in the spring, but better in the autumn, the plants should be liberally supplied with barnyard manure spread on the surface over the roots. This should be allowed to remain there, becoming gradually incorporated with the soil by the tilling, and renewed as often as it becomes wasted, so that the roots may be kept cool and moist in summer, and protected from the extremes of the winter frost. During the first season's growth after planting, the young canes that come up from the root should be pinched off at the tip, with the thumb and finger, as soon as they reach the height of fourteen to eighteen inches, and any side shoots that may throw out should be pinched-in when they are a foot long.

In the second summer more and stronger canes will come up from the root. These may be allowed to grow until they are twenty-five to thirty inches in length, when they should be pinched in, and the side branches that may be thrown out should be stopped when they are from eighteen to twenty inches long. It will usually be found that the main canes will require to be pinched-in some time in June, and the side branches early in August; yet the cultivator will remember that this pruning is to be done not according to the almanac, but when the canes have reached the requisite length, be the month or day what it may. If the plants are thoroughly pruned in this way, they will be stocky and strong, capable of standing upright, and keeping their crop of fruit, as much as the plant ought to produce. As soon as the fruit has been gathered, the canes that produced it should be cut off at the ground and removed. They are of no further use, as the autumn comes on they will die, and by removing them as soon as the fruit is gathered, more room, light and air are given to the young canes that have come up during the season, and that are to bear fruit next year. And of these young canes, if any of them should be weak and slender, it is always advisable to cut them away also at this time, leaving only those that are vigorous and capable of supporting the crop of fruit.

In the autumn a further supply of manure should be furnished, and it may be here said, once for all, that this manuring should be performed every fall, and that he who does it with a liberal hand will be liberally rewarded in the quantity and quality of the fruit. Besides enriching the soil, the surface just over the roots and where the culti-

vator does not reach in passing between the rows, should be covered to the depth of four to five inches with coarse and barnyard litter such as straw, or corn stalks, or refuse hay. If these cannot be had in sufficient quantity, recourse may be had to rotten chips or rotten tan-bark, saw-dust or shavings, with which some ashes have been mixed. This mulching serves a very important purpose in preserving the plants in a healthy and vigorous state, and securing a large crop of large fruit.

In some parts of the Dominion, where the snow does not remain on the ground constantly during the winter, it becomes necessary to protect some of the more tender varieties. This is most conveniently and cheaply done by bending the canes carefully over, making the bend as near the ground as possible, and throwing a little soil on the tops. When the plants are ready to start in the spring they are gently lifted, the soil shaken off, and the canes fastened in an upright position by tying to a stake or trellis. When the ground is covered with snow to a depth of two or three feet all the winter, no such protection is necessary; and we have noticed that those plants, whose roots are well protected by a liberal mulching, are seldom injured by the winter, though there was often no snow at all on the ground. With proper attention to the pruning of the plants while they are growing and keeping the soil well enriched and the roots protected with a good mulch both winter and summer, there will be much less complaint of injury to the canes by the winter, and a fine crop of large and handsome fruit will well repay all the labor bestowed.

CURRENTS AND GOOSEBERRIES.

Mr. J. N. Stearns, of Kalamazoo, has very recent successful experience with these fruits, and we have been allowed to draw upon it as follows:—

We doubt if there are at the present time any small fruits more profitable for the family or market than currants and gooseberries, if the right soil and varieties are selected for planting. The old Red Dutch, White Grape, and Victoria, will do fairly well on dry soils, although currants and gooseberries of all kinds give best returns planted on rich, moist soils. It is useless to plant Cherry or La Versailles on light, sandy soil. But from years of experience with the above fruits, I do not hesitate to say that if the planter has soil that will produce a full crop of corn or wheat, and will plant the

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following varieties, and give good cultivation, he will be pretty sure to have a remunerative crop every year :—

For Currants—Red Dutch, Victoria, and White Grape. Gooseberries—Downing, and Smith's Improved. The old Houghton is too small and dark to sell well in the market. The Downing and Smith's are just as prolific, hardy, and free from mildew.

The Victoria currant holds its foliage much better than any other variety we have ever planted, making it very valuable in seasons when other varieties drop the foliage before fully ripening the fruit,—and in consequence the fruit becomes sun scalded. The currant may be readily propagated by making cuttings, say ten inches long and planting in the autumn ;—they should be planted down nearly the entire length, and a mulching of coarse manure spread over them, to prevent heaving through the winter. Cuttings put in in this manner will nearly every one grow.

Gooseberries are best propagated by layers. If the young wood is layered in July, just after the fruit is picked, it will be sufficiently rooted to plant out the next spring. Currants and gooseberries should be closely watched for the currant worm, which first appears in the middle of the bush. If attended to in time it can be quite easily kept off with white hellebore. We use a tin sprinkler made for potato vines. Open the bushes, put the sprinkler down in and thoroughly dust the middle of the bush.

