

C. A. Paterson

REPORT

OF THE

FRUIT GROWERS'
ASSOCIATION

AND

INTERNATIONAL SHOW SOCIETY

OF

NOVA SCOTIA,

FOR THE YEAR

1874.

PRINTED BY ORDER OF THE LEGISLATURE.

HALIFAX, N. S.

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*Fruit Growers' Association and International
Show Society of Nova Scotia.*

Patron.

His Honor The Honorable ADAMS GEORGE ARCHIBALD, Lieutenant Governor.

OFFICERS AND COUNCIL FOR THE YEAR 1875.

President.

CHARLES COTNAM HAMILTON, M. D.,.....Canard, King's Co.

Vice-Presidents.

GEORGE A. S. CRICHTON, Esq.....Dartmouth, Halifax Co.
JOHN OTIS KING, Esq.....Windsor, Hants.
LEANDER RAND, Esq.....Canning, King's Co.
AVARD LONGLEY, Esq., M. P. P.....Paradise, Annapolis Co.
HON. COLIN CAMPBELL, M. P. P., M. E. C.....Weymouth, Digby Co.
CHARLES E. BROWN, Esq.....Yarmouth Co.
JACOB KEMPTON, Esq.....New Caledonia, Queens Co.
MATHER B. DESBRISAY, Esq., M. P. P.....Lunenburg, Queens Co.

Honorary Vice-President.

ROBERT GRANT HALIBURTON, M. A., F. S. A.....London, England.

And all Vice-Presidents of the "Eastern Counties Fruit Growers' Association" to hold the same standing in this Association.

Honorary Secretary.

JOSEPH R. HEA, D. C. L.....Wolfville, Kings Co.

Corresponding Secretary.

D. HENRY STARR, Esq.....Halifax.

Recording Secretary and Treasurer.

ROBERT W. STARR, Esq.....Port Williams, Kings Co.

Auditor.

GEORGE V. RAND, Esq.....Wolfville, Kings Co.

Council for Halifax.

HON. P. CARTERET HILL, Provincial Sec'y. COLONEL J. WINBURN LAURIE.
HERBERT HARRIS, Esq.

Council for Hants.

ANDREW H. JOHNSON, Esq. GEORGE WIGGINS, Esq.,
W. H. ALLISON, Esq., M. P. P. JOHN H. HART, Esq.

Council for Kings.

CHARLES F. EATON, Esq. EDWIN JOHNSON, Esq.
EDWIN CHASE, Esq. ISAAC SHAW, Esq.
WILLIAM H. O. HALIBURTON, Esq. JOHN H. SHAW, Esq.
LEAD BENJAMIN, Esq. JOHN G. BYRNE, Esq.

Council for Annapolis.

H. H. MORSE, Esq. JAMES HORSEFALL, Esq.
THOMAS W. CHESLEY, Esq. CHARLES B. WHITMAN, Esq.
DELANCY HARRIS, Esq. REV. HENRY DEBLOIS.

Standing Committee on Fruits.

C. C. HAMILTON, R. W. STARR.....Kings.
AVARD LONGLEYAnnapolis.
CHAS. E. BROWN.....Yarmouth.
ANDREW H. JOHNSON.....Hants.

Standing Committee on Publications.

J. R. HEAL.....Wolfville.
C. C. HAMILTON.....Canard.
R. W. STARR.....Port Williams.

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FRUIT GROWERS' ASSOCIATION.

TO THE HON. THE PROVINCIAL SECRETARY :—

Sir,—I have the honour to submit for your inspection the report of the proceedings of the Fruit Growers' Association and International Show Society of Nova Scotia, for the past year.

In addition to the several reports of officers and committees, you will please find the report of the Fruit Committee of the Massachusetts Horticultural Society, on the collection of fruits sent from the Provincial Exhibition, (held in Halifax last October,) to Boston for comparison and nomenclature. Also several original papers and essays on Fruit, and Fruit Culture.

The Association is laboring under the want of sufficient funds to carry out the objects for which it was organized, not having been able hitherto to publish its reports and proceedings except through the medium of the newspapers. The Council have this year taken a new departure and have prepared this Report for publication, and, in addition to the usual grant, they respectfully ask Legislative assistance to print it for gratuitous distribution.

Annexed you will find an estimate of cost.

I have the honour to remain,

Your obedient servant,

R. W. STARR,

Sec. F. G. A

Port Williams, March 22, 1875.

THE ANNUAL MEETING

Was held at Wolfville, in the Temperance Hall, on Wednesday, Jan. 20th, pursuant to the usual call. The attendance was very good considering the inclement weather and the bad state of the roads.

In the absence of the President and Vice-Presidents, the Honor-

ary Secretary, J. R. Heath, D. C. L. was unanimously called to the chair. On taking his seat, he gave some interesting reminiscences of his late visit to London, and especially of the Fruit Markets, and the favourable prospects of introducing our Fruit there, if properly put up and transported.

The Secretary read the minutes of the last Annual and Quarterly meetings, which were approved.

The Treasurer read the Finance Report as audited, which was received.

The Secretary then read Report of Proceedings of past year.

The Chairman read a letter from the President, Dr. Hamilton, regretting his unavoidable absence from the meeting, it being the first time since the formation of the Association in 1863, and promising the Annual Address in time for publication in the Report.

Also another from the same, dated Boston, Mass., containing a request from the President of the American Promological Society, that we should name a committee to "Star" the Nova Scotia Fruits for their published lists. Referred to the Standing Committee on Fruits—to report at the April meeting.

The Secretary read the Report of the Fruit Committee of the Massachusetts Horticultural Society on the collection of Apples and Pears, sent from the Provincial Exhibition at Halifax last October for examination, comparison and nomenclature. Also a letter from a London firm of Fruit Brokers, on the subject of putting up Fruit for that market.

The subject of the next Annual Exhibition was left in the hands of the Council, to report at the April meeting.

The subject of Pear culture was then taken up and discussed in a conversational manner for some time, until the Chair called to order, and the election of Officers was proceeded with as before stated.

On motion, adjourned to call of the President.

REPORT OF THE SECRETARY.

Mr. President and Gentlemen:—

In making this my first report of the proceedings of the Association, I am much pleased to be able to state that on the whole we may consider the year's transactions as successful as we could have anticipated; the Association having had much to contend with in the apathy and want of interest evinced by the majority of its members; which no doubt was partly occasioned by the omission of our usual Exhibition in the Fall of 1873.

At the Annual Meeting in January, 1874, this was very much felt, and seemed to throw a damper over the whole proceedings of the day; but as the year passed on and the arrangements for the Show of Summer Fruits and Flowers were made public, much of the old interest appeared to return, and some new members were added to the list.

The Spring Meeting was held in Berwick, on the 8th of April, and was very well attended, the members present appearing to take much interest in the business of the day and in the discussion of various topics connected with Fruit and Fruit Trees.

The President was in the Chair and gave some interesting reminiscences of his visit to Boston during the previous Autumn, to attend the meeting of the American Pomological Society.

The Secretary being in his place brought up the different items of business necessary, which were duly attended to.

Among other things it was decided that the Association should exhibit a collection of Fruits at the Provincial Agricultural Exhibition in Halifax in October, and the Council were instructed to make the necessary arrangements to secure a creditable exhibit of the Fruits in season.

The Summer Meeting was convened at the Court House, in Annapolis, on the 24th of July, at one o'clock.

The President called the meeting to order and stated the objects for which we were working and the good results that had already proceeded from those efforts.

After the usual routine business had been transacted, the President read an extract from a letter from the Secretary of the

Board of Agriculture, conveying the request of that body "That the Fruit Association should take some action on the classification of Apples into Autumn, Early Winter and Long Keepers, so that it might be published for the guidance of intending exhibitors and judges, and tend to prevent confusion in the collections called for by the prize list of the Provincial Exhibition."

After mature consideration of the subject it was decided to name short lists of Apples ripening from the 1st of October to the 1st of December for Autumn, from the 1st of December to the 1st March for Early Winter, and from the 1st of March onwards for Long Keepers.

