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THE Canadian Horticulturist.

VOL. VII.]

OCTOBER, 1884.

[No. 10.]

WILLIAM SAUNDERS, F.R.C.S.

Instead of our customary fruit or flower illustration we are enabled, through the courtesy of the *Rural New-Yorker*, to present our readers with a very good likeness of our much esteemed President of the Fruit Growers' Association of Ontario. This departure, we are confident, will be hailed with great satisfaction by thousands of our readers, all of whom, and especially those who enjoy the pleasure of his personal acquaintance, will be delighted to possess so good a representation of one whom we all delight to honor. That our readers and fellow members of the Fruit Growers' Association may become more fully acquainted with what our President has done already to make the world better and wiser for his having lived in it, we copy from the *Rural New-Yorker* a sketch of his labors to the present time.

"This gentleman, who has attained a high reputation both on this continent and in Europe as an entomologist and horticulturist, was born in Crediton, Devonshire, England, on the 16th of June, 1836. He removed with his parents to Canada when only twelve years of age, and at fourteen was apprenticed to a chemist, and in chemistry he is still

engaged. He began the study of entomology associated with that of botany nearly thirty years ago, and published in the *Canadian Journal* for May, 1863, the first list of plants found in that part of Western Ontario in which he resides, embracing 545 species. During the same year he took an active part in the organization and work of the Entomological Society of Canada, which is still in a flourishing condition, but known now as the Entomological Society of Ontario. On the establishment of the *Canadian Entomologist* in 1868, he became a constant contributor to its pages. In 1875 he was appointed editor of the *Journal*, and was at the same time elected President of the Society, and has ably and acceptably filled both positions ever since. In the fifteen volumes of the *Entomologist* closing with December, 1883, we find no less than two hundred and five papers from his fertile pen, and besides this, he has been one of the chief contributors to the fourteen annual reports of the Entomological Society, which have been published during the same period.

"In 1867 he was elected a Director of the Fruit Growers' Association of Ontario, and has continued till this time as a Director, and has written many valuable papers for its annual reports. He was chosen President of the Association in 1882, in which position he is still retained. Thoroughly posted on every important subject, quick, pleasant and decided, he presides with grace, and conducts a meeting with pleasure and profit to all. Having a large experimental ground, he has tested a great variety of fruits and is well informed in reference to those best

adapted to the climate of the Province of Ontario. He has also taken a lively interest in other departments of horticulture and in forestry, and has done much to awaken an interest in these matters in the Province in which he lives.

"Having combined fruit growing on a large scale with the study of entomology, he has had special opportunities for becoming acquainted with those insects which are injurious to fruits, and has recently published a most useful and beautifully illustrated volume of over 400 pp., on this subject, entitled, "Insects Injurious to Fruits," in which all the practical information extant has been brought together and supplemented by the results of his extensive experience.

"In 1880 the Government of Ontario appointed a special commission to inquire into the progress and condition of agriculture in the Province. Mr. Saunders was appointed one of the commissioners, and was charged with the special duty of inquiring into the subjects of fruit growing and forestry, insects and insectivorous birds, and bee-keeping. The results, mainly of his work, are embodied in a volume of over 350 pages, which was published by the Ontario Government as one of the series of reports presented by the commission.

"He has been an active member and Fellow of the American Association for the advancement of Science for many years, and has filled several important offices in that learned body. Two years ago when the Royal Society of Canada was organized, he was selected by the Marquis of Lorne as one of the original twenty members, of whom the biological section of that important society is composed.

"In other fields than natural history and horticulture, he has also achieved a desirable reputation. As a chemist and pharmacist he is well known throughout the United States as well as Canada, and has filled almost every post of honor in the American Pharmaceutical Association, of which he acted as President in 1877-78, and delivered his retiring address at the meeting held in Atlanta, Ga., in November, 1878. Many of the papers contributed by him on pharmacy have been

re-published in England and translated and published in a number of Continental journals; and on account of the service he has rendered in this department he was elected, in 1874, an honorary member of the Pharmaceutical Council of Great Britain, a position he holds for life. Further honor was conferred upon him in 1883, when he was elected a Fellow of the Royal Microscopical Society of London, England. Within a few months he has received from the Duke of Mantau and Monferrat a handsome and valuable gold medal, known as the Mantau Medal, in acknowledgment of valuable services in the interest of Natural Science. In 1882 Mr. Saunders was appointed by the Government of Canada Public Analyst for the western part of the Province of Ontario, in which capacity he has already done good service in detecting and exposing adulterations, especially in articles of food. Three years ago, on the organization of the Medical Department of the Western University in London, Ont., he received the appointment of Professor of Materia Medica, a chair he fills with credit to himself and to the school.

"The multitude of duties with which the subject of our notice is charged has not lessened his devotion to horticulture; he has worked for many years, and is still conducting series of experiments in the cross-fertilization of fruits and flowers; among the results already obtained are several good raspberries, gooseberries and grapes."

Our Association may well feel proud in having a gentleman of such broad culture and at the same time so profoundly interested in all the objects for which it exists, to preside over its deliberations and promote its interests. We do not appreciate the self-denying labor which our President performs in his efforts to advance the welfare and enlarge the happiness of every grower of fruit and every lover of flowers. Long may he live to bless the land with his unselfish labors, and when from them he rests coming generations will bless the memory of his name.

GEORGE MITCHELL'S EXPERIENCE.

It seems that we have been guilty of a very gross breach of journalistic etiquette in publishing Mr. Mitchell's letter, page 204, entitled "Experience in starting a fruit farm." In that letter he speaks in not very complimentary terms of a brother editor, and we failed to draw the pen through his name, which we ought to have done, and we are very sorry that we did not, and now to make the *amende honorable* as far as it is in our power to do so we publish his communications on the subject, although he says they were not written for publication.

Office of Purdy's Fruit Recorder and Cottage
Gardener, and Palmyra Nurseries,
Palmyra, N. Y., Sept. 9, 1884.

DR. BEADLE, Sir,—I am surprised to find you opening your paper to such an attack on me and my business. This man Mitchell ordered stock with the knowledge that my catalogue plainly states that I must have the privilege of substituting other sorts equally as good in case I should be out of any sort. I have repeatedly stated that if any substitutes I made were not satisfactory I would make them so. Your allowing such an attack on me and my business is something I have never yet seen or heard of in any horticultural paper. I could print page upon page to shew what kind of stock I have received from such men as Parry, Collins, Lovett, Roe, and others, but I do not think I have the right to do it. I had always looked upon you as a friend; but this breach of etiquette in journalism shows me my mistake. There is another side to this matter of Mitchell's but I do not care to waste ink about it, nor neither do I write this for publication.

Respectfully,

A. M. PURDY.

The same mail brought the following post card, addressed Dr. Beadle, St Catharines, Prov. Ont.:—

Office of A. M. Purdy's Fruit, Farm and Recorder,
Palmyra, N. Y., Sept. 9, 1884.

You will probably find that the *Recorder* with its 20,000 circulation has about as long a handle as your little *Horticulturist*,

with its 800 to 1,000 circulation, and you may find that you have not always given full satisfaction in your trade.

Very truly, &c.,

A. M. PURDY.

Now we hope that our readers, though comparatively few in number, will understand after this that our brother Purdy is an honest, straightforward man; that he does just as he advertises to do; and surely no man can ask more. And further, we wish our correspondents to understand that, having the fear of the long handle of the *Fruit Recorder* before our eyes, we shall be very watchful hereafter, and not allow any complaints against brother Purdy to slip into the *Canadian Horticulturist*. If they have any grievance of this kind they must ventilate it elsewhere. We trust they have sufficient consideration for their Editor to be willing to forego the satisfaction of airing their complaints before the few readers of our little *Horticulturist*, when by doing so they will be exposing all our business transactions to the gaze of twenty thousand people. A word to the wise is sufficient.

NOTES ON SOME NEW FRUITS.

CORRECTION, BY HON. M. P. WILDER.

We are under obligations to our venerable correspondent for calling our attention to a blunder which has been made in the printing of his letter on page 207, and we wonder that it escaped our notice when reading the proof.

The names of the Prince and Primo strawberries should be transposed. It will then read, as written by Mr. Wilder: "The Primo Strawberry is large, uniform, late, very good, and prolific; the Prince (of Berries) handsome, productive, and of high flavor."

The venerable President adds that in speaking of the Marlboro' Raspberry he wrote, "and if hardy it will be an acquisition."

SUPERB RASPBERRY.

Mr. Purdy says that this berry is "the best, largest, and most prolific raspberry" on his grounds. It is far from being the largest, or best, or most prolific on the grounds of the editor of the *Canadian Horticulturist*. The Cuthbert excels it in all these particulars on our grounds.

PEACHES AT KINCARDINE.

