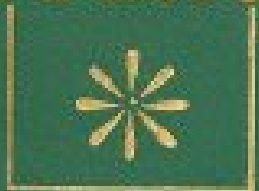


THE
CANADIAN
Horticulturist.



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NARCISSUS.

THE
Canadian Horticulturist.

VOL. VIII.]

MARCH, 1885.

[No. 3.

THE NARCISSUS.

The times change and we change with them. We seem even to tire of beautiful and pleasant things, and put them away because they cease to interest. Flowers become old-fashioned, and in our love of new things the old-time favorites are neglected, and for a while forgotten. But by-and-by memory recalls her long-forgotten joys, and we go back again to our old favorites, and plant anew the neglected flowers. Thirty years ago nearly every garden had its clumps of daffodils, jonquils and narcissus. And now, after many years of neglect, these old-time favorites are being sought for again. Exhibitions are held expressly to display their beauty and scatter their fragrance. Attention is being called to their many excellencies, and for a time they will be again planted and admired; and we shall wonder that we could ever suffer them to die out.

The pretty colored plate which enriches this March number will recall familiar loveliness to many of our readers, while to others, doubtless, it will possess the charm of novelty. To which will be given the greater pleasure; to those who look upon these flowers with curious interest, feeling that there are in store for them new sensations of delight in watching their unfolding beauty and inhaling their delicious fragrance for the first time; or to those in whose hearts deep memories are stirred, to whom they speak "of life's morning march, when their bosom was young," of the home of their forefathers and the friends of early days? Ah! well, let there be joy to both and to all in the culture and the gathering of these spring-time flowers, we need not question whose is the richer if so be that the cup of each is full.

Our plate represents three varieties of narcissus. The largest flower, with the bright pink or bright scarlet edge upon the crimped crown, is known as *narcissus poetica*, or the poet's narcissus. It is generally esteemed the most beautiful. The large petals are of the purest white, the small crown in the centre is of a light yellow, edged with very bright pink. The flowers are very sweet-scented. The bulbs may be planted in clumps in the garden, in rich friable soil, and allowed to remain undisturbed for several years. Eventually the bulbs will become too crowded, when they should be lifted, after the leaves have died down, separated and re-planted in fresh soil. The flowers appear about the end of May. They give a bright, cheerful appearance to the vase or table bouquet, and fill the room with delightful odors. This species is a native of the South of Europe, but is sufficiently hardy to endure our climate.

The two other flowers, one of them double and the other single, belong to the species known as the paper-white narcissus, *N. papyraceus*. They are both very fragrant and exceedingly desirable for window culture, but are not sufficiently hardy to endure our climate in the open

border. Three bulbs may be planted in a five-inch pot, in rich, friable soil, with plenty of drainage in the bottom of the pot. They should be planted deep enough to bring the neck of the bulbs just at the surface. After planting, water sufficiently to moisten the earth thoroughly, and then set the pots away in a cool, dark place, until they are filled with roots. This will take place in about three weeks. When the soil in the pots is well filled with roots, they should be brought into the light and kept in a temperature as near sixty degrees (Fahrenheit) as possible. If the heat be much greater, the flowers will not be so well developed. As the plants grow they need watering, just often enough to keep the ground moist. The beauty and fragrance of the flowers will amply repay the care required.

There are many other species and varieties of narcissus. Johnson, in his "Gardener's Dictionary," enumerates upwards of ninety. The two-flowered narcissus, *N. biflorus*, so called from its producing two or more flowers on each stem is also perfectly hardy in our climate. The flowers are white or pale straw color, with a short, yellow crown, having a white rim, and very fragrant.

N. bulbocodium is the handsome hoop-petticoat narcissus, known in France as "Medusa's trumpet." The flowers of this species are bright yellow, the cup is very conspicuous, widening rapidly toward the brim. It is a native of Portugal, and needs a light protection of leaves in winter and to be planted in a sheltered situation.

The jonquil, *N. jonquilla*, produces bright yellow, fragrant flowers, two to five on a stem. It is quite hardy and thrives well both in the open border and as a window plant. There is also a double-flowered variety.

The daffodil, *N. pseudonarcissus*, is also hardy, and very showy, coming into bloom about the end of April. There are numerous varieties. The type is a single large flower with a large cup, and both of a yellow color. One of the varieties has white petals with a yellow cup; another has a yellow flower with a deep golden cup; and another has several cups, one within the other.

The polyanthus narcissus, *N. tazetta*, is considered the most desirable of them all, but it is not hardy in this climate. We must content ourselves to employ it for window gardening, for which it is well adapted. The flowers are borne in trusses of from six to twenty in a truss, are large and very fragrant. There are many varieties, some white with yellow cup; some white, with orange cup; others yellow, with orange cup; others all white or all yellow. There is also a variety of double flowers.

The President of our Association has planted a large number of different species and varieties the past autumn, and it is expected that he will give us the results of his experience with them as soon as they have done flowering.

MARLBORO' RASPBERRY.

SPECIAL NOTICE.

We are instructed by the *Rural New-Yorker* to say that those subscribers to the *Canadian Horticulturist* who have paid us three dollars in order to club with the *Rural New-Yorker*, will receive TWELVE plants of the Marlboro' Raspberry instead of four, as previously promised; and that any one who may at any time during the month of March send to this office three dollars, will receive the *Canadian Horticulturist* during the year, with all of its plant distribution, and the *Rural New-Yorker* for a year, with its free seed distribution, and TWELVE plants of the Marlboro' Raspberry, together with the Report of the Fruit Growers' Association of Ontario for

1884, now in press.

NOTICE TO SUBSCRIBERS.

If any numbers of the *Canadian Horticulturist* fail to reach you regularly, at the proper time, you will confer a favor by at once informing me of the fact by postal card or otherwise, and I will have another copy forwarded to you at once, and will endeavor to ascertain the cause of the irregularity, and apply the remedy.

D. W. BEADLE,
Editor.

CANADIAN PLANTS IN JAPAN.

The following letter, addressed to the President of the Fruit-Growers' Association of Ontario, announces the safe arrival of the plants sent by him to Mr. Tsuda, of which we gave a brief notice in the February number:

WM. SAUNDERS, ESQ.—Dear Sir,—How can I sufficiently thank you for such a lot of valuable plants, which reached me from you the last mail. The plants you sent are most interesting, and I shall be delighted to try them, and to propagate them. They reached here in excellent condition, the young shoots just ready to come up, and I have placed them in the ground and shall expect, in due time, good results. Of course I shall let you know how they do, and what success I have with them, later on. I am almost certain they will do well here, as most such small fruits do, and, in fact, in any part of Japan. The weather is not yet very cold, and now is the best time to plant them, which I have done, duly and according to your advice as to the number of feet apart. I shall be greatly interested to know how they do, and shall take great care to cultivate them well.

I should be very glad to give you any information about the native plants, and as to the grape plants, I should be glad to send you any variety. Just now is too late to send, so I will wait until the spring. I will enclose you some seeds of various trees, and more from time to time, as I can get them. If I can do anything else for you in my line, I shall be most glad to do it for you.

Many of the American fruits do well here. The apple in the northern part of Japan grows very well. I think, too, that our Japanese Persimmon does very well in your country. I shall be very glad to receive any of the publications of your Fruit-Growers' Association, and shall be pleased to hear of the good work you are doing in extending fruit culture among the people of your country. If I have any reports of the work here, I shall be most glad to send them to you.

And now allow me to extend you my very best thanks for the interest you have taken in Japan and, through this interest, the favor you have done to me.

Yours, very truly,
T. TSUDA.

Azabu, Tokio, Japan,
Dec. 3rd, 1884.

McINTOSH RED APPLE.

We have received from Mr. Allan McIntosh, of Dundela, Dundas County, Ontario, a box of the McIntosh red apples, with the request that we would test them and let the readers of the *Canadian Horticulturist* know what we think of them. He remarks that the spots on them, at his

place, the past season have been very light, and if the next spring is not too wet and cold, there will be no spots on them the coming season.

In point of appearance we must say that these apples are very handsome indeed, that their beauty is enough to sell them in any market. They very much resemble very large and very high-colored Snow apples. The form of the apple is somewhat more flattened than that of the Snow, but in other respects the general shape of the fruit is very like that apple. The color is a rich dark red, relieved with lighter coloring on the shaded parts, and the whole is covered with a thin bloom, like the Red Astrachan. The flesh is nearly white, not quite so white as that of the Snow, nor quite so melting, yet very tender, juicy and of excellent flavor; more highly flavored than the Snow. It is a far handsomer and very far better apple than the Ben Davis. The specimens received were in fine eating order, hence we infer that this apple is at its best in January and February when grown in Dundas County, and if intended for the English market, should be shipped in the fall in preference to a spring shipment.

