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ERIE BLACKBERRY.

As hardy as the hardiest, large as the largest, unsurpassed in productiveness, a strong grower, of good quality and very early.



The Canadian Horticulturist.

PUBLISHED AT TORONTO AND GRIMSBY, ONT.
OFFICE ADDRESS—GRIMSBY, ONT.

VOL. X.]

APRIL, 1887.

[No. 4.

Fruits.

BLACKBERRIES, NEW AND OLD.

THE BLACKBERRY has been for many years a favorite fruit for market purposes, with us at Grimsby; and, in seasons when the peach fails, it fills a most important place in the home fruit garden. But within the last few years, through the introduction of many hardy kinds, its culture has been so much extended that the profits have much diminished.

Previous to the year 1850, no cultivated varieties of the blackberry were known, but about this time the

DORCHESTER

was introduced by Captain Lovett, of Beverly, Mass. This variety was cultivated very successfully by Mr. C. M. Hovey of Boston, who claims to have grown the berries so large that 37 would

fill a quart box. It is still considered a standard variety, Mr. Goff of Geneva placing it even before the Kittatinny. About the year 1854 the

LAWTON

was discovered near New Rochelle, N. Y., after which place it is sometimes called "The New Rochelle."

Our first experience in blackberry growing was with this variety, which had been brought into Canada by our old friend, Mr. A. M. Smith. It was a good grower, and bore good crops, but our great objection to it was its manner of ripening. It would color nicely, and yet conceal within a green, hard, sour core, which would cause a wry face upon any one who was goose enough to try to eat it; and if left till dead ripe, it was too soft to ship any distance. No wonder that the market for blackberries opened up for us very slowly, or that the brambles were soon



THE KITTATINNY.

banished from even the home garden, until the justly famed

KITTATINNY

appeared. We planted this variety near the south shore of Lake Ontario some twelve years ago, and notwithstanding the many introductions since, it remains so far our favorite. Hardier than the Lawton, ripening more evenly and thoroughly, of large and sometimes monstrous size, it is greedily bought up in the markets at an advanced price

over such smaller kinds as Taylor or Snyder; while for home use, from the middle of August to the middle of September, we find it indispensable in the fruit garden.

From the South and West we read reports to the effect that this variety is there attacked by the blackberry fungus, or "rust," to such an extent as to render it worthless. So far, however, it has escaped this disease with us. North of the G. W. Division of the



THE EARLY HARVEST.

Grand Trunk Railway, however, the Kittatinny is too tender, and for our northern sections we recommend the

SNYDER

as one of the hardiest and most prolific of all. It is a native of Northern Indiana, and was introduced into general notice some ten years ago. Its extreme hardness is plainly evident from its dark-green foliage and the vigorous growth of its stout canes.

Last summer, our bushes of this variety were a marvel to every visitor. The branches were literally loaded to

the ground with their enormous weight of fruit, but alas! the size—there was the rub, and there the disappointment.

Another small-sized blackberry, but a very desirable one, where it can be grown successfully, is the

EARLY HARVEST,

which is the very opposite in habit of growth to the Snyder. It is of a weakly habit, and as about as tender as the Kittatinny; but it is the earliest of all blackberries, and on this account it is valuable for the market garden in favored localities.



THE MINNEWASKI.

And now that we have mentioned the more prominent of the well-tested varieties, we will refer to two or three new claimants for popular favor. The

ERIE.*

comes before our notice with the most extravagant claims. It is said to be as large as the Kittatinny; almost as early as the Early Harvest; as vigorous and hardy as the Snyder; free from rust, and of the very best quality.

This blackberry is a chance seedling, found some ten years ago in Northern

* See Frontispiece.

Ohio, near the south shore of Lake Erie. It was first named "Uncle Tom," but at the suggestion of Pres. Wilder, the name was changed to "Erie."

If any one in Canada has given this berry a trial, we shall be glad to be favored with his experience.

Another new blackberry is the

MINNEWASKI.

It originated at Marlboro', N.Y., the home of the "Marlboro" raspberry, and is now offered for sale for the first time. It, too, is claimed to be perfectly hardy, a most abundant bearer, very early in

the season, excellent in quality, and large enough to rank with the Kittatinny.

THE GAINOR

is a Canadian seedling, first offered to the public in 1883. We have not fruited it, but is claimed to be larger than the Kittatinny, tender and sweet in quality, and perfectly hardy.

Of other varieties, such as Wilson, Brenton, Stayman, Stone, &c., we have not room to speak at present, except to say that we do not commend them as the best for our Canadian climate. And we have in this article mentioned old and new together, so that even the novice may not suppose that in introducing new friends, we in any way advise the hasty discarding of old and tried favorites.

RAMBLES AMONG FRUIT GROWERS.

THE WESTERN NEW YORK HORTICULTURAL SOCIETY.

(Concluded.)

Mr. Snow, of Yates County, N. Y., thought that

GRAPES

were the most profitable of fruits. From Cayuga Co. 800,000 baskets of grapes had been shipped this last season. The Concord had held its price better than the Catawba. Some one inquired about the benefit of *ringing the grape*. Mr. Barry said: "This is an old story, and a bad practice. The Massachusetts Horticultural Society has a rule that no grapes be allowed to compete on exhibitions that have been grown on girdled vines. The practice is condemned."

Prof. Goff, of the Geneva Experiment Station, read a paper on

POTATO CULTURE.

The result of careful experiment showed (1) that tubers from the most productive hills were the best for planting. The smallest tubers from the most productive hills produced more than the the largest tubers from the least pro-

ductive hills, though, generally speaking, the large tubers produce better results than the smaller ones. (2) That large cuttings yield better than small ones, and whole tubers yield better than cuttings. (3) That dried cuttings yield better than fresh ones.

Mr. Willard, of Geneva, said the value of the

CHERRY

as a market crop was under-estimated. The Montmorency was one of the best varieties. "It will hang on the trees two weeks after it is ripe, and allow us plenty of time to gather it. My Montmorencys pay me as much as \$10 per tree."

Mr. W. C. Barry said: "There is no cherry so valuable as the Montmorency. Wherever it has been planted, it has succeeded. According to Prof. Budd, it is as hardy as the Early Richmond. The crop, too, is uniform over the tree; and, when loaded with fruit, the tree is about as handsome as anything you could wish to look at. The fruit is also of a beautiful color, which it retains when it is canned. It is a little later than the Early Richmond in time of ripening."

Mr. D. M. Dunning, of Auburn, N. Y., read a very interesting paper on

ROSES.