We have received a peach grown at Kincardine, that in point of size, beauty of appearance and excellence of flavor plainly shows that good peaches can surely be grown at that place. The tree from which it was taken, we are informed by Mr. Joseph Barker of Kincardine, is growing in the garden of Mr. E. Miller of that town; that it originated from a peach-stone thrown out of a window, and was transplanted when one year old. The tree is now six years old, thrifty and healthy. When it was three years old it bore five large peaches, the following year the fruit was destroyed by a late spring frost, last year it bore about a bushel of handsome peaches for which Mr. Miller was offered \$5, and this year it produced 50 fine peaches.

The peach-stones from this tree ought to be planted and the trees that spring from them carefully preserved until they fruit, when those that yield fruit of satisfactory size and quality and ripening in good season, can be multiplied by propagation to any desired extent. In this way a race of hardy peach trees can be obtained suited to the climate of that part of the country. It seems to us that this seedling, which very much resembles the white-fleshed rare-ripe peaches that have been grown in this vicinity, should be propagated and planted in other localities in that neighborhood in order to ascertain what is its ability to endure the peculiar climate of that region. But the

opportunity to raise a number of seedlings from a tree yielding fruit of such excellence should not be lost, for it is in this way that trees of more hardy constitution than those grown even here can be secured, trees that are adapted to a more northern latitude.

THE CHERRY SLUG.

This pest has been unusually abundant in the county of Lincoln during the past summer. Pyrethrum, known also as Persian Insect Powder, dusted over them in the dry powder or mixed with water in the proportion of a tablespoonful to a pailful of water, and sprayed over the trees with a fountain-pump, is a perfect remedy and will clean the trees of the creatures. It should be applied as soon as they make their appearance and not after they have skeletonized the leaves so that the tree looks brown.

THE EARLY VICTOR GRAPE.

George W. Campbell, of Ohio, in a paper presented at the last meeting of the Mississippi Valley Horticultural Society, says of this grape that it has stood all tests admirably; that he has had it in bearing for three years and finds it one of the most reliable grapes he has, either new or old; that it is healthy in fruit, vine and foliage, productive, pleasant-flavored, without foxiness, and really good; that its color is black, its size about that of the Clinton, and that it ripens early, just about the same time as Moore's Early.

On the grounds of your editor this grape ripened this season with Champion, Moore's Early and Jessica. This is the first time the vines have fruited here, having only been planted a year ago last April. The clusters and berries closely resemble those of the Clinton. There is more firmness to the pulp than in the Clinton, yet the flavor is sweeter and more pleasant than that

variety usually is, though we have eaten the Clinton when in agreeableness it surpassed most of our grapes. We think that the Early Victor will prove a valuable amateur variety where early ripening and agreeable flavor are more important than size. It seems also to be a very healthy and hardy vine, and immensely productive.

HYDRANGEA PANICULATA GRANDIFLORA.

Professor Budd, of the Iowa Agricultural College, writing to the *Prairie Farmer*, says that this grand shrub stands at the head of the list of autumn flowering shrubs. Its numerous panicles of pure white flowers rival those of the Snowball, and hold their beauty and perfection much longer. If it has proved itself hardy in Iowa it will certainly endure our Ontario climate even far to the northward. This beautiful shrub was widely disseminated by the Fruit Growers' Association, and those members who have planted it would confer a favor upon their neighbors and others if they would write to the *CANADIAN HORTICULTURIST* and tell us whether it proved to be hardy with them.

REVISED FRUIT NOMENCLATURE.

As a beginning to simplify and condense the names of fruits as much as possible, according to the suggestion of President Marshal P. Wilder, the American Pomological Society has in its latest catalogue made the following changes in the names of small fruits:

STRAWBERRIES.

<i>New Name.</i>	<i>Old Name.</i>
Cumberland.....	Cumberland Triumph.
Hovey.....	Hovey's Seedling.
Miner.....	Miner's Great Prolific.
Monarch.....	Monarch of the West.
Neunan.....	Neunan's Prolific.
Wilder.....	President Wilder.
Wilson.....	Wilson's Albany.

RASPBERRIES.

<i>New Name.</i>	<i>Old Name.</i>
Fontenay.....	Belle de Fontenay.
Kenevett.....	Kenevett's Giant.
Orange.....	Brinckle's Orange.
Palluau.....	Belle de Palluau.

CURRENTS.

Angers.....	Fertile d'Angers.
Knight's Red.....	Knight's Large Red.
Palluau.....	Fertile de Palluau.
Versaillaise.....	La Versaillaise.

GOOSEBERRIES.

Smith.....	Smith's Improved.
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QUESTION DRAWER.

SIR,—Being a subscriber to your valuable production, I am vastly interested and instructed thereby; but, if not trespassing, would like to ask the following questions:—1st. What may be the cause of the young fruit withering and dying off my Early Scallop Squash and Hercules Club Gourd, being well watered? 2nd. What is the best method to propagate George IV. Climbing Rose and low bush roses, I having failed different ways?

FANCY.

REPLY.—1st. It is impossible to say with certainty without an inspection of the plants; perhaps too much water. 2nd. You will be most likely to succeed by layering.

DEAR SIR,—I have a particular grape vine which I wish to propagate by cuttings. Please give me instructions as to the best mode of doing so in the October number of the *Horticulturist*, and oblige,

Yours truly, W. KAY.

Goderich, Sept. 2, 1884.

REPLY.—The propagation of grape vines from cuttings is as simple as that of currants. When the growing season is over, the ripened wood is taken from

the vine and cut into lengths of two or three buds, and these cuttings are set in the ground with the uppermost bud just above the surface. In our climate it is better to take the cuttings before midwinter, and keep them in moist sand or sawdust until time for planting in the spring.

Can any of your correspondents favor me with information respecting the shipping of apples to England, freight charges, reliable merchants in Toronto or Liverpool to ship them to, and the average price for carefully packed Golden Russets and Ribston Pippins? Any information will much oblige.

MRS. H. C. GWYN,
Staplehurst, Dundas.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

SIR,—I would be much obliged if you would answer the following questions if you can:—1st. Is the tree you offer as prize to members, under the name of "Canada" Baldwin the same as the Baldwin named in the Nurseries Catalogue, under the name of Baldwin? Description:—Winter; large, brown red, juicy and rich; very productive; one of the best winter apples; January to April. If not can you tell me the difference?

2nd. Can you send a different tree than this to any who do not wish the Canada Baldwin, say the Wealthy, or the one named below, "Stump?"

3rd. Do you know of an apple called the "Stump," and is it any good? A gentleman near here obtained one or two from a person in the United States, under that name, and they are doing well as young trees; about four years planted.

Pears do well here on my land when they live. They are apt to die from blight the first year, or to be injured

by cracking of bark in stem. Bartlett, &c., Flemish Beauty, &c., and Winter, do not know. Am about to try A. D'Ete, Bartlett, C. Favorite, Duchess D'A., Louise De Jersey, Josephine De Malines, Jaminette, Toronto Belle, and Pound or St. Germain. Will let you know the result.

I see some one says cherries cannot be grown here. Well, I have none myself, as I only planted one and it got destroyed accidentally; but I have seen good cherries grown around here. One I can see from where I write, a young tree, bore a few last year and the year before; only four years old. Plums will not grow on the land where these cherries grow. Ground, a clay; rather wet spring and fall. I have had little or no fruit yet. From apples, young trees four years planted, I had three Duchess of Oldenburg this year, with about fifty apples on among them, but they had no chance to show themselves, as they were either blown off or taken. Four of other kinds had a small number of apples on that shared the same fate. They were very much like Duchess of Oldenburgs but smaller. I could not expect much as the trees only cost six cents each in the nursery, and last spring some one left my gate open and cattle got in and nearly destroyed a large number, quite finishing five.

Yours, &c.,
J. S.

Owen Sound, Aug. 28, 1884.

REPLY.—1st. The Canada Baldwin is not the same as the Baldwin. It is a native Canadian.

2nd. You can choose any one of the several articles offered by the Association.

3rd. There is an apple known as the "Stump." Charles Downing says that the fruit is medium or below in size, quality good to very good, ripe in September and October.

CORRESPONDENCE.

REPORT ON MOORE'S EARLY GRAPE.

MR. SECRETARY,—I have much pleasure in reporting on the Moore's Early Grape, which was distributed by the Fruit Growers' Association in 1881. It fruited for the first time this year, and is within a day or two as early as the Champion. The berry is much larger than that variety, in fact larger than the Concord. Its flavor and general appearance is quite superior to the Champion in every respect, and will sell better in the market, even to parties who do not know the doubtful qualities of its rival. I consider the Fruit Growers' Association of Ontario have done a wise and beneficial thing to the people of this Province in disseminating this plant, and I, for one, would tender my sincere thanks for the boon conferred.

P. E. BUCKE.

Ottawa.