List:—

AUTUMN.

| | |
|----------------------|----------------------|
| Gravenstein. | Drap d'Or. |
| Chenango Strawberry. | Fall Jenneting. |
| Porter. | Munson's Sweet. |
| St. Lawrence. | Calkin's Early. |
| Emperor Alexander. | Chebucto Beauty. |
| Fameuse or Snow. | Striped Gilliflower. |

EARLY WINTER.

| | |
|-----------------------|----------------------------|
| Ribston Pippin. | Gloria Mundi. |
| Blenheim Pippin. | King of the Pippins. |
| Yellow Bellefeur. | King of Tompkins Co. |
| Blue Pearmain. | Westville Seek-no-further. |
| Esopus Spitzenburg. | Pomme Grise. |
| Hubbardstons Nonsuch. | Calkin's Pippin. |

LONG KEEPERS.

| | |
|---------------------------------|------------------------|
| Nonpareil Russett. | Baldwin. |
| Roxbury Russett. | Rhode Island Greening. |
| Golden Russett. | Flushing Spitzenburg. |
| Golden Russett of Western N. Y. | Talman Sweet. |
| Cooper's Russett. | Broadwell. |
| Northern Spy. | Green Newtown Pippin. |

These lists merely embrace some of the most common and best known varieties in each class, but will furnish sufficient data for exhibitors to make up their collections.

The Secretary was requested to furnish the Board with a copy of the above for publication.

Before adjournment, an invitation from a committee of gentlemen of the Town, was given to all the members present to attend a *conversazione* at 7.30 that evening, to be held in conjunction with a show of Fruit and Flowers in the Court House.

CONVERSAZIONE.—On arriving at the Court House at the time appointed, we found it brilliantly lighted and very well filled with the élite and beauty of the Town, who were busily employed in examining and admiring the different Fruits, Flowers and Vegetables, arranged on the tables and stands prepared for the purpose.

After a considerable time had been devoted to that object and to general conversation on the merits of the different articles exhibited, the meeting was called to order, by appointing P. Bonnett, Esq., High Sheriff of the County, to the chair. On taking his seat, the chairman spoke of the great pleasure it gave him to meet with prominent Fruit Growers and Horticulturists from other parts of the Province, and bade them a hearty welcome to "The Old Town of Port Royal." He then called upon the President of the Association, Dr. Hamilton, to address the meeting. The President spoke for some time, reviewing the rise, progress and labors of the Association, shewing that it was not merely a local institution, as some persons had intimated, but that it embraced the whole Province, and was free for all to join and participate in. He was followed by several other gentlemen, and the speeches were interspersed with music from a large cabinet organ which was played with much taste and expression by a young lady.

THE EXHIBITION.—The impromptu show of Fruit, Flowers and Vegetables was certainly very fine, considering the want of time for preparation, and that there were no prizes offered to stimulate exhibitors. Some of the Fruits were exceptionally large and fine. In Cherries, the most noticeable were Belle de Choisy, Waterloo, Bigarreau or Yellow Spanish, Black Tartarian, Black Heart and Starr's Prolific. Several seedlings were shown that gave promise of good qualities, but were generally late and not fully ripe. Several dishes of Strawberries, Triomphe de Gana, Jucunda, and Wilson's Albany, were well grown handsome fruit. In Currants, Red and White Dutch and White Grape were shown in great perfection. Two or three dishes of Gooseberries, large

and well grown, but not quite ripe, made up the collection of Fruits.

Among the Flowers, the most prominent feature was a stand of Window Plants, of some fifteen or eighteen varieties, most of which were in bloom, and showed signs of skill and care in the cultivation. One of the Plants, a magnificent "Silver-leaved Holly," trained to a screen, excited universal admiration. Several bouquets and baskets of Roses and mixed blooms were fine and well arranged. Next came a fine assortment of garden vegetables for the season—excellent Cauliflower and Cabbage; very large crisp heads of Lettuce; good Beans and Peas; large and handsome Beets, and extraordinary "Early Rose" Potatoes—all combined to prove that the enthusiastic reports of the early French adventurers as to the fertility and warmth of soil and climate of the then infant colony of "Port Royal," was not without substantial foundation.

Taking everything into consideration, the Exhibition was a credit to those concerned, and it would be well to consider if something of the kind could not be gotten up at all our quarterly meetings, in order to make them more attractive and interesting to the public.

THE SEPTEMBER EXHIBITION.—The Fruit and Flower Show at Wolfville on the 16th and 17th of Sept., was on the whole more successful than we had reason to anticipate, as the Plums, which were expected to take the most prominent place in the Exhibition when the prize list was made up, were so general a failure, that at one time it was feared that there would be none to show. The season also was very backward, and the Early Autumn varieties of Fruits were immature and not perfectly grown or coloured. As it turned out however, of the sixty-eight prizes offered for Plums, thirty-eight were competed for and awarded, and eighteen gratuities granted by the Council for separate dishes or sorts for which no prizes were offered.

Pears were a more abundant crop, and consequently we had more in proportion to the number of prizes offered, than of Plums; yet strange to say, one of the most common varieties of Summer Pears, and one also that was just in season, the "Burbidge" was not on exhibition. Twenty-six of the thirty-five prizes offered were awarded, and eight gratuities granted by the Council.

For Apples and Crabs there were some fifty-six prizes offered; of these thirty-two were competed for, and sixteen gratuities granted for sorts not coming within the list for which prizes were offered.

The collections of Garden Vegetables were considered very good for the season, and seemed to attract a great deal of attention. There were six competitors for the four prizes offered. The first prize collection contained twenty-four separate varieties of vegetables, and the second about thirty.

Plants and Flowers.—The greatest amount of interest appeared to centre around the Flower stands, and the Association may well be congratulated on the success attending its first attempt at a Floral display. We hope it may not be the last, but that at each succeeding year the newly awakened interest in Floriculture may be so fostered and encouraged that every home throughout our country may be beautified, and its occupants made happier and better, in enjoying the luxury of possessing and cultivating those, the most beautiful of all the gifts of our Almighty Father.

In this class, there were forty-five prizes offered. Twenty-four of these were competed for and awarded, and three gratuities granted by the Council for single bouquets of flowers that had received honorable mention from the judges. The Council also awarded gratuities for a dish of very fine Peaches "Royal George" grown in a cold house, and for an exhibit of Grapes in pots.

Application having been made for space to exhibit Sewing Machines and Musical Instruments, &c., it was considered advisable to admit them so far as we had room to spare for the purpose. Two different makers availed themselves of the privilege, and on the second day of the Exhibition the Gardiner Manufacturing Co. of Hamilton, Ont., through their Agent, Mr. Chisholm, presented the Association with one of their latest improved "Royal" Family Machines as a premium to be competed for at our next Annual Exhibition, on such terms as the Association may deem advisable. This handsome donation was received with suitable acknowledgements, and is carefully stored for the next annual show, when it will be competed for.

R. W. STARR,
Recording Secretary

TREASURER'S REPORT.

Mr. President and Gentlemen :—

I have to report the state of the Finances of the Association for the year ending 31st December, 1874, as follows :*—

| | |
|---|----------|
| To Cash recd. from Members..... | \$116.00 |
| “ “ Grant from Legislature..... | 200.00 |
| “ “ at Exhibition in Wolfville in Sept | 220.73 |
| “ “ Prizes taken by the Association at Provincial Exhibition..... | 80.00 |
| | \$616.73 |

| | |
|--|----------|
| By Sub. to Provincial Exhibition Fund..... | \$100.00 |
| “ Prize List Sept. Exhibition..... | 182.00 |
| “ Expenses of Exhibition | 177.40 |
| “ Printing, Postage, Stationery, &c..... | 39.20 |
| “ Expenses of collecting Fruit for Prov. Exh... .. | 35.75 |
| “ Secretary's Salary..... | 50.00 |
| “ Balance on hand..... | 32.38 |
| | \$616.73 |

R. W. STARR,
Treasurer.

Examined and found correct,

GEO. V. RAND,
Auditor.

* NOTE.—The balance on hand at the close of the previous year was appropriated towards rent of Exhibition Building in Wolfville.

REPORT OF COMMITTEE ON FRUITS.