He emphasized the need of *winter protection* even for the hardy varieties. They should be bent down and covered with evergreen boughs, or with something loose that would afford protection and yet allow free circulation of the air. This covering should not be removed until the frost is all out of the ground.

Roses need thorough *pruning* in the fall, by cutting out the old wood; and in the spring the young wood should be well cut back.

Cutting roses with long stems is a good practice, causing new growth to be formed, and on this new rose buds.

The best *place for roses* is in beds on

the lawn. They should receive a heavy coat of well rotted manure in the fall; and in the summer from the middle of May till the middle of June, liquid manure should be applied. This can easily be prepared by placing half a bushel of cow manure in a barrel of water. The liquid should be applied each evening.

Among other excellent varieties he mentioned the *M. P. Wilder* first. It has more points of excellence than any other, being beautiful in all stages of bloom and quite continuous. The *New England Hope* is a fine dark rose. *Baron Bonstetten* is rugged in constitution. Among light colored roses he would place *Victor Verdier* first, and of white roses he would class *Mabel Morrison* as the best. Of the Teas he thought the two most satisfactory were the *La France* and the *Capt. Christie*.

The next question considered was: "Is it true that

APPLES AND PEARS

are smaller and less perfect now than in early days?" Mr. Green thought they were, and the reason was because the native fertility had passed away, and insects and diseases had multiplied.

Mr. S. D. Willard thought that such specimens of apples, and particularly, such magnificent pears as President Barry had placed on the table, went to prove that those fruits were not degenerating. Never had such fine Beurre d'Anjou pears been exhibited there before.

President Barry said: "I think that what Mr. Green has stated is quite true. We are suffering from exhaustion of the soil, but it is also certainly true that we can grow as fine fruits now as ever we did, only the soil may require a little more manure now than formerly.

The cultivation which those pears received was not unusual. When my trees show the need of fertilizers they

get it; perhaps once in two years. I don't think there ever was a time when pears could be cultivated with more ease than at present. There never was a time when we were so little troubled with pear blight as now. About thirty years ago we thought of giving up pear culture, owing to the blight; but, gentlemen, I think there is every encouragement now for fruit growers to extend the cultivation of the pear."

THE KIEFFER PEAR

was commended in the report from Ontario County as being an exception to the general failure of the pear crop the last season. Its fruit was perfect, and sold this season better than any other variety.

Mr. Green said the Kieffer pear had this year developed a better quality than was usual with it. It could really be eaten this season with some comfort.

Mr. J. J. Thomas read a very interesting paper on "*The Past, Present, and Future of Fruit Culture*," which he concluded by showing that every farmer ought to have at least five acres of a

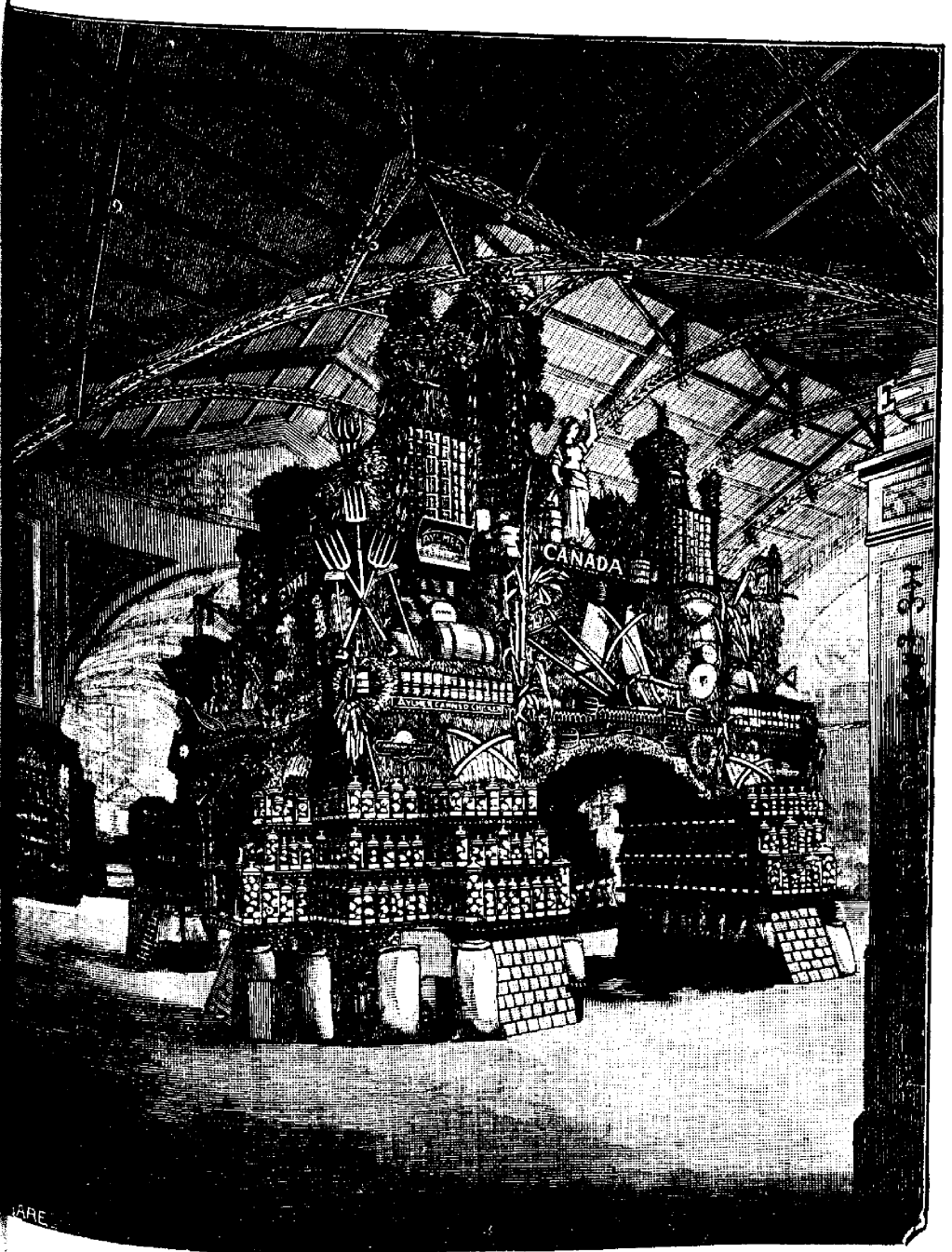
HOME FRUIT GARDEN

to supply his own family, leaving out altogether the question of the planting of an orchard for market purposes. And one department of our work for our pomological societies in the future was to diffuse a correct knowledge of fine varieties of fruit among our people generally, together with the best modes of cultivating and using it.