RIGHT TO THE WATER.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

DEAR SIR,—Regarding the questions asked by Mr. Aylesworth, page 198, in the September number, as to the right to use the water of a stream for the purposes of irrigation, it appears that he may do so so long as he does not unreasonably diminish the quantity of the water. I quote from a legal writer on this point, which will give him an idea of how the law is at present:—

"Each riparian proprietor has a right to the ordinary use of the water flowing past or through his land, for the purpose of supplying his natural wants, including the use of the water for his domestic purposes, and for his stock. He has also the right to use it for any other purpose, as for irrigation or manufactures; but this right to the extraordinary use of the water is in-

ferior to the right to its ordinary use; and if the water of the stream is barely sufficient to answer the natural wants of the different proprietors, none of them can use the water for such extraordinary purpose as irrigation."

"The right to such extraordinary use of flowing water is common to all the riparian proprietors. It is not an absolute and exclusive right to all the water flowing past their lands, but it is a right to the flow and enjoyment of the stream, subject to a similar right in all the proprietors, their privileges being in all respects equal."

The use of the stream for this purpose must be reasonable, and not materially affect the application of the water by the other proprietors, and each proprietor's right depends upon the circumstances of the case.

Yours, &c., LEX.

Toronto, Sept. 9, 1884.

A WORD ABOUT ROSES.

Many are fond of roses, and many more ought to be; many, also, have been so disappointed in their best efforts to grow this beautiful flower to their satisfaction that they have given up the job, some in despair, others in disgust.

One of the chief difficulties in the way, I am satisfied, is the improper selection of varieties. It is well known that some varieties do well, even under adverse circumstances, while under the most skilful care others do not give satisfaction.

Six years ago I purchased and set out a dozen Hybrid Perpetuals. I lost a few the first summer; but I have yet *La France* (a hybrid Tea) usually classed among the Perpetuals, *Charles Lefebvre*, *Marie Baumann*, *Ferdinand de Lesseps*, *Mrs. Elliott*, *Comtesse Cecile de Chabrilant*, *Miss Hassard*, and *Alfred Colomb*, all of which have proved hardy, without the slightest protection, and have been almost constant bloomers from early

July till late in the fall ; the soil pretty heavy and only moderately rich. I trenched it two feet deep and made it very rich last fall, and expect much better results than I have had. I have also added about fifty new varieties to my collection, most of which are doing finely so far, and of which I hope to give you an account later on. Meantime let me say to intending rose-growers, make your soil deep (2 feet), and rich (one-half well rotted manure), and drain perfectly if at all inclined to be wet ; mulch well with manure every fall ; keep the surface of the soil loose at all times, and with such roses as I have named above you will have a fine show.

ROSE.

FALL TRANSPLANTING.

The question is often asked of gardeners, nurserymen and others, which is the better season for transplanting trees, fall or spring ? And taking into consideration the treatment which trees usually receive at the hands of those who plant them, or for whom they are planted, when asked that question we have usually replied that in our Canadian climate the spring is the better season for transplanting. Yet if our planters could be induced to take a little more pains in this matter of transplanting, and properly care for their trees in autumn, so that they would pass the winter without exposure to fierce frost-laden winds, the trees that are taken up in the fall and thus cared for would be more sure to grow, and to make a more vigorous growth than those that are just taken up in the spring. True, strictly speaking, this is not what is usually understood by transplanting. In our climate it is an impossibility to plant trees in an orchard or lawn where they are permanently to remain without the risk of their being exposed to the sweep of frosty winds, hence in order to protect

them from this exposure it is necessary to plant them out temporarily in some place where they will be or can be thus sheltered.

The objection that is urged against this proceeding is the extra trouble involved. Yes, there is some trouble, perhaps more trouble than in spring planting, but what if the gain be full compensation for the trouble ; we never achieve great success in any undertaking without proportionate painstaking. And, after all, the amount of *extra labor* in caring for the trees in the fall is *not* so very great. We select some place that is well drained, and also sheltered from the prevailing winter winds by buildings, or evergreen trees, or the conformation of the ground. Here we plant our trees, say a hundred in number, as thickly as they can stand without interlacing of the roots, and as deep in the soil as can be without getting below the summer-warmed earth, and are as careful to have the soil in contact with the roots, and every interstice filled as if the trees were to remain there forever. Here the roots that have been cut in taking up the trees will callous ; and when the weather and ground have become settled in the spring, and we are ready to set the trees in their permanent positions, we take them up, a few at a time, and plant them where they will be ready to push into growth when the first warm weather starts the swelling buds.

If, on the other hand, the planter waits to have his trees arrive in the spring, it may be that when the soil and weather in his locality are just suited for the operation of planting, the nurseryman from whom he is to receive them is barely able to get a spade into the ground and to commence taking up his trees ; after which they must be packed, transported to destination, and when received be heeled-in in order to keep them from drying and dying.

And this matter of heeling-in, unless performed with nearly as much care as when done in the fall, as above described, might almost as well not be done at all. Planters do not seem to appreciate the importance of careful heeling-in, and it is by reason of the want of care just here that many trees fail to grow, fail even to put forth at all, and the unlucky nurseryman who supplied the trees is blamed for sending dead trees. The truth is that the trees dried up because the soil was not in close contact with the roots when in the trenches. Meanwhile the season has been advancing, and by the time the trees are permanently planted the spring rains are over, the weather has become warm, not to say hot, the trees are suddenly forced into full leaf before the roots have been able to throw out sufficient rootlets to supply the requisite amount of moisture from the soil, and the trees suffer less or more in consequence, according as the summer may eventually prove dry and hot, or moist and cool. On the other hand, those that were procured in the fall, and set out permanently as early as the season would admit, put forth their leaves slowly, the roots are given ample time to take hold of the soil, and thus enabled to supply the leaves with moisture as fast as required, so that the trees grow without check.

Though the reasons in favour of taking up trees in the fall and treating them in the manner indicated are as cogent, and more so than has been stated, it is perhaps well that those who dislike to take much pains to do well what they attempt to do, will not hastily adopt these suggestions; for unless the fall heeling-in is carefully done, unless a well drained spot is selected, and after the heeling-in or temporary planting is completed, the ground be left in such shape as to keep excess of water away, unless care be

taken that no field-mouse harbors are near, and unless the trees be well sheltered from the fierce winter winds, the trees might better be left in the nursery, and run all the risks, and undergo all the comparative disadvantages of spring planting. But there may be some who are willing to take the requisite pains to secure the resultant advantages; it is a great gratification to those who endeavor to impart to others the results of years of observation and experience to believe that there are even a few who will be profited. For these few the foregoing has been written. W.

"EXAMPLES OF EVERGREEN GROWING."

Copied from a Report made to Mr. Phipps, Chief Forester for Ontario.

You will now allow me to give you a few very encouraging examples of evergreen growing that have been made in this section, and of the beneficial results experienced. A few days ago I and my esteemed "better-half" went over to Mr. James Bissel's pretty place, being about a half mile north of the village of Thedford, on the fourth concession of Bosanquet, and a station on the G. F. R. On a very showy place beside the public road, and about ten rods from it on the bank of a deep ravine Mr. Bissel placed his dwelling and home gardens. On the north and west sides of the home and garden spot he planted a belt of Canadian white pine (*Pinus strobus*), on the 6th of May, 1876, or eight years ago. He went to the adjacent pine openings and took up with the best of care a quantity of fine young thrifty trees, about six feet in height, and carefully and as quickly as possible transplanted them around his lot on the sides indicated, in one continuous row about six feet apart. It was a grand success, and the trees grew without much diffi-

culty, and have since made a fine, strong progressive growth, in height and dimensions perfectly satisfactory, the spread at the bottom being about eight or ten feet in diameter, and the height twelve or fifteen feet, with a thickness of bole at bottom of six inches. Mr. B. told us that in winter time his family experienced quite a sensible difference between the inside and the outside of this belt, and that the temperature and the fierceness of the winds did not appear within several degrees the same on the inside as upon the outside, where he had to go if he wished to ascertain the full power of the blast that was raging without. On the land on the inside of this belt and surrounding the home they grew fruits such as apples, peaches, grapes, &c., with vegetables and flowers, with tolerable and encouraging success, and enjoyed a very pleasant and comfortable home life with his family. But