Mr. President and Gentlemen :—

The season of 1874 was a somewhat remarkable one; the month of March being very mild and warm for this latitude, but during April, May, June and the early part of July, there was a prevalence of cool, damp, cloudy days, with east winds and cold nights. The latter part of August and the first three weeks of September were also cool and cloudy with but little sunshine; but the weather during October and November was exceptionally bright, warm, and pleasant, with no frosts to injure hardy fruits until quite late. The effect of these atmospheric peculiarities was to render all kinds of Fruit from ten to twenty days later in ripening than usual, and also to account, in a measure, for the want of the usual brilliancy of colouring, and the lack of flavour, noticeable in many varieties of Summer and Autumn Fruits.

Notwithstanding all these drawbacks, the Fruit Exhibitions of 1874, have been on the whole quite equal to, if not above, the average of previous years.

STRAWBERRIES.—The cold, damp weather of May and June was unfavourable for the developement of this fine fruit, and most cultivators were disappointed in securing a remunerative crop; and from the information we have been able to collect, we think we may be safe in estimating the crop at one-half the usual quantity per acre.

Wilson's Albany still seems to be the leading market berry, and next to it *Triomphe de Gand* holds the highest place, closely followed, in the opinion of many, by *Jucunda*, *Jenny Lind* and *Agriculturist*.

CHERRIES.—The crop of this fruit was more than an average one throughout the Kings and Annapolis Valley, but was from eight to ten days later in ripening than usual. In some instances the crop was extensively injured by the *curculio*; one case being that of a tree of "*Early Purple Guigne*" that stood near several plumb trees, and matured a fair quantity of fruit, not one of which was perfect; all were bitten and wormy. The lesson to be learned

from this is that we must attend to the Cherry trees as well as the plumb if we wish to subdue the *Curculio*.

The old standard varieties, Black Tartarian, Black Heart, Yellow Spanish and Waterloo, still appear to hold their own in the estimation of most growers, while many newer varieties have been tried by different persons with good success. Starrs Prolific still holds its rank as one of the most hardy and profitable of all cooking varieties, the original tree having been loaded with fruit as usual.

CURRENTS.—For some years past the Currant crop has been almost a total failure owing to the ravages of the currant worm, combined with the Borer; but the pest seems to be abating and several cultivators were successful in getting good crops on young bushes that were carefully looked after and attended to. There is no reason why the cultivation of this valuable fruit should be given up; a little attention given to the destruction of the first instalment of worms, by dusting the bushes with powdered white Hellebone will usually save the crop of fruit; and as to the other pest, the Borer, a careful pruning and burning of the affected branches will generally keep them in subjection.

The sorts mostly grown are Black Naples, Red Dutch and White Dutch. The newer sorts as "Cherry" la Versaillaise, and White Grape, being much larger and of finer appearance are of course more profitable as market varieties, but it is doubtful if the quality is any better.

GOOSEBERRIES.—Have become very scarce since the advent of the currant worm, but some few determined and persevering men have preserved their bushes, and have been rewarded with large crops of fruit. Houghton's Seedling and the Hybrids of that class are reliable as croppers and are free from mildew; while most of the finer English sorts do admirably, if kept well pruned and cleanly cultivated.

RASPBERRIES—are but little grown, we are sorry to say; the old White Antwerp was formerly found in almost every garden, and is yet found in many places; but is not grown to any great extent; it is very hardy, but is not as productive as many other sorts. The Reds are generally preferred, and there is no reason why they should not be found a profitable market crop. Black Caps so far have proved a failure and do not pay for cultivation.

BLACKBERRIES.—We are afraid that this fine fruit will not be cultivated to any great extent, so long as they continue to grow so luxuriantly by every fence and stone heap throughout the country. There is, however, a great difference in these wildings; the common Red-caned, or High bush variety, with strong upright habit of growth, frequently winter kills down to the snow line, and the fruit is usually rather inferior, having a good deal of core. There is another variety, not so common, with green canes and a much more feeble habit of growth, bending over so that often the tips of the canes touch the earth; these are seldom winter killed, and usually fruit heavily, giving large well formed, good flavoured berries. Lawton is tender, but if protected, gives magnificent fruit. The crop was more than ordinarily good, and continued to hang and ripen until late in the Fall, there having been no frosts to injure the fruit.

PLUMS—were generally a failure this season. In the Spring almost every tree was fairly sheeted with blossoms, but just as they were fully developed, a cold wind, accompanied by heavy rain, swept over the Province, and fairly tore them from the trees, so that only in a few very sheltered situations, or on a few late blossoming varieties, was there any quantity of fruit set.

This season has also been remarkable for the more than usual prevalence of the Black knot; in several instances, where but slight symptoms of it had been previously observed, the trees are fairly loaded with the unsightly fungus. The probabilities are, that the cloudy damp weather so prevalent during the early part of the summer, stimulated the spores, deposited during the previous season, into active life much more successfully than if the weather had been dry, bright and sunny.

The ravages of the Curculio have been more apparent during the season than usual; from the fact of there being so few plums for them to work at, it seemed as if there were more bugs than fruit, and their depredations were, of consequence, more observed than usual. Hitherto it has frequently been the case that the few Plums destroyed by the Curculio rather benefitted the crop than otherwise, by thinning out the over crowded fruit. This year there was no necessity for thinning, and the "Little Turk" got small thanks for his labors.

The Exhibition of the Association at Wolfville, Sept. 16th and 17th, brought out a much greater number of Plums than was anticipated, considering the general failure of the crop. The number of varieties shown were about thirty; of these, some twenty were well known sorts; the rest were new varieties and seedlings. Several dishes of Washington were fine. The Green and Imperial Gages were very good. Drap d'Or, although large and handsome, lacked firmness and flavour; this doubtless was owing to the cool damp weather which seem to effect the quality of this variety more than almost any other. Prince of Wales, Smith's Orleans, Sharp's Emperor, Duane's Purple, and Lombard were well represented and good specimens. Yellow Egg or Magnum Bonum, although not fully matured, were out in force, there being no less than fifteen single plates, showing well for the season. Coe's Golden Drop, Red Gage, and Reine Claude de Bavay were also shown and gave good promise for maturity. Among the kinds not so well known were Bradshaw and Pond's Seedlings, large and handsome varieties that attracted a great deal of attention.

The number of single plates was 85, and among the collections were 70 more, making in all 155 plates of Plums on exhibition.

PEARS.—The crop this season was much larger than usual, the trees having blossomed a day or two before the Plums, seem to have escaped the effects of the storm in a measure. This was observed to be the case, wherever the trees were protected by shelter, or on early soils; but on very exposed situations, late soils, or with late blossoming varieties, the results were the same as with Plums. The cultivation of Pears has largely increased during the past few years. This is especially noticeable with regard to dwarf trees, as they come quickly into bearing and are easily taken care of, the soil being kept well manured, usually cropped with potatoes.

At the September Exhibition, there was 86 separate dishes of Pears shewn, 36 of which were in collections. As to the varieties, Maria and Bartlett seemed to take the lead, both as to quantity and quality, both being large and fine. Several plates of Osband's Summer were well grown and high coloured. Frederick of Wurtemberg also was large and handsome; Flemish Beauty, very fair

and good, but not fully grown; Great Britain, fair size, but immature; Summer Bell large and handsome, with bright red cheek. But the Pear that received the most attention and the highest commendation from both judges and visitors, was two dishes of Clapp's Favorite, fruited and shown for the first time in the Province. Several of your committee had seen the variety at Fruit Exhibitions in Massachusetts and in Maine, and were agreeably surprised to find that both in size, form, and coloring, the specimens shown would compare favourably with anything that they had before seen of the sort. This is a good beginning, and if the variety will continue to do as well, it will prove one of the most valuable of summer fruits.

APPLES.—The crop of this valuable fruit was very large; from one-quarter to one-third more was harvested the past season than was ever known before. This has of course affected the price in some degree, but notwithstanding this, the returns have been much larger than usual.

The peculiar atmospheric conditions of the season had of course a great influence upon the season of ripening of the different varieties. The Summer sorts being crowded back into early Autumn, they again into Fall, and the Fall sorts into Winter. While the warm dry sunny weather of October brought the Winter varieties up to their usual average of maturity.

At the September Exhibition, the show of Apples was not large in comparison with the later Provincial Exhibition held in Halifax in October; but as only the Apples in season had been called for, the display was as good or better than expected.