We were sorry to have come away before all the questions were discussed, but glad of the privilege of meeting so many experienced horticulturists, and of bringing away these scraps of information for the benefit of our readers.

THE CANADIAN TROPHY.

Having been favored with an excellent cut of the Canadian trophy, by Canada's High Commissioner in Eng-



THE CANADIAN TROPHY.

land, we take the first opportunity to give it room in these pages.

It will be observed that the view is from the opposite side to that which was shown on p. 4 of this volume.

In connection with this fine illustration the article by our worthy President on the benefits to be derived from the Colonial Exhibition, will be read with great interest.

THE PROSPECTIVE BENEFITS OF THE COLINDERIES.

BY ALEX. M'D. ALLAN, GODERICH, ONT.

IF SUBSTANTIAL permanent benefit is to be derived from the Canadian exhibit at the Colinderies, we should not cease to perfect plans for successfully carrying out all that may be necessary in order to hold a market or establish more permanently, markets recently opened out to us. It has been clearly proven that by cold storage our early and soft fruits, especially apples, can be successfully shipped to the British markets. Is the matter going to drop at this? If not, what steps are to be taken to have a permanent line of cold storage established in one or more of our steamship lines? Now is the time to make preparation. I believe our Government should deal with the matter in negotiating; and intending shippers could give an idea early in the season as to the space each could occupy, and the length of time such space would be needed. All our early apples could be shipped successfully, and good prices realised, so long as a good, sample article only is shipped.

Then there other articles that can be profitably shipped. Table sweet corn in the cob, I feel sure, can be disposed of in large quantities; and it will carry admirably in cold storage. I would not advise the shipping of early pears and plums, as a rule. But if the markets in Britain are holding out a sufficient demand, owing to a

generally short home and European crop, then these fruits can be shipped at remunerative prices. Our green flesh nutmeg melons would realize enormous prices in London and Liverpool. Grapes, if packed in convenient baskets, could be shipped so as to sell at prices that would pay the vineyardist. But the demand would be small at first, as our out-door grapes are not known on the British markets, and the people would not purchase them largely, until a taste were fairly established for them. In that country it is only the comparatively wealthy who can afford to eat grapes, the prices being beyond what any other class can afford. But as they can only grow grapes under glass, it will be readily seen that our open-air kinds can be grown and sent into these markets at a much lower price, so that a very large class of consumers who cannot afford to purchase such a luxury at the high prices charged for British hot-house grown grapes, would be glad to obtain ours at such prices as would amply pay both grower and shipper in Canada. But such a trade can only be established gradually, as the tastes of consumers are educated into a relish for our grapes.

As I will have regular advices by cable next season, of the prospects and state of the British fruit markets, it will give me pleasure to advise with intending shippers as to what to ship, and where, when, and to whom, as well as any other advice they may require; and I hope to hear often from many such through your columns. I would suggest that all intending shippers who can possibly do so, should attend our Fruit Growers' Association summer meeting for a conference upon points connected with the trade. I find that good results of the Colonial are showing themselves continually. By every mail I receive letters from British agriculturists who desire to

come to Canada and share in our advantages. Most of them have a few thousand dollars to invest, and generally give a preference to mixed farming and fruit growing. By last mail I have a letter from a gentleman in Brazil, who has a good capital, and will be in Toronto in July next, when I am to have ready for him a list of such farms as I suppose may suit his purpose for general farm crops, fruits and stock-raising.

Returning to the Colonial fruits. In future, should our Government desire to have Canadian fruits exhibited in British exhibitions—and I sincerely hope they will,—I would be in favor of exhibiting only fresh fruits in season. I found a very general feeling of unbelief as to the genuineness of our bottled specimens existed. I have often heard it remarked, that so far as the public was concerned, these specimen might as well be in wax, for very many believed them to be such, and many more doubted their genuineness. But when we placed the fresh specimens in plates upon the tables, all doubting was at an end. It paid Canada well to advertise in this way, and it would pay to keep up such an advertisement every season.

CANADIAN FRUITS AT THE COLONIAL.

SELECTED FROM THE REPORT OF THE FRUIT COMMITTEE
OF THE ROYAL HORTICULTURAL SOCIETY,
LORD RIVERS, CHAIRMAN.

The collection of hardy fruits exhibited by the Canadian Commission comprised an extensive collection of apples, pears, grapes, &c., from the provinces of Ontario, Columbia, Quebec, Nova Scotia, New Brunswick, &c.

Apples constituted the most prominent and important feature, and proved of much interest to the Committee, many of the samples shown being of large size, and extremely handsome in appearance,—the high coloration of many being especially remarkable and

noteworthy,—greatly excelling, in this respect, the same varieties grown in this country.

The collection of pears did not present such an attractive appearance. Some very fine samples were, however, shown of *Beurre Clairgeau*, *Beurre Hardy*, *Beurre D'Anjou*, *Duchess*, *Flemish Beauty*, *Louise*, *Onondaga*, &c.

Grapes made a conspicuous display; but of these, as dessert fruit, no opinion could be expressed—the peculiar foxy taste and gelatinous flesh belonging to the grapes of America, requiring some experience to discriminate. Some of Rogers' seedlings were remarked as both large and handsome.

FRUIT EXHIBITS AT THE COLINDERIES.

The Annual Meeting of the Nova Scotia Fruit Growers' Association was held at Wolfville, N. S., on the 19th and 20th of January. The principal feature of the morning session of the second day was the Secretary's Report on Fruit Exhibits at the Colonial Exhibition. Mr. Starr clearly pointed out how not only Nova Scotia but the whole of the provinces of the Dominion had been benefited by the grand display which had been made, how a greatly increased demand had been created for our fruits, and the way prepared by which new markets might be opened up for Canadian products in other European countries. Mr. Starr was followed by Professor Saunders, who explained the manner in which the multitude of varieties of fruits had been preserved for this exhibition, the many devices resorted to, and the great success which had attended the effort. By convincing evidence, he showed that the fruit display had done more towards removing the ill-founded prejudices existing in Europe against the climate of Canada than any measure ever before undertaken by this country, and expressed his strong convictions that

prominent among the many good results which would follow this effort, would be increased emigration of a most desirable character.

AN ENORMOUS EMIGRATION of young men and tenant farmers to Canada is predicted for next year. A bright prospect is, to all appearances, opening up for the North-west. The Colonial Exhibition has been of incalculable benefit in making the country and its resources known to the English public.—*The National*.

HORTICULTURAL.