THE BEST EXAMPLE

of this kind of tree planting, and a model of the kind I wish to get at, is furnished by Mr. R. Thomas, on his place a little further north of Mr. Bissel's. Mr. T. is said to have come originally from Wales, with a good practical knowledge of arboriculture and horticulture from his youth, and bought his lot of fifty acres, with some improvements upon it, some fourteen years ago. He told us in conversation that at that time they found it exceedingly difficult in times of winter storms to stand out of doors to chop wood or to do any outside domestic work. That this state of things suggested to him the idea of planting a good belt of pine around his home, to include also his garden and orchard. He consequently thirteen years ago set to work to plant young native white pine trees on the north side thirty-five rods, and on the east, or front of the lot, and west side, twenty

rods each, making a total of seventy-five rods. On the following year he planted also the south side, being so well pleased with the previous year's work, thus making a total surrounding of his home ground, and including nearly four acres. They went for the trees to the open pine slashings, and took up nice young branching forest seedlings, about six or seven feet in height from open spaces, and having good roots, and as much sod as possible upon them, and still adhering to them, and as quickly as possible planted them carefully in their places, most of them twelve or fifteen feet apart, and others only about six feet apart. They grew with remarkable readiness and beauty, scarcely five per cent. of them dying, and these were uniformly filled in the next spring. On approaching this plantation to-day it is a most conspicuously attractive spot, and at all times inviting to the gaze of the traveller. Situated as it is by the side of the public highway, on an eminence, it is seen for long distances; its long and beautiful branches, with their wealth of refreshing green, gently waving in the summer breezes, formed a scene we loved to look upon. From what we saw we could readily imagine the kind of protection this belt would afford from any direction against winter storms and piercing winds. We found some of the trees to be eight or ten inches through at the bottom, and regularly and thickly branched their whole length, fifteen or twenty feet in height, making a regular, strong and progressive growth of about two feet per annum. On going into the enclosure it seemed as though we were in an amphitheatre of beauteous proportions, with those charming pine branches gently waving in the winds on all sides, as if in perpetual and ceaseless motion. Within, besides the home, there was the vegetable gardens

and a large plantation of apple and peach trees that had already reached goodly proportions, although yet quite young. On the apple trees the branches were hanging heavily loaded to the ground with a regular, clean and very promising crop of fruit. The trees looked better and healthier, with better leaves and cleaner and better fruit, and more of it, than the generality of the neighborhood. Although this season there is not many peaches on the peach trees, the gentleman told us that they had in other years raised many very heavy crops. On the whole this was

THE BEST THING OF THE KIND

we had ever seen, and the beau ideal of what we had often tried to picture to ourselves in our frequent communications. After a little more questioning, Mr. Thomas said that now he could stand to cut wood in a storm with his coat off and be comfortable, and that he considered it worth to his farm five hundred dollars, nor would he like to sell it at that if not to be replaced. Another point that struck us with a great deal of convincing force while admiring this belt was

THE NATIVE BEAUTY

of our admirable Canadian white pine as a tree. We had often attempted to contrast this pine with the imported Austrian and Scotch pines, and hardly being able to sustain the comparison. But this plantation completely turned us over in our judgment and we will now cheerfully vote for the native Canadian born on our hills and towering in our fertile plains. Is not this as it should be and agreeable to our cherished motto, "Canada First?"

The points of excellence seem to us to be—

1. A beautiful clear refreshing green color of leaf, delightful to look upon.

2. Long swinging or swaying slender

branches, constantly in motion in the summer breeze. This contrasts finely with the stiffness of the other two pines.

3. A regularity from bottom to top of branches, decreasing in length but with a dense fulness of branch and leaf, giving a deep fulness to each individual tree without any breaks in it, and

4th. Nationality. It in every case and in every place reminds you at once and forever of our beloved Canada.

These four points we feel to be valuable and argumentative points of comparison, and they have already succeeded in establishing in us a love for the

CANADA PINE.

A short distance further to the north of these plantations, and on the same line of road, there is one of the most admirable blocks of many acres of natural growth of white pine from seedlings on open pine choppings that is to be met with in great distances. About 25 or 30 years ago the large, noble trees from this pinery were removed and the land left merely fenced and protected from the inroads of cattle for a few years is now densely covered with as handsome growth of young and promising pine as could possibly be desired. Their beautiful deep green and long slender branches on all outsides and open spaces are very attractive, and the traveller passing them invariably stops to admire their beauty and wonder at their rapid and astonishing growth. I may suppose there may be 25 or 30 acres of this kind of plantation in the block, and the trees have now reached a height of 20 to 25 ft., with a good bulky thickness of trunk. This pine in a few years more will afford to the people much value in evergreen branches for shades, coverings and decoration, and also in young and valuable timber for many useful and indispensable purposes. In expense it has really cost its owners

nothing but the taxes on the soil, as it is quite possible that the crop will pay all demands on this line with something to boot.

ANOTHER POINT.

Mr. Bissel mentioned a point in conversation that is of special interest to them living as they are just south of the shores of the great and majestic Lake Huron. They were formerly very much protected from cold winds coming over the lake from the north and sweeping with great force over this whole region during the winter and even spring months by a dense belt of Norway pine that was found growing on the sand hills in a continuous line parallel with the shore and reaching for many miles. This mass of pine raised a most effectual barrier to the height of about 150 feet above the water to those cold and destructive winds. This had the effect of greatly protecting much of the country that lay many miles to the south of it, including a fine agricultural belt of many thousands of acres in the counties of Lambton and Middlesex. This whole country and belts of timber were in the possession of "The Canada Company," being a company of English land owners, and they through their agents saw fit in their wisdom to give permission to have the whole of this timber sold and removed in very recklessness. Now, at this present time these hills are seen in the distance to be bare mountains of sand no longer covered with their usual dark and dense mass of green, and the wind barrier is in consequence lowered fully 50 feet. The effects of this removal are now being felt by the people of this entire region of country in the increasing cold of winter, in the greater severity of their wind storms visiting them, and in the frequency and severity of the destructive and much dreaded spring frosts late in the season. Surely there is not

always wisdom in great corporations, much less if those corporations are foreigners and unacquainted with the conditions and reason of things. This instance most forcibly opens to us the absolute need existing in the most of our locations, even thus early in our history, for self-protection against the increasing force of cold and wind storms by judiciously planting trees around our homes, our orchards and our fields. The wisdom of depending upon others is not always a safe wisdom.

Yours, &c., B. GOTT.

Arkona Nurseries, Aug. 30, 1884.

REPORT ON FRUIT-GROWING AT KEMPTVILLE, COUNTY OF GRENVILLE.

By P. E. BUCKE, Vice-President Fruit-Growers' Association of Ontario.

Hearing of quite an extensive orchard for this part of Ontario near the town of Kemptville, 30 miles south of Ottawa, I proceeded on the 13th June on a tour of inspection. Kemptville is situate on the St. Lawrence & Ottawa Railway, and is half-way to Prescott, the latter town being on the main line of the Grand Trunk. Leaving Ottawa by the 1.30 p.m. train I reached Kemptville at 3 p.m., and was met at the station by the proprietor of the orchard, John Conn, Esq., who kindly drove me to his place, which is one mile south of the town and two miles from the station. A branch of the Rideau river runs through his farm, cutting off 12 acres of the south end; it is on this portion of the estate the apple trees are situated. A close inspection of the soil showed that it was principally composed of a sandy loam running into clay, with a gravelly subsoil, giving good natural drainage. A buckthorn hedge is planted along the west side of the plot to give protection, but is not yet sufficiently grown to produce that effect. Transcendent crabs have been

set 10 feet apart inside the hedge with the same view, but these have since been budded with the Wealthy apple. These buds were set in 1883, and at the time of my visit had made a growth of from four to six inches. The fruit trees were all in excellent health, with the exception of a few Wealthies and Duchess on the lower part of the orchard towards the river where the gravel runs into stiff clay and the ground is lower, but the percentage of failure was so small that it is scarcely worth mentioning, except to point out that to be certain of success it is necessary to plant on high dry gravelly soil. I do not think any system of artificial drainage, however elaborate, would take the place of a deep gravel bed upon which to cultivate apples in the colder parts of Ontario with success. The land on which this orchard is situated slopes to the north and west. The trees cultivated and bearing on this 12 acres of orchard are :—

Summer.—Red Astracan, Tetofsky.

Autumn.—Alexander, Duchess of Oldenburgh, St. Lawrence, Sweet Bough, Fameuse, Peach.

Early Winter.—Wealthy, Haas, Mackintosh Red.

Late Winter.—American Golden Russet, Pewaukee, Pomme Grise, Walbridge, Talman Sweet, and an apple called the Gideon, making a total of 17 varieties. To these are added two seedlings, said to be of good quality, and named Conns No. 2 and No. 3. There are also a large number of crabs, but these, except the Whitney, which can hardly be put in that class of fruit, are being rapidly worked over with the different varieties mentioned, chiefly with the Wealthy and Gideon. I may mention that this latter apple was first introduced to notice as an ironclad by Peter M. Gideon, of the Excelsior Nurseries, Minnesota, who is also the ori-

ginator of the Wealthy. Mr. Gideon pronounces the apple called after him, "the best apple he ever saw, and the tree as hardy as an oak." Mr. Conn is making the propagation of this tree and the Wealthy a specialty, but is unable to grow them sufficiently fast to keep pace with the demand for them. The apple called the Moscow, Mr. Tuttle specially imported from Russia, obtaining it through one of the United States Consuls. I am in doubt if this apple is correctly named, as Mr. Gibb in his admirable reports on Russian fruits, does not mention one under that name. The tree is very hardy on Mr. Conn's grounds, and it is a fine grower. Mr. C. went into the orchard business without much previous knowledge of horticulture, having spent the earlier part of his life as a teacher of youth, and has consequently had some decided failures, among these was the Grimes Golden, of which variety he procured 100 trees, but has none left, all having died on his hands.