A HANDSOME SEEDLING APPLE.

We have received from Mr. M. E. Park a couple of apples of great beauty. He writes that they are from a seedling tree, grown in the same latitude as Montreal, which is about six years old, its trunk of the diameter of a tea cup, and that it bore fully two barrels of apples the past season, which was its second season of bearing. The apples received were of large size, resembling in form well grown samples of Northern Spy, only not quite so conical. The stem is about an inch long, very stout, and set in a deep cavity. The calyx is set in a basin of moderate depth, slightly corrugated. The ground color is a very light lemon, beautifully marbled and shaded with bright carmine, and the surface sprinkled with minute grey dots. It is one of the most attractive in appearance of any we have seen, rivalling in beauty the beautiful Louise, which was exhibited some years ago at one of the winter meetings of the Fruit-Growers' Association, in Hamilton. The flesh is almost white, fine grained, quite acid and not rich. It is too acid, as tested by us, to be generally relished as a dessert fruit; perhaps later in the season the acidity may become less prominent. We think it would make an excellent cooking apple. If the tree be extremely hardy, capable of enduring the extreme cold of Northern Ontario, this seedling will be very valuable as a winter apple for those parts of the country where our higher flavored varieties utterly fail.

APPLES IN ENGLAND.

Keeling & Hunt, London, England, report sales, February 6th, 1885, of Baldwins at 15s. 6d. to 19s. sterling, the latter price being for high-colored fruit; R. I. Greenings at 8s. to 18s.; Roxbury Russets at 23s. 6d.; American evaporated apples at 40s. per hundred weight.

Green & Whineray, K. 30, Exchange Buildings, Liverpool, England, report on 7th February, as follows:

The following quotations are for tight barrels: Baldwins, Boston, 14s. to 17s.; do., Maine, 16s. to 17s. 6d.; do., New York, 15s. to 16s. 6d.; do., Canadian, 16s. to 19s.; Greenings, 13s. to

16s. 6d.; Black Oxford, 14s. to 15s.; Newtons, 20s. to 25s.; Rox Russets, 12s. to 15s.; Golden Russets, 17s. to 19s.; Golden Russets (Canadian), 22s. to 26s.; Northern Spy, 13s. to 18s.; Kings, 20s. to 23s. Slack packed, 12s. to 14s. 6d. Slack and wet, 9s. to 12s. 6d.

Arrivals for the week are as follows: *Wyoming*, at New York, 812 brls.; *Britannic*, at New York, 2,215 brls.; *Sardinian*, at Portland, 3,993 brls.; *Norseman*, at Boston, 4,850 brls.; *Virginian*, at Boston, 2,439 brls.; *Samaria*, at Boston, 1,414 brls.; *Istrian*, at Boston, 2,146 brls. Total arrivals for week, 17,869 brls. Total arrival to date, 409,070 brls.

CHARLES DOWNING.

The Fruit-Growers' Association of Ontario, at its winter meeting, passed the following resolution, expressive of their sense of the loss sustained by reason of the death of this eminent horticulturist:

Moved by Alex. McD. Allan, seconded by P. C. Dempsey, and resolved "that the Ontario Fruit-Growers' Association have learned with feelings of the profoundest regret of the death of the venerable Charles Downing, of Newburg, N.Y., one of the most unselfish of men; in his writings pointed and always reliable; in his correspondence prompt and obliging; charitable towards all men, yet firm in all good principles. There is, we believe, no horticulturist of the present century who has left behind him so valuable a work of reference upon fruits and fruit culture, and at the same time retained so warm a place in the hearts of all true friends of horticulture. A man possessed of the finest traits of character that combine to make a perfect model of the true horticulturist, the man and the Christian. In placing upon record our sentiments at parting with one of so great value, not only to horticulturists, but to humanity at large, we know that the gain is his while we deplore the loss, and that he is now reaping the rewards of so pure a character."

THE LONGFIELD APPLE.

Doctor T. H. Hoskins, of Vermont, writes to the *Rural New-Yorker* that this is the only winter apple of the Department of Agriculture's importation, that has fruited sufficiently with him to give an idea of its merit. It is of the size, color, form and general appearance of Fameuse, but covered with a heavy blue bloom. The stem is short and slender, inserted in a small but rather deep cavity. The calyx is closed and in a very shallow, regular basin. The core is rather large for the size of the apple. The flesh is much like that of Fameuse and of very good quality. It keeps well into March. It is a productive and valuable apple of the iron-clad class, lacking only in size for market.

Our readers will remember that we gave some account of this apple last year, see page 136 of Volume VII., and that Mr. D. H. Carpenter, of Wisconsin, speaks in very high terms of this apple, saying that, when everything is taken into consideration it is decidedly the best winter apple they have in Wisconsin.

WHAT THE PEOPLE SAY.

You deserve all the support we can give you. You are improving every year, and I feel as if I must have the publication.

REV. DR. ARMSTRONG.

Moore, February, 1885

The vine received from the Fruit Growers' Association last spring grew nicely. We like the *Canadian Horticulturist* very much, and think the coloured plates alone are worth the subscription.

R. W. BASS.

Oxford Centre.

You give good inducements for people to subscribe, but I am sorry to say there is not any of my neighbors take any interest in fruit-growing; but some of them like fruit, which I know to my cost.

W. J.

Huron, February, 1885.

I am happy to see the *Canadian Horticulturist* getting on so well, and trust the Society is still doing better, as it certainly deserves every encouragement, for it is doing a good work, and is not yet half appreciated.

J. R. COTTER.

Barrie, February, 1885.

I am very much pleased with your valuable monthly, and wish it all success. I consider the twelve colored plates alone worth the subscription price, saying nothing of the excellent and instructive reading matter. Hoping each year will bring you increased prosperity, I remain.

Yours, &c.,

W. J. PATTERSON.

Binbrook, February, 1885.

I took the *Canadian Horticulturist* last year for the first, and was very much pleased with it. It is a pity that the fruit growers of Canada are not enough interested in the *Horticulturist* to give it the support necessary to enable you to publish it weekly. The age in which we live is a fast one, and the old monthly system is too slow to satisfy a fast people.

ROBT. SLOAN.

Clarkson, Feb., 1885.

I did not intend to subscribe this year, for I am sick of attempting to try to grow fruit for other people's children to steal. Last summer I had 78 Flemish Beauty pears stolen from me in one day, it was done by neighbors' children. The laws in this country are such that a premium is given to young people to steal, for if you prosecute, the parents are fined, instead of giving them a good birching, the same as they do in the old land. But I will try another year.
Toronto, January, 1885.

A. B.

SIR,—Please find \$1 enclosed for the renewal of the *Horticulturist*. I choose for my gift the Catalpa. Please to remember that the January number has not been sent. Being only an amateur, with a small garden, I thought I ought to do without it; but I have come to like it and long for it, and believe there would be quite a blank if it were not a *regular visitor*. It is well gotten up and interesting, although I think a great fault of you regularly-bred nurserymen is that you don't seem to know the wants of us less skilled in the art. Botanical names are seldom explained. For instance, how could it be expected of us to know the meaning of globular glands, reniform glands, and the like? And when you talk of using the tap-root, what do you think we know about the tap-root? We may guess at it, but that would be all. There is seldom even a hint given why one kind of a tree should be grafted and another budded. It would also be very interesting to read a chapter on the art of hybridizing; but as I have said enough for the present, I will stop by wishing you success in your noble work.

F. W. P.

CORRESPONDENCE.

THE STATISTICS OF FRUIT-GROWING IN ONTARIO.

The statistics of fruit-growing is an interesting as well as an important subject, but it is not one to be easily dealt with in so far as relates to the Province of Ontario. The fact is that such returns as have been obtained are conflicting, and it is yet too early to express a positive opinion as to their accuracy. According to the census, the area in orchard and garden in 1881 was 281,541 acres in the rural municipalities, and 23,264 acres in the urban—making a total of 304,805 acres for the Province. According to the municipal returns, which were collected by assessors for the first time in 1883, the area in rural municipalities was 197,450 acres, and in 1884 it was 192,837 acres. The discrepancy between the census and the municipal enumerations is nearly 90,000 acres, and is too large to be readily accounted for. The source of information is the same in both, for the census collectors and the township assessors make a house-to-house canvass alike. Why should there be so great a disparity in the results? Why should the census for 1871 give as large an acreage as the assessment for 1883? I cannot answer, but upon comparing the assessors' returns for the two successive years, 1883 and 1884, I am disposed to think that they are more reliable than those of the census. Between these years the difference is only 4,600

acres, and when one considers that there are about 200,000 farmers in the Province, it is obvious that a very slight change in the returns of one-tenth of their number might account for the aggregate. There are not many farmers, even in the oldest settlements, who know the exact area they have in orchard and garden; but it is a reasonable supposition that when they find the question asked by the assessor year after year, as it now is, they will, in a growing number of instances, endeavor to answer it by actual measurement. Four or five years hence we shall doubtless know the area of orchard and garden in the Province with almost as near approach to accuracy as we now know the area of cleared land.