Currants and gooseberries, like all other fruits, should be kept well pruned and thinned out.

RASPBERRIES AND BLACKBERRIES.

In arranging available information for the beginner in growing raspberries and blackberries, it is important that the personal experience of more than one successful grower be drawn upon. We first record the counsel of not only an experienced grower of berries for market, but a propagator of the newer varieties, Mr. Granville Cowing, of Muncie, Indiana. First

RASPBERRIES.

A rich, deep, well-drained loam is undoubtedly the best soil for the raspberry. It is sooner injured by excessive moisture than almost any other cultivated fruit, and in planting it, an elevated location should, if possible, always be selected. In planting Black Caps of

strong growth like Gregg, the rows should be at least seven feet apart, with plants three feet apart in the row. Between the rows Irish potatoes may be profitably planted the first year. Red varieties of the Antwerp type should be planted five feet apart, with plants two feet from each other in the row. Fall planting is recommended by a majority of growers, but my experience causes me to believe that the tips of Black Caps can be most successfully transplanted in early spring—mellow earth should be placed on the plants to allow the young shoots to reach the surface without difficulty. If properly pruned, the raspberry needs no artificial support. Plants of red and black varieties should, when two feet high, have the terminal bud nipped for the purpose of forcing a lateral growth, and thereby increasing the productiveness of the plant. Such shoots generally grow in a circle, and balance the plant when weighted with fruit. As all shoots do not begin to grow at the same time, repeated nippings, during the growing season, will be found necessary.

Black Caps are propagated from tips of the branches that should be covered with earth early in September to enable them to take root. About the end of October they should be taken up and "heeled in" on high ground, or allowed to remain where grown until spring, if not liable to be lifted by frost. All varieties that produce suckers may be propagated from root cuttings, treated in precisely the same manner as root cuttings of the blackberry. All dead wood should be removed as soon as convenient after fruiting terminates. This advice also applies to the blackberry, and is prompted by the belief that a dead branch largely taxes the vitality of living roots. Red raspberries are not as firm as Black Caps, and on that account are almost invariably sent to market in quart or pint boxes. The two bushel stand, containing four drawers, holding half a bushel each, is generally used in shipping Black Caps. Tyler and Souhegan are probably the best extra early Black Caps now cultivated. Tyler, on account of its superiority to Doolittle, is rapidly taking the place of that variety in the great raspberry plantations of New York, and Souhegan, a new introduction, is warmly commended by all who have tested it. Gregg is the very best late Black Cap ever cultivated, and who ever produces a better variety may well be proud of the achievement. Of well tested red varieties, Turner is the best extra early sort. It is very productive, of the most delicious flavor and perfectly hardy. Cuthbert has no equal as a very late red variety. It

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BLACKBERRIES.

A clay soil, naturally or artificially well drained, is most favorable to the blackberry. On such a soil its wood will often pass in good condition through frosts which would destroy the same variety in low, undrained ground. My observations in my own patches last spring fully satisfied me of this fact. As the soil best calculated to produce hardy, well-matured wood is often thin, it should be enriched and deeply ploughed before planting, to enable young plants to make a rapid growth and produce a crop as soon as possible. But for the production of large and luscious fruit, and to prevent the injurious effects of drought, annual top dressing between plants in the rows, of manure, leaves or straw should be given in sufficient quantity to smother grass and weeds. In planting, the rows should be seven and a half, or eight feet apart, with plants two feet apart in the row. If properly cultivated and pruned, such rows at the end of the third year from planting should resemble a well kept hedge, and barely allow a horse and plough to pass between without touching. I have often substituted root cuttings for plants, when the latter were scarce, and have found them to grow with much certainty—if kept in a cellar or buried beyond the reach of frost in well drained ground during the winter and planted early in spring. Such root cutting should each be two and a half or three inches long. A plantation from root cuttings would, of course, require one season more than thrifty plants to produce a fair crop. The blackberry does not produce a paying crop until it has been planted two or three years. To economize in time and labour it has always been my practice when planting blackberries to plant strawberries in the same row with them, and a row of strawberries midway between blackberry rows. My strawberries thus grown have in every way been equal to those grown alone in other patches, and have continued to yield good crops until finally smothered by blackberry plants. A mixed patch of this kind of an acre in extent planted four years, this year produced a fair crop of strawberries and more than an ordinary one of blackberries, and both varieties give promise of a good crop next season.