Among the most noticeable varieties, we mention Red Astrachan, large, well coloured, with a rich bloom, 10 doz. shewn; Early Harvest, good, very free from spot or mildew, 6 doz.; Early Bough, very large and fine, 15 doz.; Chenango Strawberry, good, 14 doz.; Gravenstein, 21 doz.; Alexander, 7 doz.; Porter, 5 doz.; William's Favorite, 6 doz.; Duchess of Oldenburg, shewn for the first time, promises well; Sutton's Early, a new variety, originated by William Sutton of Cornwallis—a large showy white apple, with a blush on the sunny side, and sometimes netted with russett, ripening with or before Red Astrachan, and hanging well

on the tree. Your committee think it will prove a valuable addition to our Summer varieties, and recommend it for trial.

The total number of dozens shown on the tables at Wolfville was 207.

At the Provincial Exhibition in October the Autumn varieties were generally very well grown and coloured, Gravenstein still deservedly holding its place in the front rank of our market varieties of the season, finding a place in almost every collection, and showing a large number of dozens for the separate prizes—an indication of the value in which it is held by our best growers. A singular Sport of this variety was shown from the garden of H. B. Witter, Esq., Wolfville. In size, form and flavour there was nothing remarkable to distinguish the specimens from others of the same variety; but the colour was an intense brilliant red, covering nearly the whole surface of the Apple. From careful enquiry we find that the peculiarity has been observed for several years, and that a part of the branches are much more pronounced in the variation than the rest. Means have been taken to perpetuate and propogate the Sport, and if successful we will have gained an interesting and valuable variety.

“Chebucto Beauty,” from its large size and magnificent coloring, attracted much attention. “Porter,” although not generally as profitable as Gravenstein, is thought highly of by many cultivators. “St. Lawrence” is coming rapidly into favour as a hardy variety with first rate table qualities, and “Chenango Strawberry,” which is not to be excelled for delicate brilliancy of colouring, tenderness of flesh, and exquisite flavor. These with many other sorts of more or less excellence, were shown in the different collections and among the dozens.

The “Early Winter” and Long Keeping varieties did not come up to their full standard of excellence, for the simple reason that they were gathered from ten to fifteen days too soon for the season, and in consequence they lacked firmness, colouring, and flavour; and no doubt the size would have been materially increased had they been allowed to remain on the trees until maturity. Notwithstanding all these drawbacks the size was fully up to the average of previous years and form good. Ribston Pippin, Yellow Bellefleur, King of Tompkins, Blenheim Pippin, Hubbardstons

Nonsuch, and Calkin's Pippin taking the lead in this class as to numbers and excellence, closely followed by "Esopus Spitzenburg," Blue Pearmain, Pomme Grise, and many others. Among the "Long Keepers," the old Nonpariel Russett still holds precedence for its sterling qualities, both in the orchard and market. Northern Spy is rapidly coming into favour with growers and marketmen. Baldwin is well known and popular everywhere. Rhode Island Greening, although not so much planted as formerly, still holds a place in the front rank; and Talman's Sweet is hardy, prolific and profitable. These, with many others, were shewn in almost every collection, as well as in the dozens; and, as before stated, were for the most part well grown and perfect in form.

At the close of the Exhibition at Halifax, a collection of Apples and Pears was sent to the Massachusetts Horticultural Society for examination and report as to nomenclature and comparison with the same varieties grown there. We have received their report, and we recommend it for publication, as it contains much valuable information, especially in regard to the names of many varieties of Pears.

Signed on behalf of the Committee,

R. W. STARR,

Chairman.

REPORT OF FRUIT COMMITTEE OF MASSACHU-
SETTS HORTICULTURAL SOCIETY.

*Collection of Fruit from the Fruit Grower's Association and Inter-
national Show Society, Halifax, N. S., received at Boston,
October 20th, 1874 :*

The apples arrived in excellent condition, and most of the Pears—a few varieties of the latter were wholly decayed—not from any fault in the packing, but from the proper time of maturity having passed. Many of the Apples are of English origin and seldom, if ever, seen here before, so that we are unable to compare them with the same kinds as grown here, but of those common to us, as well as this collection, we think that on the average they are not materially different from those grown with us. Some of the specimens are larger than ours of the same kind—others not so large; some higher coloured than ours—others not so high coloured, and as before observed we think the average would not differ essentially from ours. But one very noticeable point, which we have also remarked in collections received from Nova Scotia in previous years, is that many of the kinds which here are quite regular in shape are in this collection very strongly ribbed, such as Dutch Codlin (very large), Fall Pippin, Canada Reinette, Porter, Red Pumpkin Sweet, etc. Others, not known here, which were strongly ribbed, would, it is reasonable to suppose, be much more regular if grown here. In quality they were thought not to be quite so good, generally, as our specimens of the same varieties. They were also thought to be more spongy and less solid in texture, which surprised us, as it is generally found that Apples grown to the north of us, in the States of New Hampshire and Maine for instance, are more solid and keep later than ours.

The Pears were not up to the standard of those grown here in any respect. Some, such as Beurre d' Anjou, were very highly coloured, but in size the majority were below that of ours, and in flavor a very marked deficiency, much greater than in the Apples was noticed. The best in quality was thought to be No. 36, for which a name was desired, which we were unable to give, though the flavor strongly resembled that of Belle Lucrative, but the ex-

ternal appearance was quite different. This variety is, however, so variable in form that it is possible No. 36 may be identical with it. The next best was *Beurre d' Anjou*, which we were enabled to compare with our own; but though good, it was not as good as those grown here. It is evident that the Pears are much more unfavorably affected by a northern climate than the Apples.

With these general remarks, we proceed to notice some of the varieties more particularly.

Of the Seedling Pears, the best was thought to be J. G. Byrnes' No. 39 *b.*, and next to this Smith's Seedling, No. 7; but the latter has too much the characteristics of the old *White Doyenne*.

Of the Pears for which names are wanted, No. 1 is *Chelmsford*; No. 2 is *Andrews*; No. 3 *Easter Beurre*; No. 19 (marked as perhaps *Stevens' Genesee*) is more probably *Dogenne Bonssock*; No. 27 *Marie Louise*; No. 35 *Onondaga*; No. 38 probably *Belle de Bruxelles*; No. 42 *Autumn Bergamot*, (English, not the *Bergamotte d' Autonne*); No. 43 resembles *Gansel's Bergamot*, but we are not certain it is that, and we suppose you would have recognized it, as both your parcels of *Gansel's* are true; No. 47 small specimens of *Vicar of Winkfield*.

No. 5, *Weynis*, which you speak of as a local name, resembles the *Washington*, but we do not undertake to say it is that variety. No. 9, marked *Oswego Beurre*, is undoubtedly *Beurre Hardy*; No. 23, *Sheldon*, is as unlike the true kind as can well be, but we do not recognize it. No. 26, *Beurre d' Aremberg*, is incorrect and unknown. *Bartlett* was wholly decayed when it reached us; but another, numbered 32, a large, obtuse pyriform yellow Pear, with a red cheek and coarse skin and long curved stem, is unknown to us. No. 37, *Buffon*, which you have queried, is certainly wrong, as is also No. 40, *Henry IV.*, but we cannot give the true name of either. No. 14, *Pitmaston Duchess*, is excessively astringent, and this kind has proved of poor quality grown here, and so have specimens raised at *Washington, D. C.*, which we tasted some years since.

The *St. Ghislain*, *Paradis d' Autonne* (small), *Gansel's Bergamot*, *Beurre Langlier*, *Church*, *Pitmastor*, *Winter Nilis*, *Unbamste* (small), *White Dogenne*, *Stevens' Genesee*, *Duchess*, *Vicar*, *B. d' Anjou*, *B. Bosc* (small), *Frederick of Wurtemberg*, *B. Diel*, *Flemish Beauty*, *Louise Bonne of Jersey*, *Bartlette*, *Mount Vernon*

(small), Onondaga, appear to be correct. Rousselet of Rhimes we thought doubtful, but probably correct. Flemish Beauty has of late years cracked and spotted here, and we seldom see them as free from these defects as yours, but we were disappointed in finding the quality poor, and the more so as this variety has lately been universally recommended for northern latitudes.