Assuming that there is uniformity in the system of taking each decennial census, the returns have at least the value of enabling us to show the rate of progress made. Thus we know that in 1851 there was in Ontario, on every hundred acres of cleared land, an average of one and a half acres in orchard and garden; that in 1861 the average was about the same; that 1871 it was two and a third acres; and that in 1881 it was two and three quarters. The last, it must be allowed, is a very good average for the whole Province, and even according to the assessors' returns of areas, it is an average of nearly two acres for every hundred cleared.

In the following table the acreage at four decennial periods is given by county groups, arranged as nearly as may be according to their climatic conditions—the figures being for rural districts only:

	1881.	1871.	1861.	1851.
6 Lake Erie Counties.....	53,338	38,068	18,537	10,964
3 Lake Huron Counties.....	29,418	18,697	3,589	988
2 Georgian Bay Counties.....	18,839	10,253	1,666	733
7 West Midland Counties.....	57,632	43,859	19,478	10,909
9 Lake Ontario Counties.....	76,177	55,683	28,452	20,981
11 St. Lawrence and Ottawa Counties.....	28,788	20,568	8,388	7,731
4 East Midland Counties.....	15,383	10,409	7,832	2,704
4 Northern Districts.....	1,966	159	16
Totals.....	281,541	197,696	87,958	55,010

These statistics furnish us with a succinct history of fruit-growing in the Province, and they are of still greater value in this respect if studied by counties. In the County of Middlesex, for instance, the area in 1851 was 2,388 acres; in 1861 it was 5,030 acres; in 1871 it was 11,908 acres; and in 1881 it was 15,576 acres. In the County of Bruce the area increased from 38 acres in 1851 to 8,401 acres in 1881, and in Grey it increased in the same period from 56 acres to 10,408. As evidence of progress, these figures are very valuable, assuming even that they are correct in a relative sense, and if the same rate of progress be maintained in the next thirty years, Ontario's position will be a proud one among the fruit-growing countries of the world.

The statistics of acreages, as collected by township assessors in 1883 and 1884, are given by county groups as follows:

	1884.	1883.

6 Lake Erie Counties	39,952	40,084
3 Lake Huron "	19,952	19,907
2 Georgian Bay "	11,577	12,228
7 West Midland "	41,628	42,800
9 Lake Ontario "	55,112	57,358
11 St. Lawrence and Ottawa Counties.....	14,320	14,760
4 E. Midland Counties.....	9,780	9,950
3 Northern Districts.....	516	363
Totals.....	192,837	197,450

The greatest discrepancy in the areas of these two years occurs in the Lake Ontario counties, and is largely owing to the recent extension of the limits of Toronto; the annexed lands being chiefly occupied as nurseries and market gardens. In the West Midland counties the returns of decreased acreages are confined almost wholly to the counties of Brant and Perth. With reference to the Northern Districts, it should be remarked that no returns have been received from settlers in the unorganized municipalities, but their total is probably less than 1,000 acres.

As I have already intimated, it is yet too soon to say definitely which statistics are the most reliable—those of the census enumerators or those of the assessors; but in calling attention to the wide difference which the returns present, it may be possible to arouse an interest in the subject that will soon terminate the doubt.

Concerning the quantities of fruit grown in the Province, we are practically limited to two sources of information, neither of which are wholly satisfactory. We have in the census returns for 1871 and 1881 statistics of fruit under three heads, viz., apples, grapes, and other fruit. We have also in the trade tables of the Dominion the quantity and value of exports of green fruit from year to year; but in consequence of the practice of crediting a Province with all exports made from any port in its territory, regardless of the place of production, it is not possible to ascertain definitely how much of the total exports of fruit are the growth or product of Ontario. The nearest approach to definite figures is to be obtained by comparison of the census and the trade tables. Having ascertained Ontario's proportion of the total fruit crop of the Dominion, we can form an idea of her share of the exports. The census returns gave the crops of 1870 and 1880 as follows, for Ontario and the whole Dominion:—

—1880—Ontario—1870—

Apples, bush. . . .	14,400,517	5,486,504
Grapes, lbs	3,697,555	1,028,431
Other Fruits, bush	644,707	242,878

—1880—Dominion—1870—

Apples, bush. . . .	13,377,655	6,365,315
Grapes, lbs	3,896,508	1,126,402
Other Fruits, bush	841,219	358,963

Now, for both of these years Ontario's produce was about 86 per cent. of that of the whole Dominion, and if it be assumed that her proportion of the exports is about the same, we can estimate with some degree of accuracy the progress made by our Province in fruit-growing from year to year. The following table gives the quantity and value of Canada's exports of green fruit for the sixteen years 1868-83, grouped in periods of four years each, and the annual average for

each period:—

FIRST PERIOD.

Year.	Barrels.	Value.
1868	34,405	\$87,333
1869	11,310	30,150
1870	20,810	58,811
1871	45,920	98,857
	<hr/>	<hr/>
Averages....	28,111	\$68,788

SECOND PERIOD.

Year.	Barrels.	Value.
1872	106,568	\$264,015
1873	61,243	183,348
1874	51,084	128,915
1875	63,397	176,295
	<hr/>	<hr/>
Averages....	70,573	\$188,143

THIRD PERIOD.

Year.	Barrels.	Value.
1876	84,107	\$170,005
1877	77,888	194,942
1878	53,213	149,333
1879	87,101	157,618
	<hr/>	<hr/>
Averages....	75,577	\$167,974

FOURTH PERIOD.

Year.	Barrels.	Value.
1880	146,548	\$347,166
1881	334,538	645,658
1882	212,526	540,464
1883	158,018	499,185
	<hr/>	<hr/>
Averages....	212,907	\$508,118

The progress of our fruit-growing industry which these figures clearly indicate is very gratifying, and there can be no doubt that the fruit growers of Ontario deserve in large measure

the credit for it. The climate of the Province—more especially that portion of it encircled by the three great lakes—is admirably adapted for the maturing of the finest qualities of fruits; and possessing the natural conditions for the production of fruit that has an established reputation in foreign markets, the energy and intelligence of our people may be depended on to make the greatest possible use of our splendid opportunities.

A. BLUE.

Toronto, February, 1885.

The following list shews the counties as grouped under the heads referred to in the foregoing paper:

Lake Erie.—Essex, Kent, Elgin, Norfolk, Haldimand, Welland.

Lake Huron.—Lambton, Huron, Bruce.

Georgian Bay.—Grey, Simcoe.

West Midland.—Middlesex, Oxford, Brant, Perth, Wellington, Waterloo, Dufferin.

Lake Ontario.—Lincoln, Wentworth, Halton, Peel, York, Ontario, Durham, Northumberland, Prince Edward.

St. Lawrence and Ottawa.—Lennox and Aldington, Frontenac, Leeds and Grenville, Dundas, Stormont, Glengarry, Prescott, Russell, Carleton, Renfrew, Lanark.

East Midland.—Victoria, Peterborough, Haliburton, Hastings.

Northern Districts.—Muskoka, Parry Sound, Algoma.

FALL PLANTING.

DEAR SIR,—I beg to acknowledge the receipt of the Canada Baldwin Apple-tree from the Fruit Growers' Association, which was received some time ago. I planted it at once, believing that to be the proper time, without waiting to "heel it in," as some do. A friend once told me it was much better, when trees were obtained in the fall, to heel them in, to keep them there until spring had warmed the soil, "For," said he, "you will then see the fine, hairlike roots just starting out, and when put in the ground will grow at once." To this I said, "Why not plant them in the fall, in the place where they are intended to grow, and then the very small rootlets will not be in danger of being disturbed, and will be solid in the ground and ready as soon as the ground is warm in the spring to grow?" In my opinion, the only argument that can be brought against planting in the fall is, perhaps, when trees have been taken up in the nursery from a thickly shaded place there may be some slight danger, when planted at a proper distance in the orchard, of their not being able to resist the cold of winter as well as when they were in the nursery. On this score I never had any difficulty, and when I buy trees in the fall and they arrive at a proper time, I plant them at once, and they grow.

GRAPES.