His oldest trees were set ten years ago, and are healthy in every particular. The borer is quite unknown to him; he has no twig blight, the only insect observed was the bark-louse (*Mytilaspis pomorum*), but these were in quite insignificant numbers.

Mr. Conn also carries on a small nursery business. He is propagating only such varieties as he finds hardy with himself; he multiplies the trees by root-grafting, which operation is performed during the winter months, the scions and roots being secured in the autumn and packed away in the cellar. They are whip-grafted, as opportunity occurs, re-packed and put away for spring planting. For the last few years he has set out between 8,000 and 10,000 grafts annually. He sells the trees from two to four years old, the purchaser calling at the orchard and taking them away. This spring he sold

out all his stock early and could have disposed of more if he had had a greater number of trees.

Mr. Conn is making an addition to his fruit farm by adding an acre of grapes; these he is growing on trellises between the apple trees. The whole orchard is beautifully clean; the cultivator is kept running very frequently during the summer months. He has also upwards of an acre devoted to gooseberries and currants. The varieties grown of the former are Houghton, Downing, Smith's Improved and an English kind, name not known. The berry is half as large again as Smith's. The gooseberry crop, which, as a rule, has set poorly about here, on his grounds will be simply enormous. His currants, with the exception of Lee's Prolific and White Grape, are all red, the varieties grown are the Victoria and London Red. He is getting rid of the common red and cherry varieties as not affording such good returns as the others. He has between one and two acres of strawberries; these are also planted among the smaller and younger orchard trees. One lot is too old for a crop, and the other was planted this spring, so that his strawberry prospects are not very encouraging. I advised his putting in some Cuthbert raspberries so as to continue his small fruit season until his early apples were fit to gather.

On a gravelly knoll just outside of Kemptville, I observed some apple trees of great age, and on enquiry found they were full-grown trees when the present oldest inhabitant reached the then straggling village. I judge from this they are from 50 to 60 years old; they are now fast declining, and I am glad to be able to put on record that they still exist, as it is a proof of the longevity of the apple in the locality. These trees are seedlings, but the fruit

grown on them is said to be of fair quality.

Mr. Conn's excellent example as a fruit-grower is being followed by the people around him, as many of the farms along the road bear witness by the apple trees planted upon them. He is also a member of the Fruit Grower's Association, which I trust he will be able to extend next spring in his vicinity.

After spending a very pleasant day at the hospitable abode of Mr. and Mrs. Conn, who were surrounded by four fine boys, and inspecting the beautiful rolling country dotted here and there with fine brick and stone farm-houses, as far as the town of Oxford Mills, I returned to Ottawa well pleased with my visit and the entertainment accorded me.

EXPERIENCE IN SHIPPING APPLES TO NOVA SCOTIA.

MY DEAR SIR,—Noticing in *The Horticulturist* for September, in a letter from Mr. Charles E. Brown, of Yarmouth, Nova Scotia, an unfavorable criticism respecting my shipment of apples to that market last year, I thought perhaps it would be wise to give some account of the same for the benefit of others.

In the first place, it is a question whether it will ever be an object to export apples in any quantity from Ontario to Nova Scotia, because good apples are grown in such abundance in Annapolis and in other parts that large quantities are frequently exported. Therefore, nothing but very superior stock would present any advantage to buyers there. Then the distance is so great that only the very best packing, such as is needed for shipping to Liverpool, will answer, and the expense per bbl. of carriage is not much less, being 90c. per bbl. on a carload from Grimsby to Yarmouth.

Now, if it is a question whether it

will pay to ship apples to Nova Scotia under the most favorable circumstances, what may be expected where one attempts it in such a season as that of 1883, when Ontario apples were so far below the average in quality, and yet, poor as they were, valued at from \$3 to \$4 per bbl. in our own home markets?

Well, I tried it that season, and shipped a carload to Yarmouth consisting chiefly of Greenings, Baldwins, King, Spy, Roxbury and Golden Russet, Ribston and Cranberry Pippin. In addition there were quite a few bbls. of inferior kinds, because I could not readily buy enough to fill the car without them.

Now, while the inferior stock brought deservedly severe criticism, as samples of our far-famed Ontario apples, the first-class kinds were highly satisfactory.

Messrs. P. D. Kinney & Co., the consignees, wrote: "This lot of fruit, on the whole, is rather better than you led us to expect. Of course any examination cannot be thoroughly reliable unless the contents of the barrels are emptied out. But we are satisfied that they are honestly packed, and *well* packed, too, for after the journey of 900 miles they still retain their places in the barrels, every apple of them, except two barrels which had evidently got part of their heads knocked out by rough handling."

The apples were distributed in Yarmouth as samples of Ontario apples, and critical reports were asked for from the consumers in the month of April of the following spring. While some of these were very justly adverse, the majority were highly commendatory, showing that the strictly first-class ones gave complete satisfaction. Here, for examples, are a few quotations from the reports:—

Mr. A. Lawson, proprietor Yarmouth

Herald, writes: "The three barrels of Ontario apples, viz., King, Spy, Ribston Pippin, which I purchased from you last fall, proved of very excellent quality and fine flavor, and gave my family and myself the utmost satisfaction."

Mr. R. S. Eakins writes: "Referring to the Ontario apples, I can only say that they were in quality and flavor, &c., the best I ever had. If you have some now send me one barrel."

Mr. W. E. Perry writes: "The barrel of apples, King of Tompkins Co., which I purchased from you last fall, proved entirely satisfactory in every particular. A most excellent eating and cooking apple."

Mr. G. E. Day, Baptist minister, says: "The Ontario apples purchased from you were sound and good; they possessed an excellent flavor, and were in every way highly satisfactory."

Mr. W. D. Lovitt writes: "The Ontario apples I bought from you in December last—Ribston Pippins and King of Tompkins Co.—were of the best quality and gave good satisfaction."

Mr. W. A. Chase writes: "Apples, viz., Ribstons, Greenings, Spys and Russets, highly satisfactory in quality, flavor and quantity in the barrel."

Mr. A. Smurn writes: "The Canadian Golden Russets bought from you last fall turned out of medium size, beautiful in form and color, of delicious flavor, and will keep perfectly sound and crisp till June. I want no better."

M. R. Bingay writes: "The Ontario apples received from you were first a barrel of large, red apples, very fine indeed, and very few spoiled ones. The Golden and other Russets were also very good, and the Greenings were just splendid."

Mr. H. A. Hood writes: "The Ontario apples have kept entirely free from rot, and have given good satisfaction. The Russets are a clean, well-preserved apple, but their flavor, I think, might be improved."

Mr. Chas. Allan writes: "The barrel of Ontario apples that I got from you gave entire satisfaction. They were called Cranberry, and have kept much longer than you guaranteed them. The flavor was excellent."

I may add that I have just received a letter from Messrs. Kinney & Co., in which they regret the unfavorable criticism above referred to, and ask if I can furnish them with another carload of Ontario apples this fall. Should I venture the experiment again it will no doubt furnish me with some further experience to publish next season through the valued columns of *The Horticulturist*.

I am, yours very truly,
LINUS WOOLVERTON.

THE NIAGARA GRAPE.

TO THE EDITOR CANADIAN HORTICULTURIST :

By same mail I send you a cluster of the Niagara Grape so that you may see what this vine is capable of producing under adverse circumstances.

You will no doubt remember that during the last few days of May a severe frost prevailed generally throughout Ontario. On the night of the 30th the thermometer registered 27.4° here, and in a place much less exposed to the bleak north-west wind than that where my vines were growing. This frost destroyed nearly every bud on my vines, and the few that were left were so much injured that nearly two weeks elapsed before they commenced to push again. The cluster I send—I have only a few hundred-weight of them—shows what the vine is capable of producing three months and fifteen days from the night of that frost.

As many of the readers of the *Canadian Horticulturist* will be glad to get reliable information respecting the suitability of the Niagara Grape to the peculiarities of the climate and soil of this Province, I shall be much pleased if you will tell them whether in your opinion, judging from the sample of the fruit now before you, and knowing the difficulties contended with during the past season, the Niagara grape-vine is suitable for cultivation throughout On-

tario or not. Perhaps it may assist you in coming to a decision to know that the Champion, grown by many persons in this vicinity, is not nearly ripe yet. I think the Delaware is ripening about equal to the Niagara. Brighton, growing on the same trellis with Niagara, has less than one-half of its berries coloured. There are but few coloured berries to be seen in Concord yet. Moore's Early is a few days ahead of this variety; Salem, growing in a much more favorable locality, is several days behind it; Chippawa is nearer ripe than any other I have.