We do not know that there is one of the Apples that you have queried, or for which you desire a name, that we can settle with certainty. The Swaar seems too early and not solid enough to be true. Here it is a very close grained Apple. The Codlin, which you have queried seems doubtful to us also, but we cannot say what it is. The Golden Russett appears to be different both from the Golden Russett of Massachusetts and the English Golden Russett. Is not the Golden Sweet the same as Northern Sweet of Downing? The Early Boughs were remarkably fine specimens and of good quality. Chebucto Beauty is very handsome—we take it to be native with you, though not so designated. Does the Northern Spy always come as clear of black fungous spots as the specimens sent? It seldom does here. The Golden Ball of Annapolis County resembles that cultivated here, and formerly a very popular Apple at Portland, Maine. We think it probably the same. Mee's Beauty looks like a Russian variety formerly cultivated here under the name of Charlomoski. (*See Tilton's Journal of Horticulture, Vol. VI. page 349.*) Johnson's Red looks like Detroit Black. Belmont, we think, cannot be correct—it looks more like Beauty of Kent. Hawthornden, which you have queried, we think, correct. Cayuga Redstreak is more conical and less flattened than when grown here, but we presume it is correct, and the Clyde Beauty appears to be identical with it. The red Apple which grew on a Gravenstein branch is the most remarkable sport we have ever seen—it would be very interesting to see whether grafts taken from the branch would perpetuate the sport.

The Grapes were thought to be of the Barbarossa variety, and, as far as could be judged, being somewhat decayed, were good specimens of their kind. They weighed, when received, 3 lbs. 14 oz. and 3 lbs. 2 oz., the smaller bunch being better ripened than the larger.

The Cranberries compared favorably with ours.

ORCHARD PLANTING AND CULTIVATION.

PREPARING THE SOIL!

One of the best methods for preparing the soil for an Orchard is to turn under a heavy dressing of barn-yard manure on a strong sward the spring previous to planting, this to be followed by potatoes or other root crop, and the following Autumn the land to be trench ploughed as deep as teams and tools will permit. Having thus done the soil will be ready for planting trees—it being understood, however, that the land is thoroughly drained, naturally or otherwise. Should this not be the case the sooner it is attended to the better, as it must be remembered Fruit trees are not like Willows and cannot live in water—consequently care must be taken to get rid of all stagnant water, not only from the surface soil, but from the sub-soil, and this to be thoroughly done involves a heavy outlay in tile draining, which many persons desirous of planting trees feel they cannot afford. A more economical method, which, if not so thorough, has the merit of being tested with success, is the following:—Lay off the ground into divisions of the same width as the distances between the intended rows of trees, and in the direction of the natural drainage or slope of the field; then by repeated plowings, each time turning the furrows towards the centre, gather the soil into broad ridges, on the crown of which the trees must be placed. By this method we rapidly get rid of the surface water and also a portion of that from the sub-soil, and obtain a deep mellow soil to plant the trees in. This may truly be said to be at the expense of the remainder of the land for a time, but the hollows must eventually be converted into drains, and the cold sterile sub-soil, when improved by cultivation and the action of frost and manure, will become equally as good as the rest. This method is more especially adapted to land naturally level or nearly so with no great depth of surface soil. A second method which has been tried with success where the land is rolling and the soil deeper, is simply to trench, plow, or otherwise cultivate to the required depth up and down the hill, a narrow strip for each row of trees, thus enabling the planter to go on with his work at some future time and deepen the whole surface soil.

But no matter what system of plough culture is adapted to deepen the soil; any one of them will be found preferable to the old method of digging what may be well termed "post-holes," (no matter what their diameter may be), down into a hard retentive sub-soil, half filling it up with surface soil and manure, and then plant the tree. For the first year or two it may succeed very well, the young rootlets finding plenty of plant food close at hand, rush downwards and luxuriate in it during the dry season,—by and by comes a season of wet, the hard retentive walls of undisturbed sub-soil, act as a tub to retain the stagnant water, and the poor tree condemned to a life of wet feet, as surely pines and falls into decline as a young girl would under similar circumstances.

TREES AND WHERE TO GET THEM.

Speaking from my own experience I prefer to have my trees grown as near home as possible, then to have the land all prepared and everything in readiness, so that they might be dry, carried and set in the shortest possible time. With proper care trees removed under such circumstances will scarcely receive any perceptible check in growth. This, however, is not often practicable for the intending planter. He must do the best he can in that particular, and to get the varieties he requires, may have to order from a great distance and be obliged to put up with all the disadvantages of so doing. He should, however, be careful that his order is sent to a reliable Nurseryman, or should he deal with, or through agents, select those in whom he has implicit confidence, giving orders to such as are known for probity, and honest dealing with their customers.

I regret to say that *that Genus*, "the tree peddler," has not been unknown amongst us, and think the evils and disappointments resulting from his operations should be classed in the same category with those other enemies of the fruit culturist, the "Curculio," "Canker Worm" and the Borer, &c.

There has been an excessive demand for extra sized trees for some years past, and nurserymen must furnish the supply even while knowing the principle to be incorrect. To obtain these large trees they have to be forced by stimulating manures and high cultivation, especially during the last years of growth in the

nursery. This gives them a fine appearance with their large handsome tops, but frequently the roots are few and straggling and even these in "lifting" are often cut short, leaving few, if any, fibrous rootlets to be seen. When a tree of this description is planted, it requires at least the whole of the first season to recover its balance, and even then has received a serious check which it will require a considerable time to overcome. Much more reliable and satisfactory will be found the medium size stocky trees, with short jointed, well ripened wood, and a fair proportion of short fibrous roots which have been preserved by dipping in "Grout" (*i. e.*, mud and water) at the time of lifting. Such trees will be generally found to come into bearing earlier than the others, while they are less liable to disease and injury from frost, &c. It is further to be observed that the younger and smaller the tree, the better the proportions of roots to branches can be preserved, and for this reason many large planters prefer trees of two and three years from the bud to those of much larger size and greater age. When receiving trees from a distance, on opening the cases first examine the roots, and all that have been cleanly cut with the spade and are forming *callous*, *i. e.*, showing a protruding fleshy ring between the bark and wood, should be carefully *let alone*, but all broken and mangled or dead ends of roots, must be cut back *with a sharp knife to sound healthy wood*, so that they may also form *callous*, from which springs the little rootlets or fibres which take up the food requisite for the growing tree. Should the trees be found dried up or shrivelled in the bark, open a trench in the shade on the north side of a building or wall, lay them in bodily, covering altogether over with the moist earth and leave them in that position until the bark swells out and regains its natural state and appearance, then they may be removed as fast as planted.

HEADING IN OR CUTTING BACK.

This is a subject on which a great diversity of opinion prevails, and many persons contend that the top should be cut back in the same proportion that the roots have been mutilated, else the tree cannot carry its foliage, and will dry up and wither. This may be more or less the case where the summers are very much hotter and drier than ours, but I have never found it necessary. My

invariable practice, which I have always found attended with the best results, has been only to prune such branches as are superfluous and should be removed even had the tree not been transplanted, and to trust to mulching or stirring the soil to keep up sufficient moisture to enable the tree to carry all its foliage, and consequently to develop its roots at a much faster rate than if part of the foliage had been removed.

PLANTING.

If the soil has already been prepared in the manner indicated, the labor of setting out the trees has been reduced to a minimum, and an active man, furnished with a bright steel shovel will "dig the holes" for a large number of trees in one day; but before doing this the ground must be so laid off that the exact spot on which each tree is to stand may be known. To do this, an assistant is required, also a common measuring tape, a sufficient quantity of ordinary sawn laths sharpened at one end, and a wooden mallet, or other implement to drive them with. Then commence at one side of your field and measure off the distances accurately, setting a lath at each spot and driving it well down with a mallet, being careful to keep the line straight; next measure and set a row of laths across one end at right angles to the first line, and so continue the lines until you have them all right, and if correctly done they will form straight lines in all directions.

The laths from their white appearance, are easily seen on the dark soil while ranging, and from being so much lighter to handle than stakes, and make less labor. They should be well driven into the soil however, as they are intended to remain during the time the hole is being dug—the earth being removed from all sides equally without disturbing them. The compost or rich earth, if any is to be used, should be carted in and deposited at a convenient distance from each hole, then the trees should be brought. Prepare the bottom of the hole by making a small mound of the compost mixed with the soil around the lath, which should be now drawn out, and the tree set on the top of the mound just in the position where the lath stood, arranging the roots carefully on all sides. While your assistant is putting in the earth and manure, carefully fill in all spaces between the roots, and press the ground

down firmly with the foot. Two or three inches of loose earth should then be placed on the surface, and when all is done the tree ought not to set more than one or two inches deeper than in the Nursery, just sufficient to allow for the settling of the earth. No stakes are required—none should be used—as almost invariably they do harm by chafing the back at some time or other.