One of my neighbours complains about his grapes not doing well. To this I have to say, mine have done well. I have, amongst others, the Isabella, which is considered a rather late grape, and it ripened and was just as sweet as many much further south. If you have a stone wall, plant grape-vines on the south side of it. It makes all the difference in the world to have a proper place

to plant them. If you have a big, unseemly rock or stoneheap on your farm, plant grape-vines about them, and the unsightly places will become profitable. Some say that such and such kinds of grapes will not ripen with them, or that they are much later, &c. Much of all this depends on the situation in which they are placed.

FRUITS IN GENERAL.

We have had a very dry season, and fruit in general has not done as well as usual: but taking one year with another, I believe we have as fine a fruit producing county as most in Canada. Tempered as it is by the waters of Georgian Bay, we have no trouble with early and late frosts. We have lost some plum trees, but this has been general all over. All the fruits of a temperate climate flourish here. Fearing I have trespassed too long.

I am, yours truly,
TIMOTHY CHAMBERS.

Presque Isle, Nov. 18th, 1884.

MEETING OF WINONA AND STONEY CREEK GRAPE GROWERS' CLUB.

(From Our Own Correspondent.)

A meeting of the above Society was held in the old church, School Section 2, Saltfleet, on Feb. 11th, but owing to the bitter cold, the mercury being 19° below zero, with a hard wind blowing, only a small attendance of members was the result. However, after lunch and a warm cup of tea, the programme of the afternoon was taken up, the officers for the ensuing year having been elected as follows:—President, Wm. Orr; Vice-President, George Slingerland; Secretary-Treasurer, E. D. Smith; Board of Directors, F. M. Carpenter, Isaac Smith, Joseph Tweedle, Wm. Spera, Murray Pettit, J. W. Smith and Robert Dewar.

The first thing on the programme was a paper on “Small Fruits” read by A. M. Smith, of St. Catharines, which was very interesting to those present. Mr. Smith advised growers to study the market and the soil and climate of the locality before planting. If one had early land let him plant early varieties, and if another had late land let him plant late varieties, thus avoiding an overstocked market. Again, if it was found that there was a better local market for one kind of fruit than another, other things being equal, plant the kind in most demand; for instance, if one lived near an evaporator where certain kinds of fruits were wanted, it would be wise to plant with a view to working off any surplus, at least, to the evaporators. If the local market was as good as any other for strawberries, it would pay better to plant some of the soft but heavy yielding varieties, as Crescent Seedling or Manchester.

For successful small fruit culture would lay down the following rules:—

Select the best soil, climate and varieties. Shelter as much as possible from extreme cold of winter and drouth of summer by mulching and other means. Secure all moisture possible during fruiting season. Feed liberally. Pick and handle carefully. Use good, clean, attractive packages. Put just as good fruit in the bottom of the basket as on top, so that you can sell twice to the same party, and you will succeed.

Would recommend the following varieties in order of ripening:—Strawberries—Early Canada, Crescent Seedling, Wilson's Albany, Manchester, Sharpless, Arnold's Pride, Jersey

Queen and James Vick. Black raspberries—Souhegan, Tyler, Mammoth Cluster and Gregg. Red raspberries—Highland Hardy, Hansell, Cuthbert and Niagara. Blackberries—Dorchester, Snider and Kittatinny. Gooseberries—Houghton and Downing. Red currants—Victoria, Versailles, Cherry and Fay's Prolific. White currants—White grape. Black currants—Black Naples and Lee's Prolific. And would recommend for trial:—Strawberries—Mrs. Garfield, Dan. Boone and Cornelia. Raspberries—Reliance, Marlboro' and Ohio, and the Agawam blackberry.

In answer to questions Mr. Smith said gooseberries thrived better and mildewed less with plenty of moisture. Had noticed this in gardens near the Falls, where the spray kept the ground damp. Thought Lee's Prolific preferable to Black Naples, especially on sandy land, as they do not grow so rank, and fruit is of a milder flavor. Thought highly of Fay's currant; thought it had not been overrated. Thought James Vick had been too highly praised; though under high cultivation it would yield immense, otherwise fruit would be too small. Thought Caroline best yellow raspberry. Shaffer's Colossal, a heavy bearing raspberry, but fruit a bad color. Pride of the Hudson raspberry a failure. Would prefer unleached ashes as a fertilizer on his sandy loam at present prices. Thought rust on raspberries and blackberries was not caused by wet land. Had found the best remedy to dig up and burn the affected plants, as rust spreads like yellows in peaches.

E. D. Smith thought growers should be careful to do this, as this is acknowledged to be the only cure.

As there were other important subjects to discuss, the chairman limited the time for a short discussion on "Apples and Pears," that were to have been discussed in the morning, to fifteen minutes.

Regarding the best two varieties of pears to plant for profit, Mr. A. M. Smith thought Flemish Beauty had run its course, as it now spots and cracks too much; would name Bartlett and Beurre D'Anjou, and for a dwarf, Duchess D'Angouleme. Mr. Pettit recommended Beurre Gifford as a dwarf. Mr. Orr liked Louise Bonne as dwarf. Mr. Smith thought Duchess and Seckel most exempt from blight. Mr. House had found Beurre D'Anjou most exempt.

The next subject taken was "Grapes," regarded here as of more importance than all the rest, as there are planted out already in the township nearly two hundred acres, mostly in small vineyards from 10 acres downwards, and the area is increasing rapidly.

E. D. Smith introduced the subject by asking a series of questions, among others: What is the best red grape for profit? What is the best early grape? Said he had found ashes beneficial. Believed the Prentiss grape a failure, as the vine is not strong and healthy. Was very favorably impressed with the Niagara, had not fruited it yet, but vines were very healthy and strong, robust growers. Had planted Concords and Niagaras alternately, and found Niagaras not only to grow better, but to recover from any drawback quicker. Believed it would pay to ship fine grapes in 10 lb. baskets instead of 20 lb. ones. Thought we should have better baskets than at present. Liked Roger 9 and 15. Found Salem tender, and the berries bad to burst during warm, damp weather. Found it paid to lay down tender varieties, but would not plant such knowingly. Thought we should raise a grape to pack and sell in winter, as our market is at present supplied with foreign grapes during nine months of the year. Would like to know if any one had had any experience with the Vergennes.

Murray Pettit had found Prentiss and Pocklington both failures. Found Duchess, Lady Washington and Noah all good white grapes—the latter as good as Niagara, except in quality, but would place Niagara first among the white grapes. Had known of others having good success on rich sandy land with Pocklington. Would rank the Delaware as the most profitable red grape if pruned severely and all to young canes, and heavily manured and thoroughly cultivated. Found the Rogers' varieties to mildew if manured heavily.

For early grapes likes Red Wyoming and Dracut Amber among the new kinds. The latter a

healthy, strong growing, productive variety of medium sized bunches of medium sized red grapes of medium quality. Had made most money out of Champions, but would not think of planting them except on very early land. Believed that no one would buy Champions if they could get Moore's Early. The latter he found not a very heavy bearer, nor a very strong grower, but medium in these respects, the fruit, however, extra fine, not quite so early as Champion. Worden, a grape very nearly resembling the Concord, and two or three days earlier.

If planting a vineyard would recommend, say one-third Concord; one-third Champion, Moore's Early, Worden and Niagara; one-third Delaware, Rogers' 9 and 15, and Salem; but would not recommend this selection for all localities.

A. M. Smith liked the Brighton very much, but it needs marketing as soon as ripe. Thinks the Vergennes a very desirable grape, being a long keeper and of good quality, and the vine a strong, healthy grower.

Mr. House would recommend letting Rogers' 9 and 15 run long arms. Had them with arms seventy (70) feet long.

Mr. Orr had found Champions pay best, Delawares next, and then Concords. Rogers' 9 and 15 also paid. Believed the Niagara the king of grapes.

THE CHINESE PRIMROSE.

MR. EDITOR,—Your clipping from the *California Horticulturist* on Chinese Primrose culture in windows, is misleading to the lovers of that useful winter window decoration.

With your permission, I will give the mode of culture we have practiced the past twenty years, with good results. As it is costly and troublesome to raise seedlings on a small scale, and not very satisfactory if but two or three plants are required, we purchase good quality of plants of the colors wanted, and they last a number of years by dividing the old plant to single crowns, in the month of June. We do it with a small knife. Split the plant from crown to root, shorten back the old root, plant in five-inch pots but two thirds full of earth. By September the plants will have grown so much as to stand high above the soil. We fill the pot with earth, just leaving room to water; take these into the house and let them bloom all winter, which they never fail to do, to the delight of all who see them. By this treatment the plants do not become top-heavy, as our California friends do, but steady themselves by the old leaves turning down until resting on the rim of the pot, thus bracing the plant. We prefer to keep the plants in a cool room, with plenty of light, and keep the earth moist.