Yours truly, THOS. BEALL.
Lindsay, 15th Sept., 1884.

CHAPTER ON CHERRIES.

(Continued.)

Tradescant Black Heart.—This fine cherry follows the Black Tartarian, and ripens just as this variety is done. This is a most excellent cherry, equal to the Black Tartarian and commands as good a price. It is a European variety, grown in the States under the name of Elkhorn. The tree is a vigorous grower; fruit large, of deep black color. Stalk rather short, set in a pretty deep hollow; flesh very solid and firm; a good hard cherry for travelling, and a good market fruit wherever raised; in perfection the second and third week in July.

Black Eagle.—Ripens much about the same time as the above. It does not bear so large a crop; in fact it is only a moderate bearer. Fruit generally in pairs or singly, yet it is a remarkably good fruit; the flesh deep purple, tender, with rich, high flavored juice, and should be cultivated for family use.

Reine Hortense.—This fruit is of the Duke habit. The tree is a healthy and handsome grower, and a very desirable variety. The fruit is very large, of a bright, lively red, slightly marbled and mottled; a very beautiful fruit; as it

is a cooking cherry it is excellent for pies and preserves. The tree is only a moderate bearer, which scarcely recommends it as a cherry to cultivate for the market, although the fruit is not so very fine you can always get the highest price for it.

Napoleon Bigarreau.—This variety I have not got now. In former years I cultivated it, and both tree and fruit were remarkable for their beauty. The fruit is of the largest size; pretty, heart-shaped cherry, of pale yellow, with a fine marbled dark crimson cheek; flesh was very firm and hard, but of excellent flavor when ripe; is a good and constant bearer; ripens about the second week in July. For some years this tree was very profitable to me. Year after year it bore good crops. At last trouble overtook it; the whole crop began to rot before it was fit for the market, and there was no other remedy than to cut it down. Without this blemish it is one of the best cherry trees to grow.

Early Richmond.—This tree almost belies its name, for it is the latest cherry I grow; there is some ripe fruit on the tree now, 13th September. I cannot say for certain that it is the Early Richmond, although bought and labelled as such. It is a cherry of the Duke habit. Fruit about the size and color of the Governor Wood. The tree bears a very good crop, and it is very useful, for its lateness makes it a good market cherry when all other small fruits are done. As I do not know whether it is true to name I cannot recommend it for cultivation.

Governor Wood.—This is a good variety; of vigorous growth, forming a round and regular head; a handsome tree, and very productive; fruit is large, roundish heart-shaped, light yellow, marbled with red; flesh very tender, juicy, sweet, rich and delicious; very good to best; ripens beginning of July.

It deserves a place in every good collection. Although I lost the entire crop from rot last year, this season it has come all right again.

Buttner's Yellow.—Is a heart-shaped cherry, raised by Buttner, of Halle, in Germany, and is one of the few cherries *entirely yellow*. Fruit is of medium size; skin pale yellow, not a particle of other color on it; looks a beautiful fruit, and is regarded in the marketplace as a curiosity, and buyers say they will take a few home to show them to the folks. The tree is a fine grower, and the crop large, with a tendency to rot in some seasons. This season the whole crop came down good, yet there were all the elements for a rot in the tree, which were kept dormant in consequence of the dry, warm weather. I believe that the curculio is the chief cause of the rot in the cherry, and in another number of the *Horticulturist* I will give you my reasons for thinking so.

CULTIVATION.

In planting cherry trees they should be put in ground that is rich and mellow: when I say rich I do not mean made so by manure, for from my experience the use of stable manure to cherry is a great drawback to its growth; and if planted in good soil the trees will thrive well for years, if they are mulched round the trunk with well rotted stuff or decayed weeds. From the use of new stable manure I have found that it seriously affects the health of the tree. Any quantity of soap-suds is very good to dash against the trunk. In pruning, the cherry trees need very little, just cut out a crossing branch; and the pruning is best done during the summer, just after the fruit is picked, then leave the trees to form the next year's crop. I might mention that the crop is already formed before you begin to prune, so do not let some ignorant person who professes to know

how to prune go and cut away the next year's cherries.

GATHERING THE FRUIT.

Don't let any person go up the tree with heavy boots on, so that he injures the bark. More trees are killed this way than any other, for where the bark is broken away the tree generally rots; and they should always pick the fruit with the stalks attached. This is very important, for in point of value the buyers prefer them with the stalks on than the other way, even though they get less cherries with the stalks on than off.

E. C. F.

SHAFFER'S COLOSSAL RASPBERRY.

Peoria Co., Ill., Aug. 13.

ED'R PRAIRIE FARMER :—Among the multiplicity of new and "best" varieties of small fruits which are annually advertised and sent out, it is a relief and gratification to find an occasional one of superior merit. I think we have such a variety in the Shaffer raspberry. Its characteristics are the following :

1st—It is a hybrid between the black cap and red species. 2d—The canes grow immensely large, and on this account should be clipped off while growing; first at 18 inches from the ground; again, about July 10, at 2 to 2½ feet; and again about August 10, at 3 to 3½ feet from the ground. 3d—It is *extremely hardy*—even harder than Gregg or Cuthbert. 4th—It is an immense bearer, far surpassing any variety in cultivation in this respect. 5th—The canes root at the tips and it does not throw up suckers all over the ground like the red varieties. This is a strong point in its favor for planting in gardens for family supply. 6th—The flavor of the fruit, though not rich, is peculiarly agreeable for table use, and especially for pies, jams and jellies. It is more acid than either the red or black species, and is free from the rank "me-

dicinal" flavor so common in reds, and the "buggy" flavor of the blacks. My family prefer it for table use, with sugar and cream, to any other variety. 7th—In size it surpasses any other variety, and can be picked at half or two thirds the cost of any other known to me. 8th—In color it is first a rather light red, turning quite dark purple when fully ripe. For market the berries should be picked when bright red; they then cleave from the crown very well, but for family use they should be left until dark and ripe, when the flavor is delicious. 9th—As a shipping variety it is as good as the average, if picked when red, and then brings the highest market price. Shaffer's shipped 100 miles, sold in Peoria at from 2 to 3 cents per quart more than very fine Cuthberts grown near the city.

Although the color is not in its favor yet its superior size will secure its sale at the best prices. Plants of this variety are now pretty plentiful at the nurseries, and can be procured at low rates. The high prices which have prevailed for this, also for those best early black-caps, the Souhegan and Tyler, have restricted their planting for home use.

The season of the Shaffer is rather late—extending the raspberry season well up to the blackberry season. I am now using Shaffer's splendid, large, fine berries from canes clipped in spring to within a foot of the ground, and there are still many green ones on the shoots from the shortened canes. It surpasses other varieties in this habit. The following has just come to hand: Chas. W. Garfield, Secretary of the Michigan State Horticultural Society, thus writes: "Shaffer's is the best market berry I have. Last year I sold a few for canning purposes to people of good sense, and this year they were in great demand at the price of the best reds. Without question it is the best canning berry we have. O. B. GALUSHA.

SOUHEGAN RASPBERRY.

A correspondent of the *Fruit Recorder*, residing in the State of Kansas, writes to that paper that the Souhegan Black Raspberry has done the best with him of any, being by far the most hardy and the best bearer. It is a pity that he does not say what other sorts he is growing, so that we might know whether it is a better bearer and more hardy sort than the kinds in general cultivation in this part of the world. Some Canadian cultivators fail to see any material difference between this variety and the Hopkins or the Tyler.

EARLY TOMATOES.

In the *American Farmer* is a letter from W. F. Massey in which he insists that age of plant is an important factor in the matter of early ripening of the tomato, and that the pruning away of the first top is valuable in hastening the crop, besides that at planting out time the tomato plants have two or three well-developed stems instead of one, and of course that much more for early fruit.

THE BRIGHTON GRAPE.

H. Hendricks writes to the *Rural New Yorker*:—"I have some very fine raisins from the Brighton grape. The grapes were well ripened and placed in a drawer in a warm room, in October last. I find that none have decayed, but the fruit has just dried and shriveled naturally, retaining much of the true raisin bloom. In flavor they are not quite so sweet as Malaga or sun-dried raisins, but they are raisins nevertheless. I, of course, had no idea of raisins when I put the grapes away. Next season I shall give the Brighton a fair chance in the sun, and see how far its raisin propensity may extend. It is unquestionably an excellent grape, and every one ought to have at least a few vines of it in his garden."