The Leconte Pear promises to be the great pear of the South, and is said to be by the leading fruit interest in Georgia. It is a tremendous bearer and has to be well thinned out, under which treatment the average weight is about fourteen ounces.

It is easily grown from cuttings and may therefore be readily propagated by any one.

Success with Cherries.—A writer in the *Farm and Home* claims to have had great success with cherries, by giving the ground a good top dressing of salt, and then when the trees were in bloom, dusting them with slacked lime every four or five days till the fruit was set. He had no worms, or rotten fruit.

The Transparent Apple.—I got the Yellow Transparent among my premiums from the Association last spring. It has already grown about two feet. It is in clay loam. I think it will do well in this climate.

I find *The Horticulturist* a grand book, it contains so much that is useful, even if one does not go into horticulture. Besides, a person gets nearly the value of his money in presents; and the Report is worth a great deal.

H. ATKIN, Middlesex Co.

The Ontario Apple.—My Ontario apple which was sent out by the Asso-

ciation, bore immensely last season. From the original tree and some grafts I had over a bushel of splendid apples.

The Horticulturist is improving very fast, and I would not like to be without it.

SAMUEL CARR, Sarnia.

ON RAISING PLUM TREES FROM SEEDS AND MAKING SELECTIONS.

BY SIMON ROY, BERLIN.

In growing plum trees from seeds in order to obtain good varieties, it will be necessary to obtain pits from the best sorts that you can obtain.

Allow the plums to be thoroughly ripe before separation from the pulp, and prevent them from drying by covering with moist earth, until planted in the fall. After the ground is prepared, plant in a row, about one and one-half inches deep, and about three inches apart. If the soil is rather heavy it may be mixed with either coarse sand, swamp muck, or well decomposed manure, so as to allow the germs to break through the covering.

After about two years growth you will be able to make your selection, preferring those which have a *tame look about them*, a fine large leaf, and the stems and branches clean and devoid of thorns. Nature will strive to hold her own, many will revert to original conditions and will produce fruit not larger than the ordinary damson. Seedlings usually require some eight or ten years before bearing fruit, but fruit may be obtained sooner, if scions or buds are worked on our native wild plum.

In accordance with what I have stated, I have succeeded in growing a number of fair specimens of fruit, equal to any in general cultivation, but do not claim any superiority for them. They have hitherto resisted the black-knot epidemic and are apparently healthier and hardier.

Perhaps it may be of some import-

ance to know that the two oldest varieties of plums on my grounds which I planted some thirty years ago, which bore fruit last year, and look as if they will hold out some time yet, are of American origin, namely the Bolman's Washington, a native of New York City, and the Prince's Yellow Gage, a native of Long Island N. Y.

VITICULTURAL.

Grape Experience.—SIR,—With me last fall the *Prentiss*, *Worden* and *Pocklington* were worthless. The *Worden* ripened all its fruit, and some of the bunches were large. I took out my knife and cut off a fine bunch to carry it into the house, but by the time I had it cut off I had just four grapes left on the stem; they dropped so badly. I packed some to try the keeping qualities, and they all failed to be good for anything.

I have had good satisfaction with *Brighton*. I have them in good condition yet (Feb. 1) and expect to have them up to April. They are as fine yet as in November.

Has any reader of *The Horticulturist* experience with reference to the keeping qualities of the *Niagara* and *Empire State*?

My *Jessica* proved a very poor keeper. The *Jefferson* and *Lady Washington* were worthless with me. I made a frame over my vines, which were full of very fine bunches of grapes, and covered them over with glass; but all to no purpose. I will either cut them down, or graft them.

J. B. WILLIAMS, Bloomfield.

Pruning the Grapevine.—A writer in *Popular Gardening* says that the pruner invariably finds that upon a thrifty, strong growing vine, the buds upon the medium-sized canes are swelled larger and stand out from the cane more prominently, than the buds upon the largest canes.

He has tried the experiment over and over, and this is the sum of his observation, that the medium canes are the ones that develop the best fruit buds, whenever the vines are strong.

Lady Grape.—President Lyon, of Michigan, said at Chatham that this grape should be introduced into every list of grapes for home use. It stands head and shoulders above anything else. Better have a medium crop and first quality than an enormous yield of inferior fruit.

Manuring the Grape.—The Government Committee in France, after several years' investigation of the manuring of the grape and the results of a series of experiments with potash manures, report strongly against nitrogenous manures, including stable manure, as being "more hurtful than useful," which accords with common practice, also that feeble grape-vines consume as much manure as vigorous vines.

Potash should enter into the composition of manures for grape-vines, the elements in the soil being generally in bad condition for assimilation; potash carries forward in some way with it the other fertilizing principles.

Potash from the root passes to the vine, to the leaves, then to the twigs, to arrive at last at the fruit, of which it favors the development. Its migration is comparable to those of the nitrogenized elements and phosphates.

The potash introduced through the root in the course of a season is not entirely consumed, since it is found after fructification, reserved in sufficient quantity, in the wood and in the twigs.—*Wine and Fruit Grower*.

Pruning Grapes.—SIR:—I see on page 7, January No., a correspondent advises pruning grapes in the spring and leads new beginners astray. It is too late to prune grapes when you un-

cover in the spring, as they will bleed. Prune in the fall before laying down (advice to new beginners; older ones can do as they please).

I also see a good deal of talk about aphs, green and black, on cherries and plums. I may say, all we ever did was to give them plenty of lime water with a garden engine, and it was effectual. We went over the trees once or twice while the growth was young.

D. CAMPBELL, London West, Ont.

Grapes near Guelph. — Professor Pantan says in Bulletin VIII. that some ninety-six varieties have been tested on the grounds of the Agricultural College. The latitude is $43^{\circ} 38'$; height above level of lake Ontario, 858 feet; soil, clay loam. As a result of five years' experience he draws the following, among other conclusions:—

(a) Grape vines in this locality must be well sheltered with warm exposure, and grown in a warm well-drained soil, or little fruit will be secured.

(b) The Concord, known as the grape for the million, scarcely ripens with us before well into October, and then irregularly.

(c) A grape which does not ripen earlier than the Concord is of little use here.

(d) Our earliest seems to be Moore's Early, Champion, Lady and Massasoit.

(e) For flavor, hardiness and yield the following are to be commended: *Black*—Wilder, Worden, Moore, Concord, Barry. *Red*—Delaware, Brighton, Lindley, Agawam. *White*—Niagara, Lady, Martha.

OPEN LETTERS.

Appreciative. SIR:—A few years ago I knew really nothing of gardening; but I became a subscriber to your able little journal, and to it I am indebted for the little I know of small fruit rais-

ing in a small garden of a working man.