Sufficient cultivation between rows should be given to repress weeds and grass, but the ground should not be stirred after the first

of September, as it might induce a growth of immature wood unable to withstand severe frosts. All blackberry plants should have their terminal buds nipped when three feet high to force them to throw out lateral shoots. The more wood, the more fruit, and by this nipping the amount of wood is at least trebled, and as all canes do not shoot at the same time, repeated nippings, generally two or three will be found necessary during the growing season. A pair of flexible sheep shears is the best implement imaginable for such work. Blackberries should be allowed to remain on the bushes until sweet and ripe, and should not be picked oftener than twice a week, if intended for a home market. When picked the berries should never be exposed to a burning sun—as such exposure changes their colour from black to red, and gives them a bitter flavor. Blackberries are best shipped in two bushel stands. For a home market, the Hallock quart box, in a sixteen or twenty-four quart crate, is perfectly satisfactory.

I have tested almost every prominent blackberry and have found but three varieties hardy and profitable in Central Indiana. They are Snyder, Wallace, and Taylor's Prolific. I have cultivated them for several years and each successive crop has increased my good opinion of them. They are all wonderfully productive, vigorous, free from disease, and of the most delicious flavour. Snyder ripens first, berry of medium size, and of a brilliant black colour, and very attractive in appearance. Wallace is medium in ripening, berries large, plants on old roots more vigorous and stately than any other variety; young plants incline to droop. Taylor's Prolific is as late as Lawton in ripening, and is probably the most delicious blackberry now cultivated, berries rather above medium size and produced in immense clusters; young plants inclined to droop, but strong and erect when fairly established. The only new sort tested in this region that gives indications of being as hardy and valuable as the varieties I have named is Stone's Hardy, from Wisconsin. I fruited one year old plants of it, this season, and was much pleased with it, but must give it another trial before coming to a conclusion concerning its merits. I have tested Early Harvest for three seasons, and have found it too tender for this latitude.

In our own State we have a most successful market grower in Evart H. Scott, of Ann Arbor. It is said of him by growers that compete with him in the markets, that he always gets a little better

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rates than the market reports indicate as the prevailing prices. We have drawn from him the following words concerning his practice in growing

RASPBERRIES FOR MARKET.

A person starting out in the culture of raspberries should select a rather high, rolling piece of land. I prefer a stiff clay loam, moderately rich, to any other soil, for the reason mainly, that in time of drought it holds moisture better than a lighter soil. If the piece selected is not well drained, I should, before setting a plant, have it thoroughly drained.

After selecting location, the next thing is the varieties to plant. Of the red, I would recommend Turner and Cuthbert. The Turner is a moderately early berry, very hardy, bright color, and of good flavor. The Cuthbert is a little later than the Turner, of larger size, hardy and sells at the highest market price. Of the newer varieties, Hansel and Superb are promising and very early.

Of the Black Caps I would recommend Souhegan and Tyler for very early, and Gregg for late. There is a new variety that I have thoroughly tested, which is a wonder in its way, I refer to Shaffer's Colossal. The plants are propagated from the tips and their fruit is red, becoming purple when very ripe. I have found it the best canning raspberry on my place. When plants are received, if not ready to set out at once, heel them in the ground. Mark off the rows either with a one horse plough, or by running a line and digging holes with a spade. The rows should be at least five, nor more than six feet apart, and the plants set from two and one-half to three feet in the row. Be careful and not set the black cap varieties too deep, especially on heavy soils. The crown of the plant two or three inches below the surface is about right.

The red varieties can be set at the same depth as they were when taken up. Press the dirt firmly around each plant, drawing a little loose dirt around afterward. I have found spring by far the best time to set plants; if set in the fall, mulch with some coarse material, and mound the dirt over each plant to keep from heaving.

Now keep the soil well cultivated, the oftener the better, until about the first of August of the first year; after that do not cultivate after fruit begins to ripen. For working among the rows I use a

common spading fork ; it does not cut the roots but pulverizes the ground well. Hold it in a perpendicular position and work it around ; do not put it under and raise the roots.

When plants get about two feet high, pinch the tips off ; this makes them grow branching and less liable to be broken and twisted by the wind. As soon as possible after the fruit is all picked, remove the old canes and a portion of the new ones, leaving the strongest for bearing next year. For removing the canes I use a piece of steel about the width of a pruning knife blade, curved into a hook and fastened into a handle about two or three feet long. This is the best instrument for the purpose. Very late in the fall or early in the spring, cut back from one-quarter to one-third of the new growth. For this purpose I use a pair of steel shears, the blades of which are about one foot long and about one to one and a half inches wide, filled into light wooden handles. With this tool a man can do a large amount of work. Cut the small canes farther back in proportion to the larger ones.

In marketing, select the man or firm which, upon careful enquiry, you find the most reliable. Then if you pack your fruit honestly, which you should make a point always to do, and raise choice fruit, which you can certainly do if you give it proper care, you will reap a good harvest.

Wishing also to get something for our beginners from Mr. Scott's experience in

BLACKBERRY CULTURE.