THE MANCHESTER STRAWBERRY.

A. M. Purdy says in the *Fruit Recorder*, of this strawberry: "As a late sort it is exceedingly valuable, and we shall plant of it largely."

DWARF OR STANDARD PEAR TREES FOR PROFIT.

P. T. Quinn writes to the *N. Y. Tribune* that if he were about to plant a pear orchard now, with an experience of twenty-five years in growing pears for profit, and could get dwarf pears for nothing, and were compelled to pay five hundred dollars a thousand for standards, he would not hesitate a moment in making the selection of standards. He considers one healthy standard pear tree at twelve years of age worth a dozen of dwarf pear trees of the same age.

PARIS GREEN vs. CURCULIO.

William Creed, writing to the *Fruit Recorder*, says that he applies Paris Green to his plum trees at the time the Curculio is depositing its eggs in the young plums in the following manner, and that he finds one application made at the right time, provided no rain follows immediately after, exterminates the crop of Curculios: He reduces some glucose to a weak syrup and puts a little of this, he does not say how much, into a common pail and mixes thoroughly with it two thirds of a teaspoonful of Paris Green. He thinks this helps to keep the Paris Green in suspension. He then fills the pail with water, stirs the glucose syrup mixture rapidly through the water, and with a garden syringe thoroughly sprays the plum trees until fruit and foliage are covered with the spray. It will help to keep the Paris Green in suspension if the water is frequently forced back into the pail from the syringe while spraying the trees.

MULCHING PLANTS WITH MOSS.

Peter Henderson says:—"This is a new practice we began in 1880. It consists in mixing the common moss of the swamps or woods with about one-twentieth of its bulk of bone dust. This is placed to a thickness of an inch or two on the top of the pot. Plants so treated quickly show surprising health and vigor. It cannot be too highly recommended, whether for the amateur growing a few window plants, the gardener with his full appointed green-houses, or the florist who grows to sell—to one and all we advise it, as it not only lessens labour, saving a repotting of plants frequently for twelve months, but the vigor of growth and productiveness of flower and coloring of foliage are perfectly astonishing. The moss mulching process should only be done in summer. If used in winter there is danger of the plants getting too damp."

EARLY RASPBERRIES.

Samuel Miller, writing to the *Rural World*, says that the first ripe red raspberry was the Scarlet Gem, ripe June 11th, and bearing a fine crop of large, handsome, excellent berries. Crimson Beauty and Stayman's Number 2 ripened five days later. He states that Crimson Beauty is perhaps the most valuable of the three, though there is very little difference, all are valuable.

Of the black raspberries, Centennial was the first ripe, Souhegan and Burns a few days later. All three, he says, are valuable; Centennial the largest, Souhegan the most acid, and Burns the smallest and sweetest.

He considers the Caroline to be certainly an acquisition, not quite as large nor quite as good as Brinckle, but near enough to make it valuable. His plants were loaded with fruit, which, he says, "is certainly fine." We have found this variety to be truly an enor-

mous bearer, but we cannot call the flavor of the fruit sufficiently good to make it valuable.

PYRETHRUM FOR THE CABBAGE WORM.

A writer to the *Indiana Farmer* says that he destroyed all the worms on his cabbage by the use of Pyrethrum, or Persian insect powder. He put a common tablespoonful of the powder into a watering pot holding two gallons and a-half of water, upon this he poured boiling water sufficient to fill the watering pot, stirred it thoroughly and then left it to steep for a few hours. With this liquid he sprayed his cabbages twice a week as long as a live worm could be found, and reports that it was sure death to every worm that got a wetting.

SQUASH GROWING FOR MARKET.

The *N. Y. Times* publishes a communication from Henry Stewart, who seems to have made the growing of squashes a specialty. He advises selecting a moist, loamy field, where the moisture is long retained, plowing in a very heavy dressing of manure, afterwards manuring in the hill liberally, giving at the rate of forty pounds to the hill after having plowed in about sixteen tons to the acre. He conquers the striped bug and black-flea beetle by dusting the plants with white hellebore, and the squash bug and squash vine borer by spraying the vines with a kerosene emulsion and pouring it on to the stems so that it will run down into the soil. This emulsion he prepares by dissolving one pound of whale oil soap in one gallon of hot water, to which is added one pint of kerosene oil and the mixture well beaten into a smooth emulsion. The ends of the running vines are pinched off as soon as they begin to trespass on each other; this forces the

growth of lateral branches, which alone bear fruit. If this be neglected, he says, one will have splendid vines, but very little fruit; but when this is done seven tons to the acre is a very common yield.

THE INFLUENCE OF POLLEN.

The effect of pollen upon the fruit and seeds of plants is a subject that has frequently engaged the attention of both practical and scientific horticulturists during the past score or two of years. All admit that pollen is an important factor in the production of seed. Furthermore, if there is seed, there must be some other organ present to support it—a fruit-stalk; an envelope to enclose it, as in the apple, pear, cherry, and similar fruits, or something to rest upon as in the strawberry, raspberry, and blackberry. Consequently we must admit that the influence of the pollen does necessarily extend beyond what we term the fruit or even the seed. Quite recently this subject has come up anew, and interesting discussions have followed at several meetings of horticulturists as well as in the columns of various agricultural and horticultural journals. We find the same influence exists in melons, squashes, cucumbers, and similar fruits, and often to such an extent that a choice and high flavoured variety is almost ruined by being planted near an inferior one. A more striking and familiar example of the influence of pollen is that of sweet corn fertilized by the pollen of field corn. If a yellow variety of field corn is planted near any variety of sweet corn, and both come into bloom at the same time, there will be yellow kernels interspersed among the grains of the sweet, and the flavour of these will be as distinct as their color. The influence of the pollen in this case, not only extends to size, color, texture, and flavour, but often

still further, for the coloring matter will usually be seen in the cob. It will be the same with two white varieties, but the effect is more readily observed when one variety is either red or yellow.—A. S. FULLER, of N. J., in *American Agriculturist* for September.

HOW TO MAKE YOUR LAWN.

Where lawns are made by seeding, the work is commenced by turfing. Wherever there is a termination in the grass plat, not otherwise bounded, a strip of turf about a foot wide should be laid down for making a firm edge. Do not remove the soil quite as deep as the sod is thick, as some allowance should be made for compression in beating. When ready to sow the seed, the surface should be passed over with the rake and mellowed up a little on the top. It is a common error to use grass seed too sparingly. Use four or more bushels to the acre. Where it is known that any one sort does well, it is best to sow only that one kind. As a rule Red Top, Bent grass, or Blue grass, are generally preferred. Where it is thought best not to depend on one alone, then several kinds should be mixed. Some always sow a little White Clover with the grass seed, for the greenness it maintains in drouths, but wherever lawns are kept watered this should not be added. In sowing, the seed should be divided into two portions, half to be sown by passing over the land in one direction, and then, after lightly raking over the surface, sowing the remaining half cross-wise. Rake in the seed, or use a brush harrow, and after this let a thorough rolling be given.

As the grass starts up, and the weeds with it, the mower must be kept at work on the new lawn. The weed seed lying in the ground usually comes up quickly, and will prove annoying for a while, but if the grass was sown thickly enough, and the mowing and cut-

ing out coarse growing weeds are attended to for the first season or two, the lawn will come out all right in the end.—E. A. LONG, of N. Y., in *American Agriculturist* for September.

TREES WITH ATTRACTIVE FLOWERS.

Under this heading I propose to enumerate a few trees desirable on account of their flowers. In the selection of trees this characteristic is often overlooked, and some of the best flowering trees are but little esteemed. I name first the *Virgilia lutea*, which undoubtedly is the finest flowering tree we have. Its long white racemes of pure white flowers hang gracefully about the tree, and form a picture the admirable points of which it is difficult to describe. The Chinese Magnolias are so well known that it is not necessary to refer to them, except in a general way. The Judas tree may be associated with them in groups with fine results. The large double-flowering Cherry, white flowering Dogwood, double scarlet and double white Thorns, white Fringe, and the Lindens are all admirable trees, and merit prominent places in ornamental grounds. The double-flowering Horse Chestnut is justly admired for its elegant form and magnificent inflorescence. The absence of fruit, by which much litter is avoided, is an important argument in favor of its employment. The red flowering Horse Chestnut is surpassed by few ornamental trees. *Koelreuteria paniculata*, with its golden yellow flowers, and *Catalpa syringefolia*, producing great clusters of white and purple flowers, cannot be too highly prized, as they blossom at a season when flowers are very scarce. The double-flowering Peaches, which flower immediately after the *Prunus triloba* and dwarf double-flowering Almond, are very desirable. One variety produces double rose flowers, another double white, and another double red. At the flowering

season every branch of these trees is thickly studded with blooms, remarkable for size, beauty, and the length of time during which they remain fresh. The three are a trio of flowering trees which deserve to be extensively planted. The scarlet Maple yields a profusion of scarlet flowers early in spring before the leaves appear. It is very showy and ornamental.—W. C. BARRY, Rochester, N. Y.