MARY A. HALL.

Woodstock, Jan. 28th, 1885.

RHUBARB WINE.

Noticing an article on unfermented wine in the January number, I thought it good, now we are deprived of a little luxury that way by the Scott Act. I am no friend to that Act. I look on it as arbitrary; and as we are not all growers of grapes, but most every one with a garden, however

small, grows rhubarb, and a very good wine, with a good body, can easily be made. To every gallon of cold water (*rain-water is best*) add five pounds of ripe rhubarb cut into thin slices; do not peel it; let it stand a week or nine days, stirring it every day, and cover it with a cloth or blanket; strain the macerated substance through a coarse cloth. Now, to every gallon of the liquor thus procured add four pounds of sugar and the juice of a lemon and the rind of one; now cask it; when fermentation is over bung it down; bottle in March, and by June it will be fit for use.

Rhubarb makes also excellent jelly. Cut the rhubarb up, and put it in an enamelled kettle, with very little water—enough to keep it from burning—until the juice comes; when tender, strain it, and to every pint of juice add one pound of sugar, and boil until it jellies.

T. A. H.

Medora, Muskoka.

JUDGING FRUIT.

Doubtless one of the most important matters in connection with any exhibition is the appointing of competent judges. There was a time when this Ontario of ours was in its infancy and exhibitions were entirely local, with but very little competition in any class; that, as a rule, judges were expected only to decide upon the excellence in appearance of specimens before them without regard to varieties, how grown, or whether or not possessed of quality, or actually valuable as a crop for market. A black Gilliflower was likely to receive the highest award with Baldwin and Æsopus Spitzenburg in competition. While another class of judges would give preference to the largest specimens without regard to points of excellence. A Gloria Mundi would far excel an American Golden Russet in their estimation, and a Louis Bonne de Jersey, or even Flemish Beauty, would not be considered for first place if the portly Souvenir du Congrès appeared in competition. But there was not much chance of any immediate loss from this bad system of judging in those days, as there was a ready demand for the small amount of fruit grown, and all varieties were easily disposed of or used at home. This state of affairs no longer exists, and in many sections we find growers top grafting old orchards, so as to get only such varieties as are of value both for home and foreign consumption.

There has been some improvement in the method of judging, which, so far as it has gone, has had a beneficial effect in inducing growers, in many instances, to discard worthless varieties. Possibly few consider the responsibility of judges as they make awards now-a-days at our leading, or indeed at all our exhibitions. The general public looks up to them as being possessed of superior knowledge, and quite capable of dealing correctly and fairly with the subject. There may be ten, fifty, or more growers who desire to plant orchards of various fruits, and they are all watching with much interest the awards of these judges in order that they may select varieties receiving the highest awards. Generally speaking such growers will make their selections from the various collections on the tables, hence the great importance of care and skill in making awards in such cases, and that such awards should be in writing, containing full and explicit reasons.

We have arrived at a time when I believe it is necessary for the public benefit to look more particularly into the matter of judging fruits, and, if possible, to establish a scale of points and set of rules by which judges should act in arriving at awards, and if all Societies that hold annual exhibitions would publish such rules and directions to judges in their prize lists, much good would be accomplished.

Look at our several large fall exhibitions, and we find that in the past few years there has not been much improvement in the system of judging, or perhaps more correctly speaking there has not been a system at all, for although the awards are generally more correct than they would stand by the judgment of fifteen or twenty years ago, yet we find the same differences in the various exhibitions between different sets of judges as of old. Now, while it would be unreasonable to expect all judges to agree precisely on all points, I do think that in many leading important points all should agree.

Competent judges should possess a thoroughly *practical* knowledge of the whole subject, beginning with the tree and vine, its growth and habits, soil and cultivation required, general care, the market values of the various fruits upon which they are called to pass judgment, and the most desirable varieties for the various soils and climates in this Province. They should be able to make their awards in writing, setting forth the points of superiority in the collections or plates receiving awards, and in every case give the number of points awarded to each variety. They should also be possessed of solid back bone, and so strong a sense of justice that there would be no inclination to favoritism.

Unless a judge has an extensive knowledge of his subject, he is apt to judge the specimens before him by the result of his experience upon his own grounds, which may not be extensive, or fair, even as a general test for his own neighborhood. He might award first prize to four varieties of Pears, consisting of Tyson, Osband's Summer, Stevens Genessee and Duchess, simply because he knows these, and they have suited his taste very well, whereas another four in competition consists of Bartlett, Flemish Beauty, Duchess and Josephine de Malines, which should generally have had first place on a scale of points of excellence and value in market.

In judging at a Township exhibition it is necessary to consider awards in accordance with the capabilities of soil and climate within that territory. But at a Provincial exhibition a large variety of soils, and especially climatic capabilities, should be considered, if complete justice is to be meted out to all exhibitors.

A committee of three judges will do more work in a day than five judges, and, as a rule, their work will be better done. Many advocate the appointing of one judge only on each section, and doubtless it has advantages, and chiefly that where one has the entire responsibility cast upon his own shoulders, he will not accept the position, in the first place, unless he feels satisfied he can do the work properly, and then he will exercise every possible care in examining specimens before placing awards.

Then, again, judges should be paid properly for their services, and then they would take more time and exercise more care in making awards.

If properly paid, Associations could reasonably require judges to make all awards in writing, giving the scale of points of merit in every case, and also giving reasons for casting out any varieties they may think proper so to do. In awarding upon collections a great variety of points occur besides passing upon the condition of specimens making up such collections. For instance, every general collection should contain such varieties as will cover the longest possible season both for cooking and eating, besides being those the grower considers of the highest market value.

Where collections receive no award, the reasons should be noted in the book of awards, and if any collection is considered of almost equal merit with another that has received an award, the point or points in which it is lacking should be specially noted.

In judging collections the first point, after seeing that the proper number of varieties are entered and correctly named, is to compare the specimens in each collection, after which points should be taken, adopting five or ten as a maximum. Then, again, while one collection may scale a larger number of points than some others, so far as perfection of specimens is concerned, yet it may lack varieties which are of a much higher market value than any in it, and hence it is

important that home and foreign market value be taken into account. In fact every point connected with growth, productiveness, general value, quality and hardiness, should be considered in coming to a decision. In the past too much weight has been given to the *appearance* of specimens upon the table, and there is always a tendency this way, especially among amateur judges, which I believe is often fruitful of a great amount of damage, as growers are so apt to adopt varieties thus approved of by judges. A comparatively worthless variety may be so grown as to *appear* magnificent, as a tree that outwardly seems healthy and flourishing may be rotten at the heart. We generally find that specimens of fruits being newly introduced are very fine, simply because the introducer wishes to make a good impression, and hence grows specially for the purpose of advertising his goods without regard to immediate cost. In these cases judges should carefully scrutinize the quality, and state in their report any other facts found, so that the public interests be properly guarded.

ALEX. MCD. ALLAN.

GRAFTING AND PRUNING GRAPE VINES.

Your correspondent wishes to know how to graft his vines. I suppose why not inarch them, that is, grafting by approach. Very suitable and safe. Have your new or superior kind in a pot or box; place it near and securely—near enough to be in a convenient position to form a junction with the stock. Then pare off with a sharp knife a slice from each of equal size. Bring the two wounds together as exactly as possible, fitting bark to bark; hold them firmly and tie them together, not so tight as to bruise the bark of either. Now tie some moss around the junction and moisten it every day, or cover it with grafting clay or wax. When firmly united to the stock the new vine in the pot or box may be cut off at the junction and be planted out. You can do the work later in the year if you like on the young wood of the present year's growth, when it has acquired some solid wood, just when it is beginning to change color. This way requires care, for the wood is tender and more liable to break than year old wood. This young wood unites more quickly than older wood. There are so many ways of training vines I think the simplest the best. For a vine on a wall or building or trellis, I think this is as good as any:—First obtain two shoots from two buds left on when the vine was planted. Train these upright, and in the autumn bring these two shoots down and train them right and left horizontally a foot from the ground. In the spring, when they begin to grow, select three buds on each main stem, two feet apart; rub all the other buds off. Now let these three buds on each main horizontal arm grow up perpendicularly. During the summer stop all the laterals at the first joint, and stop the leading shoots when at the top of the trellis; tie the leading shoots as they grow, or the wind will break them. Now in the autumn the vine will have two canes to bear fruit; that is, one upright cane on each arm to fruit. The other two will be cut down to two buds close to the main horizontal stems. These will send up shoots to be trained between the fruit bearers, while the two end shoots will be trained down in the line of the horizontal ones. Now the third summer the last year's horizontal trained shoots should have all the buds rubbed off except two on each, two feet apart. Train them up as the others to the top of the trellis or wall. So now there will be four fruit-bearing upright shoots, and four to bear the following year. In the autumn those that have borne fruit should be cut down and the others left nearly their whole length to bear fruit.