I drained my lot well, which is a heavy, stiff, blue clay. I supplied the land with a liberal supply of stable manure, also coal ashes to loosen up. I dissolved bones in two large barrels of wood ashes, spread the same among my currants and grapes; and on a hint received from your little journal, cut all the old wood out of my currants. The result is berries, the superior of which were not found in this county.

I would like to know the best and cheapest way to preserve grapes till Christmas.

D. NELSON, St. Thomas.

[NOTE.—An excellent mode of keeping grapes in a nice, plump condition until Christmas, is to pack them between layers of cotton batten.—ED.]

Johnston's Sweet Raspberry. SIR:—In your remarks about Johnston's Sweet Raspberry, you say you are not acquainted with any one who has fruited it. For your information and others who, no doubt, when it is offered for sale, will be willing to test it, I may say that I have fruited it in a small way for two years. Both plants and fruits were all the introducer claims for it, with this addition; there are but few spines on the plants, which makes it easier for the pickers to get along among them.

JOHN LITTLE, Granton, Ont.

The Onion Maggot. SIR:—A friend showed me a copy of the *Canadian Horticulturist*, and I am so pleased with it that I wish to become a subscriber. I am particularly anxious to get some remedy for the maggot that destroys the onion.

A. B. FERRIER, Cheltenham.

[NOTE.—Experiment by soaking the seed in copperas, and by sowing salt, soda, ashes or coal-dust over the ground.]

Flowers.

THE CULTIVATION OF THE DAHLIA.

BY HERMANN SIMMERS, TORONTO, ONT.

MANY readers of *The Horticulturist* may not be aware that this is the proper month to look after the preparing of their Dahlia roots, in order to secure their early bloom, and its continuance until frost has spoilt its splendour. We will presume that amateurs have placed their roots away in the fall to be ready for their proper attention in the spring; and, on looking for them, will have found a very large number of tubers attached to the stem, which in some cases are hanging loosely. If any are found to be in such a condition, they may be cut off, as they are in no way beneficial to the plant.

If the roots then have been carefully wintered, they may be cut apart, into four or five divisions of one or two tubers each, care being taken that a certain portion of the stem, with an eye, is attached; after which they may be planted in a box, or better still, in a hot-bed, until the new stem grows 3 or 4 inches in length. This may probably take until the 1st of June, at which time they may safely be planted in the open ground. A word here before going into further details; many amateurs suppose that the larger the number of tubers that are attached to the root, the better they will grow; but not altogether so, as invariably the gardener cuts a large root into as many as a dozen parts. But I would not advise the amateur to do so, as sometimes he would not be able to manage them as well, and when the roots are small it would be better for him to take the instructions given above. If the roots that have been placed in a hot-bed or box have sent

out two or three stems, they may be cut off and grown the same as any other cuttings are grown; and these cuttings when planted at their proper time will flower the same season.

In planting Dahlias in the open ground it should be done so that the



BUNCH OF DAHLIAS.

top of the tubers are covered in at least two inches, in a well manured soil; and when the stem has reached the height of about two feet, any side shoots should be cut off, allowing the root to have but one stem, and cultivating further somewhat in the form of a dwarf apple tree, which they resemble when in full growth. It is also a wise precaution to place a good strong stake beside the root when planting, to which they may be tied from time to time, as they develop. To further the development of the Dahlia a liberal supply of water continuously through the season is necessary.

Under such treatment the Dahlia will thrive in such a manner as to give the greatest pride to the amateur.

DAFFY DIL AND JONNY QUIL.

Said Jonny Quil to Daffy Dil,
His pretty country cousin,
"Now is your chance to have a dance ;
Your sisters, full a dozen,
Are here in golden cup and frill ;
What say you, Cousin Daffy Dil ?"

Said Daffy Dil to Jonny Quil :
"To dance would give me pleasure ;
But then, you know, the wind must blow
To beat our time and measure.
Then April wind will be here soon,
And he will whistle us a tune."

Vick's Monthly.

THE DAFFODIL is the flower of fashion in London just now. Huge masses of the reigning yellow favorite fill the windows of the florists.

THE CULTURE OF THE CHRYSANTHEMUM.

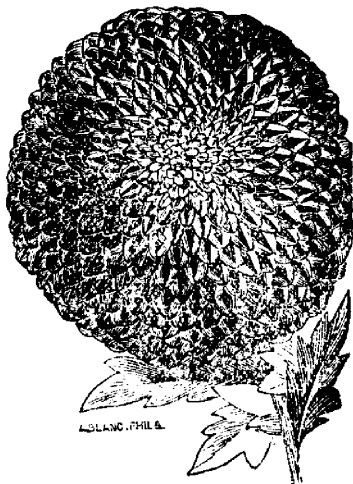
THE CULTURE of the Chrysanthemum is very simple. Small plants can be procured from any florist, and should be planted as early in April as possible. The Chrysanthemum is a gross feeder, and requires a rich soil. The plants should have the centers pinched out as soon as they are thoroughly established and have made a few inches growth ; this causes them to branch freely. The pinching operations should be continued as required until the first week in August, after which the flower buds commence to form. An occasional dose of liquid manure will be very beneficial. By October 1st the plants can be taken up and potted, being careful to shade and water them for a few days, after which they can be removed to the sitting room or conservatory for blooming.

The improvements in Chrysanthemums the last few years has been wonderful. The following varieties are among the best of their color and class, all being good growers, and free flowering :—

Japanese.—Mr. Wm. Barr, bright

crimson ; Le Niger, deep maroon ; Elaine, pure white.

Chinese.—Frank Wilcox, golden amber ; Sam Sloane, pale blush ; John Salter, bronze red.



THE POMPON.

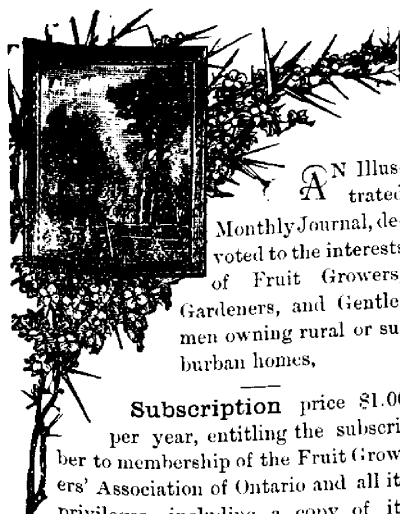
Pompon.—Black Douglas, crimson ; Snowdrop, white ; Model of Perfection, pink.



ANEMONE-FLOWERED.