He gave in response to enquiry a note as follows :—

For blackberries, select a high location. Heavy, well drained soil is much preferable to light soil. Use the same care in the selection of varieties, setting of plants, thorough cultivation and pruning as in raspberries. Rows should be from seven to eight feet apart, and plants should be set two and a half to three feet in the row. Do not set any tender varieties. Snyder and Taylor's Prolific I have found the hardest I have tested. The Snyder is quite an early variety and enormously productive. For that reason the canes must be thinned and pruned closely. Taylor's Prolific is later and a very fine quality. The blackberry, if kept in proper shape and well cared for, is very profitable, even more so than the raspberry.

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THE STRAWBERRY.

MR. PARKER EARLE, of Cobden, Illinois, who has at this writing, a strawberry field of eighty acres, and who has grown into this immense business from a small beginning, favors us with the following:—

HINTS TO BEGINNERS.

Strawberry growers are to be considered in three classes: 1st, those who grow the fruit simply for the pleasure of it and for home use; 2nd, those who grow for a very near market; 3rd, those who grow berries for distant shipment. Any advice given to a beginner should be based upon a knowledge of these facts, and of the soil to be used.

Pretty fair crops of strawberries can be grown upon almost or quite every kind of soil which produces common farm crops. But on some soils the berries, though looking and tasting well, will not keep well and cannot be marketed at a distance. I will not undertake to say what soils will develop this fault. I have grown berries on a poor, sandy soil, which would not endure shipment a hundred miles; while on land looking no better, crops have been grown possessing great endurance and shipping capabilities. The variety in both cases was the Wilson. I cannot say what element was lacking in the one case which was present in the other. My impression is that good clay loams will generally produce better berries for eating or marketing than sandy or black prairie lands. Yet it is probably a fact that more strawberries are grown on sandy soils, in the United States, for market, than on all other kinds of land. It would be well always to experiment carefully before planting largely for distant shipment. So far then as the soil and the management are concerned, the first two classes may be considered as one. But the grower for market must consider the taste and the whims of the market, as to varieties. The grower for home use will be more particular to have varieties good to eat than those simply big or handsome; while the market grower will soon learn that fine appearances count for more than good eating qualities. People who buy fruit of any kind or in any market, so far as I can learn—I speak of the majority of buyers—pay more for beauty than for flavour. Hence, the Monarch of the West, a very high flavoured berry, which colors very poorly, will generally be rejected, while the Wilson or Captain Jack, both very sour, but coloring well, will sell promptly.

It will be best for the beginner to plant those kinds known to succeed well in his neighbourhood, if he can learn this fact, and known to be popular in his market, if he grows for sale. Plant two or three varieties only, if for market, but experiment moderately with others. If Pistillate varieties are selected, they must be set in alternate rows or narrow beds, with perfect flowering kinds. But different sorts must not be allowed to run together, and they should be kept entirely separate in the picking.

The grower for a distant market, or when the fruit is to be kept for a day or two in the ordinary temperature of summer, is limited by those conditions in his choice of kinds. He must have sorts which endure well, and which are comparatively firm. The list of these sorts is a short one. For this purpose the Wilson stands first, the Captain Jack next, I can almost say last. I speak of kinds generally introduced. Other and larger kinds endure shipment pretty well, while the weather is quite cool, but very few of them bear long transportation in hot weather.

Now to begin with the beginner at the beginning of a strawberry plantation: first, take good land, if you can get it; if not, select then the best soil you can command—such as would grow good potatoes or corn. Plough it well in the fall, plough it well in the spring; good, common ploughing will do. Don't fool away money in trenching or deep sub-soiling, unless you like to plant in the spring, not in the fall, not in the summer. In setting plants don't follow any aristocratic direction. Don't dig a hole, then make a mound in the hole, then spread the roots equally all around that mound, and then sift in the earth through a sieve, as some good people say; that will do for a dozen plants, but it is too slow for large quantities, and a fast, easy way is just as good.

Your ground being well prepared, ploughed, harrowed and rolled, mark off carefully for the rows. Your plants being well trimmed, should be dipped in water and placed in a pail. An active boy should take the pail of plants and place them deftly in openings which you make with a spade. Thrust the spade in before you at an angle of forty-five degrees; the boy puts in the plant, while you withdraw the spade and press the earth firmly over the roots of the plants with your foot. If not clearly described this is easy to do, and a man and a boy can set four or five thousand plants, in a day in good shape.

Your field planted, cultivate carefully and thoroughly, but very shallow next the plants. Do this all summer, let no weeds grow. Let as many runners grow as will make a narrow matted row; cut the balance; keep the middle clear all the time; mulch in the fall heavily between the rows, lightly over the plants. Don't disturb them in the spring.

If you pick for market, pick every day; put no poor ones in the boxes. If you eat these berries you will be glad you planted them; if you sell them, I hope you will get well paid for it.