TREATMENT AND CULTIVATION.

The soil should now be planted with root or other hard crops, and kept liberally supplied with manure, which ought to be applied to the entire surface, as it will not be many years ere the roots will occupy the whole area. Few persons are aware of the great distance to which the roots of even small trees extend in their search for food. One of the best writers on Fruits, J. J. Thomas, says: "It must constantly be borne in mind that the roots of trees usually extend as far every way, from the base of their stem into the soil as the height of the trees, and often much more. A tree ten feet in height stands at the centre of a circle of netted and branching roots twenty feet or more in diameter." Now when we consider that the small fibrous roots are the ones that gather and absorb the plant food, it is easy to understand why the manure should be spread over the whole surface, and not confined to a small circle near the base of the tree. During the first summer if the young trees have not been mulched with some material like half rotten straw or coarse meadow hay, the soil should be frequently stirred with the hoe for a distance of at least three or four feet from the tree; this will retain and attract the moisture, and prevent the foliage from withering, while it enables the tree to overcome the shock of removal much more expeditiously and safely than if neglected. In the fall after the crop is removed, a mound of earth should be banked around each tree to the height of twelve or fifteen inches; this will ballast the tree when the soil is soft from rain and the winds violent; it will also protect the roots from the action of the frost and prevent the mice from girdling the bark, which they will often do when the snow lies deep. This should be removed as soon as the frost is out in the Spring, and may be renewed each following Autumn for several years with great advantage. This, however, should be remembered in the

cultivation of a young orchard, that it is an impossibility to take a grain or grass crop from the soil without positive detriment to the trees until they have reached a considerable size and become firmly established in the soil, in fact have arrived at that period of growth when Fruit should be looked for, then it sometimes is a benefit to check the wood growth by that means and so induce the formation of Fruit buds. That being once accomplished the cultivation should be again resumed and continued, for it is a generally received axiom among Fruit Growers all over the world, "If you want good Fruit you must give good cultivation."

PRUNING.

This is one of the most necessary operations of the Fruit Grower, and it is a subject on which he can get less practical information from books than almost any other in the whole range of Fruit culture, simply because so much depends on the skill, judgment and experience of the cultivator. The reason is obvious when we remember that every tree is endowed with the mysterious principle of life, and being so each one has its own idiosyncrasy and utterly refuses to grow after any set pattern unless tortured into it. Here is where the skill, judgment and careful management of the experienced cultivator is required; here where the close observations of the habits and characteristics of the different varieties of trees will do him better service than all the information to be obtained from books on the subject.

There are general principles and rules however to be gathered from the writings and experience of others. The lamented Downing says and his words should be treasured by every one who has the care of young Fruit trees: "A judicious pruning to modify the form of our standard trees is nearly all that is required in ordinary practice. Every Fruit tree grown in the open orchard or garden as a common standard should be allowed to take its natural form, the whole efforts of the pruner going no further than to take out all weak and crowded branches, those which are filling uselessly the interior of the tree, where their leaves cannot be fully exposed to the light and sun, or those which interfere with the growth of others. *All pruning of large branches in healthy trees should be rendered unnecessary by examining them every season*

and taking out all superfluous branches and shoots *while they are small.*" How different from the general practice of the *majority* of farmers who frequently neglect to prune until the trees are crowded with branches of several years growth; when they appear to wake up to the fact that their trees require pruning, and an almost indiscriminate slaughter of *nearly half the branches* on the tree is the result, thus causing a severe constitutional shock to the tree, which eventually must very materially impair its vigor and shorten its life. I have frequently wished when passing by one of those injudiciously pruned or mutilated orchards that I had the power to punish the offender under a law similar to that for the "Prevention of cruelty to Animals." I would not be understood to say that severe pruning is not sometimes absolutely necessary, especially in neglected or diseased and old trees, but that it should be prevented as much as possible by close attention to the young trees. And the close observation and study of the habits and dispositions (if I may so call it) of the different varieties of trees under his care, will give the cultivator a more intimate, practical acquaintance with his business than he can get in any other way. The time for pruning depends much upon the work to be done, but it is generally considered best to prune young trees in the early Spring after the Winter frosts are over and before the sap has fully ascended into the branches. If done earlier and before the hard frosts are over experience has taught us that the trees will be injured by frost, through the wounds, especially if they are large and numerous. If put off until after the sap is in full flow, there is a decided loss of vigor to the tree, not only in the sap removed by the branches, but in the almost invariable loss by bleeding. If large branches have to be removed, causing severe wounds it is considered best to take them off at Midsummer, as at that time it has been found the wood remains sound and heals over more readily than at any other. Yet this requires caution for it must be conceded that Summer pruning lessens the vigor of a tree, and it is only advisable to take off large limbs at that season, on the principle that "of two evils we choose the least," *i. e.*, it is better to check the growth of the tree than to run the risk of decay in the trunk.

Now to sum up the general or leading principles that will be found useful to remember while at work.

1st,—Be careful to preserve one central leading shoot to dominate all others, and thus avoid those dangerous forks or crotches which are sure to split sooner or later.

2nd,—Every limb that points inward must come off, and when two limbs cross or touch each other one must be taken out.

3rd,—All crowded and superfluous branches from the interior of the tree, and all robbers and suckers from the trunk or roots must be carefully cut away. If every tree is gone over once in the year with a careful, thoughtful eye, looking to the future and seeing in the infantile plant the sturdy trunk and well developed branches of the full-grown tree, then will the sound of the *saw* cease to be heard in our orchards, and have become a thing of the past! then will the sight and feelings of enthusiastic cultivators cease to be offended by mutilated and mangled trees from the hands of ignorant and careless men. But alas! there is an *if* in the way, and the "millennium" of Fruit trees has not yet come.

R. W. S.

Starr's Point, Feb'y. 1875.

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VALUE AND IMPORTANCE OF THE APPLE CROP.

By AVARD LONGLEY, Annapolis.

The value and importance of the Apple Crop of the Annapolis Valley is now pretty well understood, but there are some features connected therewith which demand some special notice, as they relate, not only to the present, but reach far into the future.

The length of this rich and beautiful valley is about eighty-five miles, with a breadth varying from three to eight miles—average breadth, five miles, perhaps. It is traversed its entire length by the Windsor and Annapolis Railway, offering a ready means of transit to market.

The Apple Crop of this valley probably now reaches one hundred thousand barrels annually; worth, taking one year with another, two dollars per barrel; equal in value to \$200,000 per annum. This product may be divided between the three Counties of Annapolis, Kings and Hants in the following proportions:—Annapolis 50,000 bbls.; Kings 30,000 bbls.; Hants 20,000 bbls.

This quantity is rapidly increasing, and in ten years from this time there is likely to be an addition of fifty per cent. to the present yield.

Already our markets are glutted, and it is quite clear that for the future we must send much of our Fruit to foreign markets, or obtain but small prices for it at home. Before we can send it to a foreign market, however, there are certain conditions to be met, which may be classed as follows:

- (1) The quality of the fruit.
- (2) The best varieties.
- (3) Uniformity of size, and perfection of form, colouring, &c.
- (4) The mode of picking and packing.
- (5) The size and style of the barrel.
- (6) The marketing of the fruit.

It is quite obvious that the fruit sent by us to foreign markets should be large, symmetrical in form, fine flavoured, and well coloured, as the cost of exportation on such would be no more than on inferior

fruit; while on the other hand it would be worth one-third more in almost any market to which it might be sent. The best varieties are those which keep best; are well formed and well coloured.

All Apples intended for barrelling should be carefully handled, but especially those for foreign shipment, as such are usually subjected to changes of atmospheric and other tests, which Apples, roughly handled, seldom bear well.