[*Anemone-Flowered.*—Antonius, canary yellow ; Contrast, rich crimson.]—*Vick's Monthly.*

THE
Canadian Horticulturist.



AN Illustrated
Monthly Journal, devoted to the interests
of Fruit Growers,
Gardeners, and Gentle-
men owning rural or sub-
urban homes,

Subscription price \$1.00
per year, entitling the subscri-
ber to membership of the Fruit Grow-
ers' Association of Ontario and all its
privileges, including a copy of its
valuable Annual Report, and a share in its
annual distribution of plants and trees.

This Journal is not published in the in-
terests, or for the pecuniary advantage of
any one, but its pages are devoted wholly to
the progress of Horticultural Science and
Art in Canada. We aim at the development
of the fruit growing industry in our Province;
at the general distribution of knowledge con-
cerning all the newest and best varieties of
fruits; and at the education of a refined
taste in the art of decorative gardening
around the homes of our Canadian people.

With such ends in view we invite the co-
operation of the lovers of Horticulture both
in extending the membership of the Fruit
Growers' Association of Ontario, and in con-
tributing to these pages such items as may
be of general interest and profit.

Please pay in your subscription for '87
on receipt of this number, if you have
not already done so. There are still a
limited number of back numbers of

this year on hand for new subscribers
who wish them; but subscriptions may
begin with any month in the year.

The Plants, including the Cherry and
the Grape, will soon be distributed
through the mail. Of course, members
of the Association must not expect
large-sized plants, as the size is limited
by the P. O. authorities to two feet in
length. The Russian Cherry is at best
more of a bush than a tree, even in its
Russian home. The Vladimir Cherry
having run short, the Executive Com-
mittee has succeeded in securing a few
other Russian cherries of equal value,
viz., the Litham and the Ostheim, by
means of which we hope to suit the
wishes of all the members preferring
this selection.

The packages of flower seeds will be
mailed in a few days to those who have
chosen them. The names of the seeds
to be sent are (1) *Aster, Victoria*; (2)
Morning Glory, Variegated; (3) *Even-
ing Primroses* and (4) *Nasturtium, Em-
press*. We send four instead of three,
because we have been disappointed
about getting the *P. Cashmeriana*, and
we hope thus to more than make up for
the failure.

Summer Meeting.—The Horticultural
Society of Ontario, of Collingwood, has
given the Fruit Growers' Association
of Ontario a very hearty invitation to
hold the summer meeting there.

Invitations may be addressed to the
Secretary, Grimsby, who will lay them
before the Executive Committee.

The Hatch Bill.—There has been a great
deal of agitation of late, in the United
States, in favor of the passing of this
bill, and finally the friends of progress
in agricultural and horticultural science
bid fair to win the object of their am-
bition.

This bill provides for the establish-
ment of an experiment station in each
state, under the direction of the State

Agricultural College; and the object so far as horticulture is concerned, is "to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds."

It is a satisfaction to know that Canada is not behind her enterprising American Cousins in the matter of experimental farm stations. Already, in accordance with an act passed in 1886, respecting "Experimental Farm Stations," which provided for one in each province, the Central Farm has been located within three miles of the Parliament Buildings at Ottawa; and plans are matured for active operations early this spring.

The first Bulletin has just been issued, and may be had by any one who will write for it, addressing the "Experimental Farm, Ottawa."

Premiums.—The *American Garden* does not believe in premiums. It is too much like hiring a person to subscribe.

We hope none of the readers of the CANADIAN HORTICULTURIST have been thus "hired."

The distribution of trees and plants which we make every spring, is apart of the regular work of our Association, and come to the subscribers of the HORTICULTURIST because they are members of that Association.

The object of this distribution is to test new fruits in Canada, by thus making the gardens of our members

experimental, so that we may be the sooner prepared to report with confidence as to their real value.

Seed Testing.—With the object of saving our farmers from the losses to which they are annually subject through using old or inferior seeds, a glass structure has just been completed at the Experimental Farm, for the express purpose of testing their germinating power. Samples of seeds, duly labeled, may be sent, postage free, to the above address; and returns concerning their value will be made free of charge, as quickly as possible.

Question Drawer.

This department is intended as an open one to every reader of the "Horticulturist" to send in either questions or answers. Often a reader will be able to answer a question which has been left unanswered, or only partially answered by us. For convenience of reference the questions are numbered, and any one replying or referring to any question will please mention the number of it.

24. Ashes.—*What quantity of unleached ashes would be about right to put around ten-year-old apple trees, and would spring or fall be the best time to apply them?* [A. ARMSTRONG, Barrie.]

PROF. PANTON, of the Agricultural College, Guelph, replies:—"Put on an application of about three-fifths of an inch in depth. I think the spring is about the best time, owing to the tendency of the potash to dissolve, and pass beyond the reach of the roots when needed."

25. Bones.—*I can get a great many bones within a short distance of my place. How can I manufacture them into shape for use on the land?* [A. A.]

PROF. PANTON says: "Compost them with about twice their bulk of good ashes, slightly moistened; turn the pile over once a month for about three months. The bones will then be easily broken and beaten to a soft mass, which will be fit for use at once."

If the bones can be readily ground, you have an excellent fertiliser without further trouble.

26. Paris Green. *Will the sprinkling of the trees with Paris Green make the grass under the trees useless?*

[J. DIBB, Clarksburg.]

It is unsafe to use the grass for pasture for two or three weeks after the spraying, but a good heavy rain will wash off the poison from both trees and grass. Has any reader any caution to give us under this head?

27. Aphides.—*Innumerable quantities destroy leaves and fruit of my white Ox-heart Cherries. Can you suggest a remedy?* [W. F. BURTON, Hamilton.]

These black plant-lice are not easily destroyed. The lady birds and the ichneumon flies destroy them wholesale; but, when these fail, try a strong solution of *pyrethrum powder*, say two ounces to a gallon of water, and spray the trees well with it. This substance owes its effectiveness to its volatile properties, and thereby effects the destruction of the aphides where ordinary poisons would fail.

Spraying with a *kerosene emulsion* is also recommended. This is made by boiling half a pound of strong soap in a gallon of water, and then adding two gallons of kerosene. Churn this to a cream, and then add nine times the quantity of water.

28. Plum for the North.—*Is there any plum better than the common red (blue?) plum that will succeed in the Ottawa valley?*

[R. WILLIAMS, Hintonburg, Carlton Co.]

Mr. A. A. Wright, Renfrew, replies:—"I know of none as yet that I can recommend as very 'sure to grow.' I have several that promise well, and among them some Russians that came to me without a name. Try Lombard, Glass Seedling, and McLaughlin. They

are almost hardy here. The latter has not failed yet, but it may."