T. A. H.

Medora, Muskoka.

HARDY PERENNIAL PLANTS.

(Read at the recent winter meeting of the Fruit-Growers' Association of Ontario.)

I wish to bring before the Association the importance of encouraging the cultivation of hardy perennial plants for the garden. The old system of raising annuals and tender bedding out stuff every year is both troublesome and unsatisfactory, and to those who have no proper houses or frames for propagating it is also expensive, as they have no other means of filling their borders except by purchase; and to those situated in the country this is not always possible. The mania for gaudy bedding and carpet work is happily dying out, and a taste for the beautiful Alpines and other hardy classes of perennials is taking its proper place. To my mind there is something in the individuality of the beautiful spring bulbs and Alpines that quite casts into the shade all the ribbon and carpet bedding of the fashionable garden. From early spring till late in fall a continual succession of flowers can be obtained from the hardy garden without the annoyance of raising the young plants every year, and watching the weather for a favorable time after the late spring frosts are over for their bedding out. Then again some of them are hardly well into flower when the dreaded early fall frosts come, and the work of the summer is destroyed in a night. Not so with the hardy garden. In the early spring the Snowdrops, Crocus, Snowflakes, Scillas, Narcissus, Hyacinths, &c., followed by other spring and summer flowering plants in rapid succession, keep the borders gay all the time. While the hardy garden must be in a great measure filled with foreigners, yet there are many natives that are equally as well worthy of cultivation; in fact, so much is this the case, that in Europe a garden of any pretensions without a border for American plants and shrubs would be looked upon as wanting in one of its greatest attractions. They consider our *Cypripediums*, *spectabile* and *pubescens*, as the most magnificent herbaceous plants in cultivation. Then we have the *Trilliums* or Wood Lilies, *Liliums*, *Hepaticas*, *Erythronium*, *Sanguinaria* or Bloodroot, *Asclepias*, *Aquilegias*, *Violas*, several species of *Phlox*, *Lobelias*, *Gentians*, *Asters*, and an innumerable number of other things which would look well in any garden. With these and a proper selection of plants of foreign birth, no garden need be without a good display of flowers from early spring till late in the fall.

It would extend this paper too much to go over a long list of names which can be got out of any descriptive catalogue. I will only mention a few natives, some of which should be found in every garden. If some florist or nurseryman would take to growing and putting on the market a good selection of perennials, he would be doing a good work, and no doubt it would go far to create and perpetuate a taste for hardy garden plants, which once acquired will never be given up while life lasts. In preparing a border for perennial plants it is of as much importance to have it deeply dug or trenched as it is for any vegetable crop whatever. If possible, incorporate some leaf mould and a small portion of very rotten manure, and if the land is heavy a quantity of sharp sand will be an improvement.

Most bulbs require a good, rich, deep soil. Hyacinths, for instance, cannot be grown to perfection without plenty of manure and depth of soil, and when once a bed of them is planted under these conditions they will last for several years without further care, except to give them a good mulching with well rotted manure every fall. Above everything follow nature as close as possible in soil and situation. One class of plants likes a shady situation and moist soil; another will stand the hottest midsummer sun and delight in it. So according to the situation a proper selection should be made.

That this may be the means of drawing attention to, and creating an interest and love for the

beautiful hardy flowers of the garden, will be my prayer.

LIST OF HARDY PERENNIALS.

Anemone.....	Nemorosa.
Asclepias.....	Tuberosa, Orange Milkweed.
”	Quadrifolia, ”
Asters.....	A great many species.
Aquilegia.....	Canadensis, Columbine.
Campanula.....	Rotundifolia.
Cypripedium.....	Spectabile.
”	Pubescens.
”	Parviflora.
”	Acaule.
”	Arietinum.
”	Candidum.
Dicentra.....	Cucullaria.
”	Eximia.
Erythronium.....	Americanum.
Gentiana.....	Andrewsii.
”	Alba.
Hepatica.....	Triloba.
”	Acutiloba.
Lithospermum	Canescens.
”	Hirta.
Lobelia.....	Cardinalis.
”	Syphilitica.
Lilium.....	Canadense.
”	Philadelphiacum.
”	Superbum.
Phlox.....	Divaricata.
Sanguinaria.....	Canadensis.
Sisyrinchium.....	Bermudiana.
Thalictorium.....	Anemonides.
Trillium.....	Grandiflorum.
”	Erectum.
”	Erythrocarpum.
Viola.....	Pedata.
Uvolaria.....	Grandiflora.

JAMES GOLDIE.

Guelph, January, 1885.

SAUNDERS' RASPBERRIES.

I do not know if Saunders' Raspberries are very widely known. If not, I think they ought to be, for their cropping properties are extraordinary. They would be very useful where other kinds are difficult to grow.

ALLEN CHAPMAN.

Deans, Haldimand Co., Ont.

McINTOSH RED APPLE.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

DEAR SIR,—I send you a few apples, which are the apple called the McIntosh Red. Perhaps you never had them in winter. Please test them, and let your many readers hear what you think of their flavour and of their keeping through the winter season, which, I judge, will be a benefit to the community. I have stated in years past that the McIntosh Red was the hardiest tree and best flavoured winter apple known on the continent of America. I am the owner of the original tree. Last year you stated that the McIntosh Reds spotted. I have lived 70 years within 60 feet of the original tree, and to my knowledge the apples were not spotted till 1882 and 1883. In 1884 some of the apples were a little spotted, but in some localities, where the soil is high and dry, they were not spotted.

NOW FOR THE CAUSE OF BLIGHT.

During the spring of 1882 and 1883, in eastern Ontario, there was almost daily rain, with cold wind from the north-east. When the trees were in bloom the ground and trees were drenched with water. The trees could not get sufficient nourishment from the soil to feed the young apples; they starved nearly to death; and owing to the rain-water soaking the young apples, together with the cold wind, they could not thrive; they lacked nourishment. The black knot has arisen from the same cause. I have had cherry and other trees for fifty years, and the black knot in Eastern Ontario has done no damage till 1883. As above, the wet and cold are the cause. There is no remedy for it but good spring weather. It is from Providence. Now, sir, November 11, 1884, I shipped a few barrels of the McIntosh Reds to Glasgow, Scotland. The salesman sold them at \$10 per barrel. I told him to let me hear what he thought of them, and how they stood the shipment. He stated they were the best apples he had ever eaten, but said they were bruised, and that I should have sent them before they were so ripe or soft. The remainder of my McIntosh Reds I sold here in these townships for \$3 50 per barrel. Can any other apple compete with this?

ALLAN MCINTOSH.

Dundela P. O., Ont., Jan., 1885.

FRUIT IN ALGOMA.

DEAR SIR,—Please find enclosed one dollar as subscription to the *Canadian Horticulturist*. I cannot do without it and the annual report, for after we get more clearing done here I am in hopes that fruits of hardy domestic kinds can be grown. My Wealthy apple, after three years' fine

growth, died last spring. The cause was, I think, from the intense frost of last March, and then a hot sun coming out. The Canadian Baldwin made a fine growth last summer. We had a great crop of wild raspberries, strawberries and blueberries, but no cranberries. I will choose the flower seeds this year.

Yours, with respects,

W. WARNOCK.

Blind River, January, 1885.

RASPBERRY SAW-FLY.

The raspberry saw-fly (*selandria rubi*) is not a difficult insect to keep in check if noticed in time. It is very inconspicuous on account of its colour and appearance. A weak mixture of about an ounce of hellebore to a pailful of water, syringed onto the plants, will easily destroy the larvæ. This should be done in the beginning and middle of June, and is quite safe.

Yours obediently,

J. FLETCHER,

Ottawa, Feb., 1885.

Entomologist.

WILL GARDENING PAY.

“There is money in fruit growing, a plenty of it, for the skillful, thoughtful grower. There are thousands of dollars in strawberries, or raspberries, if rightly grown; but ten acres of either are better than fifty or a hundred slovenly tended. There is money in melons, in cucumbers, in potatoes, in rhubarb and asparagus, in onions, in almost anything you can raise, if you will only raise a better article than anybody else. There is the secret. Men foolishly lie awake o’ nights racking their brains to find some new crop that will bring them in a fortune at a dash, instead of studying how to better the crop they already have in hand.