SOW NOW FOR SPRING FLOWERS.

While our gardens present a much greater variety than did those of a half century ago, there are some plants in which the old-time gardeners excelled. We do not see such beds of Pansies, or of Rocket Larkspurs, as were then the pride of the gardeners. Success with Pansies is mainly due to sowing the seed in autumn. If the seed is sown in spring, by the time the plants begin to bloom hot weather comes, and the flowers become fewer and smaller. In order to have flowers in spring, sow the seeds early this month. Make a spot of rich soil fine, and level the surface by pressing it with a board. Sow the seeds, sift a little soil over them, and press down firmly with the board. When the plants are an inch high, transplant them to the place where they are to flower. The plants are quite hardy, and all the winter protection they need is a little brush to keep the snow from pressing too heavily upon them. The Rocket Larkspurs are unlike the tall ones, annuals. A bed of them is as showy as one of Hyacinths. Sow in a well enriched bed this autumn, but leave them to flower where they were sown. The bed may be covered with brush during the winter, and if the plants are too much crowded in any part of the bed next spring, thin them by cutting out the surplus. They do not transplant satisfactorily.—*American Agriculturist* for September.

BOOKS, &c. RECEIVED.

VICK'S CATALOGUE OF HARDY BULBS, &c, for autumn of 1884. James Vick, Rochester, N.Y. Mailed free to all applicants.

ELLWANGER & BARRY's supplementary list of Novelties and Specialties, also their Catalogue of BULBOUS FLOWER ROOTS for fall planting, 1884, and Descriptive Price Catalogue of SMALL FRUITS.

SEVEN HUNDRED ALBUM VERSES is the title of a little book of 128 pages, filled with a variety of selections in poetry and prose, for the convenience of those who being requested to write in an album are at a loss what to write. It is sent by mail, post-paid, in paper cover, for 15 cents, in cloth 30 cents, by J. S. Ogilvie & Co., 31 Rose Street, New York.

CYCLOPEDIA OF PRACTICAL FLORICULTURE.—We have received from Townsend MacCown, Publisher, 744 Broadway, New York, his prospectus of a work of 420 pages quarto, with the above title, which he promises for completeness and popular value shall surpass anything of the kind yet published. The price, in cloth, \$5 00. Book sent to any address prepaid by the publisher.

CANADIAN BREEDER and Agricultural Review, is published weekly, corner Church and Front streets, Toronto, at \$2 00 a year. The initial number just received is very handsomely printed on excellent paper, and filled with valuable matter pertaining to the stock and farming interests of Canada. We are pleased to note that it is not intended to fill this paper with trashy stories and conundrums, in order to make it attractive to children or to the weak intellects of those of larger growth, but to give its readers substantial value for their subscription in the reading matter furnished.

TRANSACTIONS OF THE MISSISSIPPI VALLEY HORTICULTURAL SOCIETY for the year 1884 have been received from Mr. W. H. Ragan, secretary, to whom our thanks are due for the opportunity of examining so valuable a contribution to our horticultural literature. The book is adorned with an excellent likeness of Dr. John A. Warder, that lover of nature and enthusiastic promoter of every enterprise that aimed to advance our knowledge in any department of rural life. The paper on profitable fruit-growing in Minnesota is worth, to those of our readers who reside in the parts of Ontario which has a similar climate, all that the whole book costs. We advise them to send two dollars to Secretary W. H. Ragan, Greencastle, Indiana, and secure a copy.

The *Orillia Packet* says:—"We are glad to learn that complaints of a failure of the apple crop in this district are by no means universal. Mr. A. T. Millichamp, Lake Shore, will have a good yield, some of his trees, indeed, being heavily laden, and we hear of others equally fortunate."

The Presidential campaign is begun in earnest, and our neighbors in the United States have plenty of excitement just now. The *Philadelphia Weekly Press* announces that the price is only 25 cents until after the November elections, and the *Daily Press* 50 cents per month.

RED RASPBERRIES IN HILLS.—The *Fruit Recorder* says:—"We have become satisfied that red raspberries should be grown so as to be worked both ways—allowing three to five stalks in the hill—owing to size and stockiness. We find when grown in hedge rows the berries are not so large and fine as those grown in hills, and are not so easily picked. Of course they can be planted quite close together—say, for instance, 4½ to 5 feet each way, and if nipped back when growing, they require no stakes. Grown thus in hills, and each year a small forkful of manure thrown against each hill, a plantation will last fifteen to twenty years, especially if the old wood is cut out every year."

MISCELLANEOUS.

MOORE'S EARLY GRAPE.—We are growing very fond of Moore's Early Grape. It is no better than Concord in quality; but it ripens up fully before any other of our grapes, and we eat it and enjoy it, because we have no better grapes to eat and enjoy.
—*Rural New Yorker*.

ATLANTIC STRAWBERRY.—The readers of the *Canadian Horticulturist* were presented with a colored plate of this strawberry in the January number. The *Rural New Yorker* says of it:—"We can not say much in favour of this variety. It is moderately prolific, berries firm and of fair quality, medium to late."

THE TYLER RASPBERRY.—The Tyler, without any exception, is the most abundant bearer on our place, ripening early and holding out to the last. If we were confined to but one sort, it would be this. The different sorts are ripening together this year more than we ever knew them before. We are unable to account for it.—A. M. PURDY, in *Fruit Recorder*.

APHIDES OR PLANT LICE.—Prof. Glaser, of Germany, recommends the following for killing lice on plants:—Dissolve 2 ounces of soft soap in half-pint rain-water, make an infusion of 1½ oz. tobacco in half-pint water, mix together; add 2½ oz. fusil-oil, and half-pint of methylated spirit, and make up the mixture to a quart. Sprinkle the leaves of infected trees with it, and it will kill the lice without injuring the plants.

THE GREGG RASPBERRY.—If there is a black raspberry on earth superior to the Gregg, for large size, productiveness, lateness, and for the market stand or evaporating, we would like to see it, and would willingly give one thousand dollars for one thousand plants. Talk about the Ohio. As the saying is, "it can't hold a candle to it." We are drying them in our Williams evaporator and getting one pound from 2½ to 2¾ quarts of fruit.—A. M. PURDY, in *Fruit Recorder*.

NEW FLOWERING THORN.—A new hybrid thorn (*Crataegus Carrierei*). The first number of the *Revue Horticole* for March gives a beautifully and delicately executed

plate of the above named charming addition to our hardy shrubberies, which is now being sent out by the well-known French nurseryman, M. Baltet, of Troyes. It was raised by M. E. A. Carriere, when head of the propagating department of the Paris Museum of Natural History, from a seed of *Crataegus mexicana*, and is said to be extremely hardy, the severe winter of 1879-80 having left it entirely uninjured. It is valuable for its handsome bunches of large white flowers with conspicuous red-tipped anthers, produced freely about the middle of May, for the bronzy copper red tints assumed by its foliage in autumn, and for its handsome and brilliantly colored berries resembling in color those of the common *Arbutus*, but of a somewhat brighter hue. All these points are clearly set forth in the plate, half of which was painted in spring and half in autumn.—*The Garden*.

A NEW CHERRY.—Mr. James Dougall, living in Ontario, Canada, has a new seedling cherry named The Dougall, in honor of the raiser. It is a seedling of the Early Purple Guigne, a variety well known to the fruit growers as an early and profitable cherry. The fruit of The Dougall is ripe about a week before that of its parent, and is larger and finer flavored. The tree is noted for its hardiness and vigor of growth, and as being a most abundant bearer. The specimens sent us show its great fruitfulness, and also the large size and vigor of its foliage. The fruit is of the darkest purple color, almost black, with a remarkably juicy flesh of great richness. We accidentally discovered a quality of the fruit for which the raiser makes no claim. It is a remarkable keeper. A number of loose cherries were, by chance, left in the box, and when discovered a week or more after their arrival, save a slight shrivelling of the skin, they were unchanged. There were no indications of decay. We hope the Dougall may retain the good qualities shown by the original tree. The "Windsor," another of Mr. Dougall's seedlings, has already received the attention of fruit growers. We are glad to see a renewed interest in the cherry, which of late years has been much neglected.—*American Agriculturist for September*.

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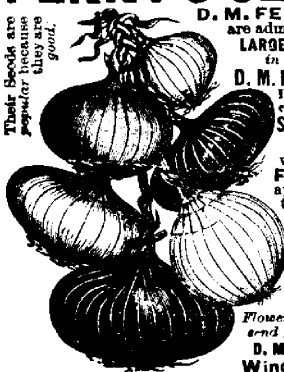
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