29. The Russet in the North.—*Will it succeed in Carlton County?* [R. W.]

"In favored localities, but not generally. If the subscriber lives on the banks of the Ottawa he should succeed with it, as also with the plums above mentioned. [A. A. W.]

30. To Grow Spruce and Linden from Seed.—*Please tell me the best method, as I want to experiment.*

[ANDREW JOHNSON, Stratford.]

A. GILCHRIST, Guelph.—All tree seeds should be covered very lightly; enough to hide them from view. A sandy loam is preferable. *European Linden* will not germinate until the second year. *Norway Spruce* will grow the first; both require to be shaded.

31. The Cut-leaf Weeping Birch.—*How is it propagated?* [A. J.]

A. GILCHRIST.—By grafting upon the White or Yellow Birch Seedling.

GENERAL TREATMENT OF FOREST TREE SEEDS.

32. *Catalpa Speciosa*.—*Should the seeds be planted in the spring?*

[Wm. McINTOSH, Newcastle.]

For the benefit of the inquirer and others interested in planting seeds of forest trees, we select the following from Bulletin No. 1 of the new Experimental Farm, Ottawa:—

"Many of the tree seeds which mature early are better sown soon after they are gathered. This applies especially to the several varieties of elm and to the soft maple. The hard maple, box elder and ash seeds keep well over winter, provided they are stored in a cool place and are not allowed to get too dry. Acorns, nuts and stone fruits are most successfully planted in the autumn, but if kept over winter

should be mixed with moist sand and exposed to frost and planted as early as possible in the spring, taking care that they are at no time left in masses under conditions so as to heat. Many failures with seed arise from not sowing it in partial shade. If seeds are exposed alternately to hot sunshine and cold, while they are swelling, they will frequently rot before they appear above the surface. The requisite shade may be obtained by the use of brush wood, or a light layer of corn stalks or straw, removing this as soon as the seedlings are up and fairly established. Many nurserymen enclose their seedbeds with wooden frames, on which are laid light frames made of one-inch strips and covered with cotton or muslin. These are convenient and can be provided at small cost. Seedlings of evergreen trees grow slowly and require to be shaded and kept moist during hot weather all through the first year of their growth and sometimes longer. Seeds take some time to swell their coats after being placed in the ground, hence, if planted dry, they should be sown as soon as soil can be had to cover them. Germination may be hastened, especially with seeds of a hard texture, by pouring hot water on them and allowing them to soak for twenty-four hours before sowing.

Seeds sometimes fail to grow from being planted too deep. The larger nuts and acorns should be covered with soil about as deep as the seed is thick; other smaller seeds should not be covered with more than half an inch of mellow soil, pressed gently with the back of a spade so as to make the earth firm around them, and when the young seedlings appear they should be carefully weeded. Occasionally seeds will remain in the ground until the following season without germinating. Should any fail to grow by the time spring is over, and on examination the kernels

are found sound, the seedbeds should be kept weeded and shaded until the next season."

THE DICEIOUS CHARACTER OF THE MULBERRY.

33. My Mulberry Tree was full of blossoms, but they all dropped off. This was the first year it blossomed. I was reading in the *Horticulturist*, p. 267, Vol. I.X., that the Russian Mulberry was diceious, requiring two or more trees to grow together. On my tree the leaves are of different shapes, some being serrated, while the most of them are lobed, like an oak leaf. Will I have to get another tree before I may hope to eat the fruit of the mulberry?

[J. B. BURK, Brougham.]

REPLY BY SIMON ROY, BERLIN, ONT.

Referring to Mr. J. B. Burk's inquiry I have to say that his Russian Mulberry tree is a male (*Staminate*), and only a flowering specimen, consequently he can never expect to have fruit on it.

The sexuality of plants was first discovered by Linnaeus, the Swedish Botanist, and is now generally understood. Various varieties of trees and plants are of a diceious character, *i.e.*, one being a male and the other a female, as is the case with birches, poplars and larches; also in grape vines (*Vites*): example, the Sultana Raisins of commerce are the product of a female or pistillate flowering vine and are devoid of seeds, and our native mignonette, scented variety, is a male or staminate plant, bearing no fruit. Since the propagation of the mulberry is so simple, by growing it from cuttings, it is only necessary for him to get a few from a neighbor who has a fruit-bearing tree, or to obtain scions and top-work his tree by either budding or grafting.

The female tree bears fruit but not seeds, and it has serrated leaves only.

Timely Hints.

GRAFTING.

April and May are the months for top-grafting. This operation is so simple and so useful that every orchardist should practice it. Our country is full of orchards that are unprofitable, owing to inferior kinds, or because of the apple spot. The best remedy in cases of old and feeble trees would be to cut them down and burn them; but, if still thrifty in growth, they should be top-grafted to more desirable kinds. Scions of the best varieties can easily be purchased from any of our leading nurserymen at a small expense.

The important point in grafting is to secure a perfect union between the cambium layer of the stock and that of the scion. It is through this delicate tissue, lying between the wood and the bark, that the circulation of the mucilaginous liquid continues which develops the new growth of each. If this union is well adjusted the operation is pretty sure of success, other things being equal.

The *Rural New-Yorker* commends the following as a simple and easy method of grafting:—

“Cut off the stock at a right angle to itself. Cut a slit down the bark an inch or more from the top, as in budding. Cut the scion four or more inches long and, beveling one side of the larger end, insert it after loosening the bark on either side of the cut, the same as a bud is pushed into its place. One or a dozen scions may thus be inserted in the stock according to its size.”

FERTILIZERS.

Professor Pantou, of the Agricultural College, Guelph, gave some valuable information on this subject at the Chatham meeting. Speaking of the value

of nitrogenous manures for the strawberry, he said that *dried blood* was very rich in nitrogen and was especially useful for the strawberry. It contains 14 per cent. of ammonia (a compound of nitrogen and hydrogen) and 7 per cent. of phosphoric acid.

He advised the application of 300 lbs. per acre, between the rows. A home-made

SUPERPHOSPHATE FOR THE ORCHARD can be manufactured as follows:—By bulk, one part bone dust, two parts ashes, to which add one-third bulk of water and one-sixth bulk of plaster. This lacks nitrogen, for the supply of which barn-yard manure can be added.

Another formula which he gave was as follows:—By weight, one part bone-dust, one part ashes, one-quarter part slacked lime, one-eighth part crude carbonate of soda. Mix this and let it stand; then add, say about one-half bulk of good soil.