There are various modes of picking and packing Apples. Some pick from the trees, and put into piles in the orchard, and barrel from the piles the same day. Others pick and carry into the Apple house, letting the apples remain ten days or a fortnight before barrelling. Others again pick from the trees, putting into the barrels at once, and heading up immediately. Lastly, some prefer picking the apples from the trees, putting at once into the barrels, and then allowing them to remain a week or ten days before heading up the barrels.

The last method is, perhaps, the best upon the whole, as time is thus given the apples for shrinking; after which, if they are properly pressed into the barrels, they are effectually prevented from bruising in subsequent handling. Could the apples be sufficiently compressed into the barrel without bruising, for one, I would prefer closing up the barrel as soon as it was filled; and in no other way is it possible to retain so much of the original freshness and bloom of the apple.

The size of our Apple barrels is now established by law, although the law is not strictly observed. Through its instrumentality much greater uniformity has, however, been effected as regards the size of the apple barrel now in use. Before the law was passed, the apple barrels made throughout the Province ranged all the way from $1\frac{1}{8}$ bushel to $2\frac{3}{8}$ bushels, or $7\frac{1}{2}$ to $9\frac{1}{2}$ pecks. The dimensions of the barrel as now prescribed by law are as follows: length of stave 29 inches, 19 inches diameter in the bilge, measuring from the inside of the barrel, and 17 inches across the heads of the barrel, estimated to contain $2\frac{3}{8}$ bushels, or $9\frac{1}{2}$ pecks. For several reasons our apple barrel should be made to contain $2\frac{1}{2}$ bushels. First, the Canadian and American apple barrel is made the same size of that of the flour barrel, and contains $2\frac{1}{2}$ bushels at least. While our apple barrel is of a smaller size, we suffer loss both in money and reputation; as in our case there is not only the absence of any reliable standard size to the barrel, but its roughness and generally unsightly appearance are not

creditable to us as Fruit Growers and Fair-dealers. There is also simplicity and convenience in the way of computing quantities with barrels of this size.

Great good would ultimately attend the passage of a law establishing the size of our apple-barrel at $2\frac{1}{2}$ bushels, and the attaching of adequate penalties for any and all violations of the law.

As regards the London, Liverpool and Glasgow markets, it is stated that the prices obtained for apples is strictly regulated by and is proportioned to the size of the barrel in which they are packed. This is as it should be. Why should the same price be paid for a barrel of apples containing *two* bushels only, as for one containing two-and-a-half bushels?

True, in our own markets, about the same price is obtained for the smaller that is obtained for the larger barrel; but, generally speaking, where this species of fraud is successfully practised for the time being, there is more lost than gained, ultimately; for in most cases the deception could not be practised upon the same parties a second time. In reality this is a penny wise and pound foolish policy, to say nothing about its moral character.

Where Apples are properly put up there is seldom much difficulty in selling them.

To ensure this essential condition, all Apples intended for foreign shipment, should be subjected to the closest inspection; not after they have been put up, but while they are being packed. The packing should be properly done in the first place; indeed in the nature of things, Apples *badly* put up, cannot subsequently be *well* put up. The extra handling is necessarily attended with more or less damage to the Apples.

Were a cargo of Apples to be shipped to the London, Liverpool, or Glasgow Markets, it would be highly desirable that the whole cargo should be put up by thoroughly competent and reliable parties; or that the shippers should personally, or through agents specially employed, know precisely the contents of every barrel shipped.

There would be great gain were every barrel branded and quality thus guaranteed by some recognized authority, such, for instance, as that of the Nova Scotia Fruit Growers' Association, whose reputation is now pretty well established, both on this Continent and in Europe.

On a variety of grounds it would seem desirable that matters

merely touched upon in this article should be fully discussed by those immediately interested, namely, the Fruit Growers of Nova Scotia; and I would venture to suggest that this matter might with much propriety be taken up by the Nova Scotia Fruit Growers' Association.

In that event, the Secretary could at once correspond with the Council of the Association, and other leading persons in the different sections of the Province, with a view of assembling, in some central place, say Wolfville, at an early day, a Convention of the Fruit Growers throughout the Annapolis Valley, at least, and, if practicable, throughout the Province, inviting at the same time all public spirited and patriotic individuals from all parts of the country, to take part in the proceedings of the occasion.

PLUM CULTURE.

By W. H. O. HALLIBURTON, Wolfville, N. S.

PLUMS.—This species of fruit is contemporary with the early settlement of the Province,—some varieties of long standing, "Old Settlers," as they are styled, bear indications of French descent,—periodically new kinds have been imported which, with native seedlings, have increased our list to respectable proportions. The catalogue embraces many choice sorts, and some of marked excellence. We have varieties now that, with care and attention, can be successfully propagated in various soils and localities.

The Plum crop of 1874, was a partial failure,—this was predicted by some Fruit Growers from the circumstance of the over-bearing of trees the three preceding years. Early in the season, and during the period of bloom the aspect was favourable, but the remarkable atmospheric depression that prevailed throughout the month of June, proved fatal to all trees exposed to its blighting influence. In sheltered nooks, thoroughly protected, the yield was good and Fruit of superior excellence. An investigation of attending circumstances of success and failure in different situations might elicit information that, in the future, would be advantageous. It is evident that soil, situation, and mode of management, are concomitants on Plum culture, and unless they

are fully considered success is doubtful. Plums are propagated either naturally, by seed, or artificially by bud or graft. Seedling trees are grown either to obtain new varieties or stocks for budding and grafting. Species that reproduce themselves from pits are not common, and our knowledge with respect to their merits as stocks for propagating the different varieties is very limited. The Cherry, a small red Plum, and the Canada or Wild Plum, for small sized trees make very good stocks, the latter in good soil grow extremely fast, and can be worked either at the root or at the collar; the former is generally used for Dwarf Standards or Pyramids. Stocks for strong growing Standards are difficult to get. Pits taken promiscuously are generally useless—that is, they are not to be relied upon. The seeds should be procured from vigorous growing trees, and from a species that reproduces itself from seed. The Horse Plum, an old settler, that has been in the country for generations, is reproductive, and a rapid grower—in strong ground it attains to large size—for cabinet and fancy work the wood is both ornamental and durable. The Magnum Bonum is another reliable variety, and is readily propagated by root cuttings. As Standards for a plantation it is considered best to set them out at two years from the bud or graft, if any should fail from unexpected causes they are more readily re-placed, and a greater uniformity maintained. For special reasons the length of the stem should be duly considered, and not left to chance. The height of the stem at which the head should be allowed to form is a matter of opinion. Some Fruit Growers advocate low heads, others prefer sufficient height to admit the operation of ploughing close to the tree. This latter would appear the most desirable, and is generally adopted, without regard to situation, by persons whose knowledge of Fruit culture is limited to one or two species—their motto is, “prune-up” instead of down. If the land is thoroughly prepared in the out-set, the services of the plough may be dispensed with, and the soil round the tree kept in order by a frequent use of the cultivator and forked spade. If it is absolutely requisite to use a plough, small sized cattle, under good command, will be the most suitable team, and dispense with the use of whippetrees—the most objectionable of all trees in an orchard.

The frequent and sudden changes of temperature, from one extreme to another, for which our climate is noted, and its effect on fruit culture, can not always be provided against. The protection to the stem afforded by low branching trees is a very important advantage—and

when considered in all its bearings, will be found the most desirable form. If "pruned up" for the convenience of cultivation, the trunk is more exposed, and liable to injury from the many fatal diseases that attack it. The effect of the sun in March and early Spring on young and thrifty trees in a dormant state, is more potent than when the sap is in circulation—frequently causing the bark on the exposed side to blister, crack, and peel off in flakes, giving the tree an unsightly appearance, and inducing decay. This malady is not only confined to young trees, but large ones suffer in a similar manner; and it will be generally noticed that those parts of the stem and limbs most exposed to the heat of the sun are the first to suffer from disease. For a garden, trees with short stems are most appropriate, and more in keeping with their surroundings than those with long trunks—they are less exposed to gales of wind—are under better control—easily pruned—and the fruit more convenient to gather. In situations liable to large accumulations of snow, in the early stages of their growth, they would, no doubt, be subject to an inordinate excortication and unsightly pruning; but a little forethought would provide against such casualties. A plantation containing some hundreds of trees, a stem four feet in height will be sufficient for most purposes. They may be planted at ten and fifteen feet distant, according to varieties. At ten feet distant each way an acre would contain 435 trees; at fifteen feet 193. In regard to position—varieties of the same, for convenience of gathering, should be in adjoining compartments.