“As to the business being overdone, it is all a delusion. The horticultural rank and file is not near so crowded as are the professions, into which so many farmers’ sons are continually struggling to enter. You will find a hundred starving lawyers, preachers and doctors to one starving fruit grower. What we need is more system, more thoroughness. The farmer must be more liberal with his land, his live stock, his fruit trees; must feed them all better; must feed himself better and his family better, and he will feel better and succeed better. Tell your readers to stick to the farm.”—*Farmer and Fruit Grower.*

SEED POTATOES—HOW TO SELECT THEM.

In the fall of 1883 we selected and laid aside for seed the largest and the smallest tubers from the most productive and the least productive hill of ten varieties growing in the Station garden.

On the 8th of May, 1884, this seed was cut into single eyes and planted, each selection by itself in the garden, so that we had four short rows of each of ten varieties. The first row containing the cuttings of the largest tuber from the most productive hill, the second those of the smallest tuber from the most productive hill, the third row the cuttings of the largest tuber from the least productive hill, and the fourth those of the smallest tuber from the least productive hill.

The cultivation was alike and the treatment was alike during the whole period of growth, and when the tops were dead the rows were dug, and yield of merchantable and unmerchantable potatoes carefully noted.

In order to bring the results into comparison we calculated the yields obtained to the 100 eyes, and arranged the varieties in the order of merchantable yield, omitting one which is not entirely comparable. We have, then, in contrast nine varieties, the yield from the largest tuber from the most productive hill and the largest tuber from the least productive hill, the smallest tuber from the most productive hill and the smallest tuber from the least productive hill, as shown in the following table:

TABLE I.

	From most productive hill. Largest tuber. Lbs.		From least productive hill. Largest tuber. Lbs.	
	Merch.	Total.	Merch.	Total.
Rural Blush.....	116	138	102	123
Early Sunrise.....	109	123	51	62
Conqueror.....	94	103	56	62
Defiance.....	93	130	90	116
Adirondac.....	91	103	64	86
Walls' Orange.....	75	92	55	72
Beauty of Hebron.....	62	86	48	73
Crandall's Seedling.....	57	71	73	88
Early Mayflower.....	51	106	54	83
	—	—	—	—
Average.....	83	106	66	85

TABLE I.—Continued.

	From most productive hill. Smallest tuber. Lbs.	From least productive hill. Smallest tuber. Lbs.
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	Merch.	Total.	Merch.	Total.
Rural Blush.....	96	119	52	79
Early Sunrise.....	82	102	27	55
Conqueror.....	65	78	27	42
Defiance.....	57	88	26	72
Adirondac.....	67	79	70	91
Walls' Orange.....	55	70	51	73
Beauty of Hebron.....	80	105	59	79
Crandall's Seedling.....	64	72	61	69
Early Mayflower.....	54	84	34	61
	—	—	—	—
Average.....	69	88	45	69

We will now re-arrange this table in order to bring out a most important conclusion. We will bring in contrast the merchantable and the total yield from the smallest tuber of the most productive hill and that of the largest tuber from the least productive hill. Whereby it will be seen that the smallest tubers from the most productive hills yielded more crop than did the largest tubers from the least productive hills.

TABLE II.

	Smallest tuber from most productive hill. Lbs.		Largest tuber from least productive Hill. Lbs.	
	Merch.	Total.	Merch.	Total.
Rural Blush.....	96	119	102	123
Early Sunrise.....	82	102	51	62
Conqueror.....	65	78	56	62
Defiance.....	57	88	90	116
Adirondac.....	67	79	64	86
Walls' Orange.....	55	70	55	72
Beauty of Hebron.....	80	105	48	73
Crandall's Seedling.....	64	72	73	88
Early Mayflower.....	61	84	54	83
	—	—	—	—
Average.....	69	88	66	85

These tables (the more they are examined the stronger does the evidence appear,) furnish an

important clue for progress in the improvement of the potato. They seem to indicate very clearly that in order to increase our yield of potatoes, it is only necessary in digging our crop to expose the hills separately, and then before harvesting go through and select our seed potatoes from those hills which show the most abundant crop.

The experiment also seems to indicate that deterioration in a variety, whereby a good variety tends to become less and less profitable to grow, arises from the entire lack of selection from the point of view of the prolific plant, and that to obviate this deterioration it may only be necessary to yearly select our seed from the more prolific hills, instead of hap-hazard from the harvested crop.

The importance of this experiment perhaps justifies the massing of our conclusions in another table.

TABLE III.

	Lbs. per 100 hills Average.	
	Merch.	Total.
From largest tubers from most prolific hill.....	83	106
From largest tubers from least prolific hill.....	66	85
From smallest tubers from most prolific hill.....	69	88
From smallest tubers from least prolific hill.....	45	69

From this table it appears first, that the merchantable and the total yield from the seed taken from the most prolific hill, yielded in excess over the seed taken from the least prolific hill; second, that the yield of the largest tuber from the most prolific hill exceeded the yield of the largest tuber from the least productive hill; third, that the yield of the smallest tuber from the most prolific hill exceeded the yield of the smallest tuber taken from the least prolific hill; fourth, that the smallest tuber taken from the most prolific hill exceeded in yield the largest tuber taken from the least prolific hill; fifth, that the largest tubers from the most prolific and the least prolific hills yielded more crop than did the smallest tubers from the same hills.

These differences in yield appear more clearly if we arrange the figures obtained in the order of their magnitude without regard to variety, and this leads us to table 4.

TABLE IV.

Largest tubers from most productive hill. Lbs. yield.	Largest tubers from least productive hill. Lbs. yield.	Smallest tubers from most productive hill. Lbs. yield.	Smallest tubers from least productive hill. Lbs. yield.
138	123	119	91
130	116	105	79

123	88	102	79
106	86	86	73
103	83	84	72
103	73	79	69
92	72	78	61
86	62	72	55
71	62	70	52

The question may arise whether the smaller size of the cuttings from the smallest tubers may not account for the difference in yield. The smallest tubers from the most productive hills, however, did not exceed in size the smallest tubers taken from the least productive hills, and hence our results must be interpreted that the tubers from the most productive hills possess more inherent vigor than do those of the least productive hills.

While we can not regard a single experiment as in any sense conclusive, yet the evidence seems so clearly in favour of using for seed only tubers from the more productive hills of potatoes, that we think we can not err in commending this subject to the careful consideration of potato growers, and we would be very glad, this coming season, to have those who are interested in the subject make a trial according to this method, and experiment for themselves, and report the results, however they may result, to the public.—E. LEWIS STURTEVANT, *Director*.

CATALOGUES RECEIVED.

VICK'S FLORAL GUIDE for 1885: Jas. Vick, Seedsman and Florist, Rochester, N.Y.

CATALOGUE OF CHOICEST FLOWER and Vegetable Seeds: F. C. Heinemann, Erfurt, Germany.

WHOLESALE CATALOGUE of Mohawk Valley Seeds, crop of 1884: A. C. Nellis & Co., Canajoharie, N.Y.

JOHN A. BRUCE & Co.'s CATALOGUE of Seeds, season of 1885. 34th annual edition: Hamilton, Ontario, Canada.

ANDRE LEROY'S TRADE LIST of fruit and ornamental trees and plants: Nurseries at Angers, France.

PRICE CURRENT of choice seeds for 1885: By the Continental Horticultural Company, Gand, Belgium.

SIMMER'S PRELIMINARY SEED LIST of flower and vegetable seeds, issued in advance of regular Seed Catalogue, January, 1885: Toronto, Ont.

W. W. HILBORN'S ANNUAL Descriptive Catalogue and price list of small fruits, for spring of 1885: Arkona Horticultural Farm, Arkona, Ont.

WM. RENNIE'S SEED CATALOGUE, 1885: Wm. Rennie, Seed Merchant, corner Adelaide and Jarvis Streets, Toronto, Ont.

DESCRIPTIVE CATALOGUE of fruits. Twenty-sixth Edition. Ellwanger & Barry, Mount Hope Nurseries, Rochester, N.Y.

LOUIS LEROY'S PRICE CURRENT of fruit and ornamental trees, florists' requisites, evergreens, camelias, roses, etc. Angers, France.

GREGORY'S ANNUAL ILLUSTRATED Retail Catalogue of Warranted Seeds: Grown and Sold by James J. H. Gregory, Marblehead, Massachusetts, 1885.

PETER HENDERSON & CO.'S MANUAL of Everything for the Garden: Peter Henderson & Co., Seedsmen and Florists, 35 and 37 Cortlandt Street, New York, N.Y.

TRADE CATALOGUE of plants, hardy ornamental trees and shrubs, conifers, roses, etc. Cultivated by the Boskoop Nursery Association, at Boskoop, Holland.

GENERAL TRADE CATALOGUE of vegetable, agricultural, flower, tree and other seeds, offered by Ernest Benary, Seed Merchant and Grower, Erfurt, Germany.

THE STORR'S & HARRISON CO.'S SEMI-ANNUAL trade list of fruit and ornamental trees, small fruits, vines, evergreens, shrubs, roses, &c.: Painesville, Lake County, Ohio.

WHOLESALE CATALOGUE of choice and rare seeds, embracing the leading novelties of the season, 1885: Stuart & Co., 19 Tavistock Street, Covent Garden, W. C. London, England.

WHOLESALE TRADE CATALOGUE of garden, agricultural and flower seeds, etc., 1885: Grown by Henry Mette, Seed Grower and Merchant, Quedlinburg, Prussia.

LANDRETH'S RURAL REGISTER AND ALMANAC, 1885, one hundred and one years in business: David Landreth & Sons, Seed Farmers, 21 and 23 South Sixth Street, Philadelphia, Penn.

BOOKS, &c., RECEIVED.

ANNUAL REPORT of the State Board of Horticulture of California: A. H. Webb, Secretary, No. 40 California Street, San Francisco, California.

TRANSACTIONS of the Maine State Pomological Society for 1883, including proceedings of the winter meeting of 1884: Geo. B. Sawyer, Secretary, Wiscasset, Maine.

CANADIAN DAIRYMAN AND FARMER, published at 162 St. James Street, Montreal, subscription \$1 a year. A monthly periodical devoted to the dairy interests of Canada.

RANDOM NOTES ON NATURAL HISTORY is a monthly of eight pages, published by Southwick &

Jencks, Providence, Rhode Island, U.S.A., at 50c. a year; devoted, as its title implies, to the various departments of natural history.

THE RURAL CANADIAN has incorporated with itself the *Canadian Farmer and Grange Record*. It is published monthly, at \$1 per annum, at No. 5 Jordan Street, Toronto, and is devoted to the farm, dairy, apiary, grange, garden and orchard.

POPULAR SCIENCE NEWS is published monthly, at 19 Pearl Street, Boston, Massachusetts, U.S.A., at \$1 a year. It treats of various interesting subjects that may be arranged under the several heads of familiar science, practical chemistry, the arts, agriculture, medicine and sanitary science.

SCHEDULE OF PRIZES offered by the Massachusetts Horticultural Society for the year 1885. Competition open to all persons. Robert Manning, Secretary, Boston, Massachusetts. The annual exhibition of fruits, flowers and vegetables will be held in Boston, September 15th to 18th, 1885.

THE WIDE AWAKE, published by D. Lothrop & Co., Boston, at \$3 a year, is a very interesting and instructive magazine for children. There is a good healthy moral tone pervading the whole. Some of the articles seem especially adapted to entertain and at the same time instruct the youthful reader.

LOVETT'S GUIDE TO FRUIT CULTURE is a very handsome catalogue of fruit trees and plants for sale by J. T. Lovett, Little Silver, New Jersey. It is very profusely illustrated with engravings throughout, and adorned with colored lithographs of fruits; and contains a great variety of useful information concerning the different varieties, methods of culture, and value for market.

JOURNAL OF THE NEW YORK MICROSCOPICAL SOCIETY, is published in nine monthly numbers, at No. 12 College Place, New York City, price \$1 a year. Devoted to microscopical science, a science that is throwing much light upon the fungoid growths which play, apparently, very important parts in the diseases of plants as well as of animals. The January number contains a very interesting paper upon the process of fertilization in plants.

HOW TO PROPAGATE AND GROW FRUIT is the title of a pamphlet of 64 pages, by Charles A. Green, of Rochester, N.Y., U.S.A., the price of which is only 50c. It treats of propagating the raspberry, blackberry, currant, gooseberry, grape, quince, peach, cherry, plums, pears, and apple; tells the author's experience in beginning, growing, marketing, etc.; treats of shipping fruits, evaporating, &c., &c.; and will be found very useful for consultation and reference, especially by growers of small fruits. We will send it to any of our readers, post paid, on receipt of the price.

FORESTRY BULLETIN, published by the Council of the American Forestry Congress, and ably edited by Bernard E. Fernow, Secretary, No. 13 Burling Slip, New York, N.Y., U.S.A. Subscription \$1 a year, which may be sent to Mr. Furnow. The officers of the American Forestry Congress are: Hon. Warren Higley, Ohio, President; Hon. H. G. Joly, Quebec, 1st Vice-President; N. H. Egleston, Washington, D.C., 2nd Vice-President; B. E. Fernow, New York, Corresponding Secretary. The objects of this Congress are the advancement of forestry in the United States and Canada. Its funds are derived wholly from membership dues, which are for life membership \$10, annual membership \$2; with an additional entrance fee of \$2.

TO THE CHINESE PRIMROSE.

But little I know of poetry's flow;
Know little of rhythm or time;
But I feel that to-night, with a muse so bright,
I can mould my thoughts to rhyme.

For a Primrose rare, with its blossoms fair,
Stands on my table to-night;
And shining and bold, its eyes of gold
Seem watching me while I write.

And it blooms here for me, in a beauty as free
As it did in that distant day,
'Neath the pointed domes of the Orient homes
Of the country of far Cathay.

And its fern-like fronds seem as fairy wands,
As they gracefully droop and fall;
And are tingeing my room with an emerald bloom,
As a Nymph's or a Dryad's hall.

The Rose in its pride, in the noon's high tide,
In the sunlight's golden stream,
In the glitter of day, with its gilding ray,
As beauteous perchance may seem.

Ah! yes, I know there are flowers that blow
In the summer's glamour and shine,
That in loveliness rare perhaps can compare
With this beautiful friend of mine.

But, like our friends, when adversity sends
Some cloud to obscure our sky,
Or in winter's frost, or when needed the most,
Their attractions pale and die.

But my flower will bloom without heeding the gloom,
Though the world be covered with snow;
And the darker the day, the more wintry grey,
The brighter its beauties glow.

Oh! dear loved flower of the darkest hour!
Oh! type of a faithful friend!
As such type in thee, such a friend to me
May God in His goodness send.

Innerkip, Jan., 1885.

F. M.

FAY'S CURRANT.—Joseph Hoopes of Pennsylvania, writes to the *New York Tribune* that after fruiting Fay's Prolific for two years, he thinks it produces clusters that surpass the immense bunches represented by the woodcuts that ushered this new fruit into notice.

This is one of the presents we offer to subscribers.

THE CENTENNIAL GRAPE.—Mr. Hoopes says of this grape that it is of fine, pure flavour, of a clear amber color, and so translucent that the seeds may be observed by holding the berries to the light. It is very juicy, sweet, with a soft pulp and very thin skin.

ROSES FOR WINTER BLOOMING.—The *Evening Post* gives the following list of roses for in-door blooming in winter, most of which are tea-roses. "Sunset," orange shaded with crimson, and

specially fragrant; Perle des Jardins, Niphetos, Catherine Mermet, Marshall Robert, Southern Belle, Souvenir d'un Ami, Bon Silene, Mme. Cousin and Douglas.

AMARYLLIS.—Among winter flowering bulbs the Amaryllis, in its various species and innumerable hybrids, takes a prominent place. In fact, it would be difficult to imagine a more beautiful and showy ornament to the window-garden than a well grown Amaryllis in bloom, and yet it is comparatively seldom seen by amateurs. There is not the least difficulty in growing it in the house, if its necessary wants, which are easily provided for, are complied with. The great point to observe in its cultivation is that the bulbs must have a season of rest after blooming, without being dried up altogether. This state is best produced by giving gradually less water until the plants have ceased growing, when only enough should be furnished to prevent their shriveling up. The bulbs should during their season of rest remain in the pots, in some dry place. As the roots remain on the bulbs all the time, taking them out of the pots to dry as is done with Hyacinths and Tulips, is a most injurious proceeding, which almost always results in non-flowering. A soil composed of well-decayed leaf mould and sandy loam is best for Amaryllis, but it is not necessary to replot them every year. When wanted for winter flowering, the pots are to be brought to a warmer place, near the light, and gradually watered more frequently. The leaves, and with them generally the flower-stalks, will soon appear, when a full supply of water has to be given. If wanted for summer flowering outdoors, they should be kept dormant during winter, transferred to the open ground in spring, and taken up in autumn.—*Am. Garden.*

ERRATUM.

Page 36, second column (February number), for “*species* and color,” read “It is *size* and color people are after.”

TRANSCRIBER NOTES

Misspelled words and printer errors have been corrected. Where multiple spellings occur, majority use has been employed.

Punctuation has been maintained except where obvious printer errors occur.

A Table of Contents was created with links to the articles for easier use.

[The end of *The Canadian Horticulturist, Volume 8, Issue 3* edited by D. W. (Delos White) Beadle]