It is habitual for Plum trees to bear annually, unless exposed during the period of bloom to a freezing atmosphere or protracted wet. Like the Cherry, the fruit is produced on wood two years old and upwards; the season of ripening, September. After the fruit is gathered, the plantation may be pruned, compost applied, and put in order for the next year. Being relieved of the fruit, the trees have time to recuperate before vegetation ceases, and a little attention at this time in cutting back a too luxuriant growth, and the application of a fertilizer of some kind, will aid greatly in restoring exhausted vitality, and assist to develop more fully the fruit buds; this is also a favourable period to hunt out the bugs.

Plum trees are more productive on loam in which clay predominates than on porous soils, on condition that drainage is secured either naturally or artificially. It is a too common hypothesis with farmers generally, in this country, that their land don't require draining

further than is necessary to carry off the surface water; yet it will be noticed that their mode of cultivation is to avoid the juicy spots, leaving them to be dealt with at a more favourable period—which propitious opportunity is always in the future. These objectionable patches luxuriant with rushes and other sub-aquatic plants, that only flourish in ground surcharged with stagnant water, are frequently conspicuous land-marks in arable fields.

The growing of fruit, both large and small, is fast becoming a farm crop, and one of the first considerations is to secure thorough drainage. The distance between drains will depend upon the nature of the soil and depth of drain. If stone is the more convenient material, a greater depth will be required than if tiles or pipes are used. As soils differ in texture the depth is an important step, and where this variation occurs in the same field, a test drain is the safest guide. If a clay subsoil is taken as a criterion, the transverse area drained will be in ratio with the square of the depth; that is, a drain four feet of average depth will drain sixteen feet on opposite sides—therefore—thirty-two feet will be the required distance between each parallel drain.

The selection of varieties is a point for due consideration, and should be made with reference to their merits—such as quality, longevity, and freedom from disease; likewise they vary in the rind or outer bark, shape and colour of the fruit, from dark blue through all the intermediate shades to red. From golden yellow to dark green the interlucous colourings are less numerous; the yellow ground preponderating. The blue varieties throughout are short lived, being first to suffer from the black knot. The greens are less susceptible but yield after a struggle. The yellow offers the greatest resistance, and some are exempted from its fatal influence. This disease, if it may be so styled, has been in the country for over a half century; its appearance and effects are too well known to require description. Various theories and opinions have been promulgated as to its nature and origin. It is now admitted to be a plant—an annual—growing on the tree, and like the parasitic fungi of wheat, distributing its seeds through the medium of the atmosphere. On certain varieties of the Plum it is propagated with fearful rapidity, especially those with tender bark and downy shoots, where its atomical seeds find a secure resting place, abiding their time—which occasion is the following Spring when the trees put forth. By the first of June, small wavy protuberances may be noticed on the limbs and outer twigs—some elongated and irregular—

others isolated, resembling in size and shape the half of a pea or bean. This is the black knot in the incipient stage of its growth. By the middle of the month it will have increased in size so as to be plainly visible. At this stage of its growth if an incision is made with a sharp knife around it, cutting quite through the bark—the supply of sap being cut off—it ceases to grow, and dies in a short time, as other plants when deprived of nourishment. If allowed to grow and mature seed, all trees in the plantation susceptible of its influence will, in a few seasons, be gone suckers. It is now so generally disseminated, that for one person to attempt its eradication would be futile, even should all who have Plum trees join in the contest; the result would be doubtful.

The most satisfactory course to pursue, and avoid the nuisance, is to exclude from the orchard all trees liable to be affected, and select such only as are known to resist this species of fungus.

In a plantation comprising some hundreds of trees and thirty varieties, the only exceptions among the blues were Ickworth Imperatrice and German Prune, (Quetehe); of the greens the Imperial Gage, and a common seedling, inferior as fruit, known locally as Frost Plum, but good for stocks on which to bud or graft. The yellow kinds appear to be more enduring, especially the elongated class, such as Coes Golden Drop, Princess Yellow Gage, Jefferson, White Egg, Magnum Bonum and its seedlings, Lawrence's Favourite, and McLaughlin. These varieties, so far, have stood the test, although in close contact with trees more or less affected. This parasite is calculated to give Fruit Growers the "blues" a little the quickest of all the nuisances they have to contend against. The bugs are bad enough, but they come up to the works, and go in for a fair fight. This black fungus, this imp of darkness, which no mortal eye can detect unaided, until too late for revenge, is at work unseen, and is certain death to a tree when once it takes a grip. Plum trees scattered through the country carrying a heavy crop of black wart, may be numbered by thousands—anything but graphic—fit subjects for cremation.

Of late years Plums have contracted the disagreeable habit of decaying in advance of the period of ripening, and a large portion of the crop is decimated in a few days. This is another parasitic fungus, no doubt twin sister to black knot. A solution of sulphate of iron destroys it. The difficulties in the way of a successful trial was in applying the wash, and a knowledge of the quantity of copperas the

water should hold in solution. One immersion destroyed the fungus, a second application caused the Fruit to crack as Plums usually do after a drenching rain, and discolouring the pulp where exposed. With an atomizer or spray producer of sufficient power to bedue the trees with the liquid, and applied early in the season when half grown, it would no doubt act as a curative. Experiments are wanting to prove the efficacy of this solution or some other disinfectant. Some persons have suggested the Curculio as the chief agent in causing this disease, but in this case the weight of evidence is in his favour. The Curculio has been hacking at the Plums and other Fruit for years, but this disease is of recent date.

One of the greatest difficulties to contend against in Fruit growing is the ravages committed upon Fruit and Fruit trees by tribes of noxious insects. To deal with them in a summary manner and to successfully check their onward progress of destruction, requires a knowledge of their habits and economy, which Fruit Growers should endeavor to come at by using their eyes, and observe for themselves the different changes from the lava to the perfect state. The Curculio known as the "Notorious Plum Weevil" is very destructive to Fruit, Plums especially, causing them to drop off in large quantities, frequently denuding a tree of its Fruit. This insect belongs to the beetle tribe, and is less than a quarter of an inch long—colour when full grown greyish brown. The young ones in the fall vary in size and are of a black lustre. Of all the insects that prey upon Fruit this is the most persistent, constantly on the increase, always prepared as soon as the Fruit is set, following the Plum into all the remote districts, and puzzling the settler to find out what is to pay with the Plums. The loss occasioned by this cunning bag cannot be estimated. Fruit Growers and consumers are both sufferers. If it were not for its deprivations Fruit would be more abundant, and consequently cheaper. To find a remedy to ward off its attacks ingenuity has been taxed to the utmost, as yet nothing effectual has been discovered, and Fruit Growers have given up in despair. Plums planted in enclosures by themselves, adjoining a hog pen, receive a certain amount of protection if the hogs are allowed access to the fallen fruit.

The whereabouts of the Curculio in the Winter is a question, as yet, not satisfactorily disposed off. The question of its Winter condition is of some importance, as it may lead to a method of trapping the insect. From some observations respecting their habits, it appears

that they do not wander far from the trees they have been accustomed to frequent. In the Autumn as cold weather advances, they seek protection in some secure place; they have been noticed in barns, outhouses, and in places sheltered from external air. In November, 1872, five young *Curculios* were found comfortably quartered in the capsule of a poppy which had grown near a Plum tree; they varied in size and made no effort to escape until warmed by the hand. The following Spring nine were found in the recess of a window, under the carpet huddled together. In April, 1874, seven were found in the same place, a Plum tree growing near the window accounts for their presence in that locality. In September following fifty were caught congregated under a rug that had been placed on some boards on which to dry onions—they were not active, and made but little effort to escape—on the under side of the boards a few only were observed. To secure your Plums it is necessary to first secure the *Curculio*, and whoever invents a simple method for their destruction or a plan to prevent their attacks on Fruit will have made a lucky hit. That they hibernate above ground, that they prefer comfortable quarters, that they are sensitive of cold, and that in regard to Plums it is evident that they are masters of the situation. With these evidences we trust that some one will invent a plan to circumvent the pests.

March 20, 1875.