Fertilizers for the Strawberry.—The Editor of the *Rural New-Yorker* has tried successfully the following fertilizer for the strawberry and recommends it to others. The proportions for an acre are 500 lbs. wood ashes, 400 lbs. bone flour, 200 lbs. nitrate of soda and 200 lbs. of kainit.

Nitrate of Soda.—Mr. Joseph Harris says it is surprising that we have not yet learned what a cheap and valuable fertilizer we have in nitrate of soda. It is derived from the leaching of sea-weed and other vegetable matter, and is the very essence of manure.

It looks like common salt, and may be sown hand-cast over the ground at the rate of 500 or 600 lbs. per acre. It is a capital fertilizer for the lawn, garden and orchard.

Trees Girdled by the mice in winter may, according to the *Orchard and Garden*, be saved by immediately covering the wound with grafting-wax, or

with tough paper saturated with linseed oil, and then wrapped with old cloths, and so left until the 20th of August, when a new bark will be formed over the wound.

This bark is formed by the exudation of cellular material from the sap-wood, the same way that a callous is formed over a cut root or scion when packed in damp sand or saw-dust.

We have often tried banking a gnawed tree with earth, where the wound was still quite fresh and not too large. The degree of success was sufficient to lead us to

endorse the plan described above as worth trying.

The plan, so often commended, of trying to bridge over the wounded surface with scions of young wood, as shown in the ac-

companying illustration, is good, but is almost sure to fail with inexperienced hands. And failure means the loss of a year's time before the tree is replaced.

Hotbeds need air, water, sunshine, and a constant vigilance; for cold frames the same rules are equally necessary. I do not think a single advantage can be claimed for hotbed sash of any other size than 3 x 6 feet. These need to be made of the best pine, 2 inches thick, with horns at each end to move them by. They should be set with 6 x 8 double thick glass, bedded, tacked and puttied and well painted with white lead. Such sash, with good care, and well housed in the time when not in use, will last a life-time.—*Farm and Home.*

THE SUBSOIL PLOW AS A DRAINING MACHINE.

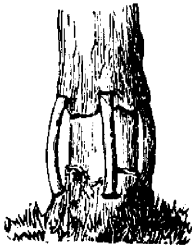
BY J. TWEDDLE, STONEY CREEK.

The time has come in our experience in fruit growing, when we are convinced

that it is useless to plant out orchards, vineyards, and small fruits in cold or wet lands, without first draining and subsoil ploughing. Underdraining is made doubly effective by subsoiling crosswise of the drains, thus opening up the soil to a depth of 12 to 15 in., and thereby leading the surplus water quickly to the drains, and thence to their outlet.

For the purpose of underdraining, I have found no implement so useful in all kinds of land, as the subsoil plough. The hardest clay can be cut with comparative ease; and stones are scarcely an objection to its use. If the stones are small, they are generally moved the first time they are struck; if large, it is best to pass over them until the plow-point can be got under them, when they are easily removed. In case of a very large stone, it is best to cut around one side, as the plough is easily swung to one side for such a purpose. Any depth can be cut, down to 4 feet, with no greater width than is necessary in digging with the ordinary draining spade and hoe; also, any greater or less length of drain may be opened and finished up in one day in case of danger from caving or other source. I would say it is best to use a steady, quiet team and a wrought share, for fear of striking large, solid stones. Drains may be cut almost any width at either top or bottom, in this way. I cut one outlet drain 4 feet deep, 20 inches wide at the surface, and 4 inches at bottom, in a very hard and stony subsoil.

My mode is first to cut a deep and wide furrow with a large pointer-plough that will throw the furrow well out, so as not to fall back when using the subsoil plough afterward. Then I come back in the same furrow and throw out as much more as we can on the other side, without making the drain more than 15 to 18 inches in width at the surface. In this way it will be seen



that I can get from 6 to 10 inches of depth to start on, without any hand labor of any account. I next hitch the team to the subsoil plough, connected with it by means of a long logging chain, and a long double tree, say $4\frac{1}{2}$ to 5 feet. Driving a horse on each side of the drain, I commence to loosen the subsoil, first hitching close to the plough, as usual, while the drain is shallow, and lengthening the chain as the drain deepens. I plough one, two or three rounds as the condition of the subsoil may require. until we have stirred up 6 or 8 inches of earth; then I commence shoveling out by means of long-handled, round-pointed shovels. When all the loose earth is thrown out, I proceed to plough again, and so on until about the required depth is gained. Care should then be taken to get an even grade, and this is best done by use of the pickaxe and draining hoe. A narrow shovel for the narrow part can best be made by taking one of the common shovels to the village blacksmith and having the sides turned up, so as only to leave a width of four inches on the bottom.

I believe this plan will institute a new era in underdraining; making the cost less by one-half than the old way of digging with spade and pick axe; and it is far more economical of capital than buying an expensive ditching machine, and all the expensive repairs, etc., attendant upon its use, with the various vexations of its use if in stony or wet land.

Small Fruits.

BEST MARKET VARIETIES.

BY K. MORDEN, NIAGARA FALLS SOUTH.

The new and wonderfully promising varieties which blossom each year while the snow yet remains will not be noticed here. He who has plenty of

money and an abiding faith in lotteries will, as usual, invest in them. Contrary to the general rule, the best varieties are the cheapest ones in most cases.

In strawberries, the Crescent now leads. Wilson is valuable of itself and as a fertilizer. Manchester has, I think, come to stay. Sharpless is very large and good, and sometimes productive.

In red raspberries, the Cuthbert displaces every other variety. The Turner and Philadelphia are hardier at the north.

In black caps, Souhegan early, Mammoth Cluster medium, and Gregg for late. The Gregg does wonders here, but fails in some localities.

With me the Taylor is the best blackberry.

In currants, the Raby Castle leads by several lengths. On soils of clay it is said the Cherry Currant is productive.

The Houghton Gooseberry succeeds famously on our soil, but the fruit does not compete with the larger kinds in the case of a glut. The Downing is productive and salable. Smith's Improved fails here.

The Concord is still the leading grape. Worden seems to be a distinct improvement in most respects. The Rogers and many other varieties of grapes are defective as regards growth, productiveness, liability to mildew, or in some other respect. Their merits and demerits cannot be discussed in a brief article.

MR. AYLEWORTH'S BIG STRAWBERRY YIELD.

In reply to inquiry, Mr. Ayleworth writes:—Sir, The strawberry plot mentioned by me in your February No. consists of sandy loam, liberally treated in 1883 and 1884 with a compost of muck, well rotted horse manure, hen manure, and unleached hard wood ashes. It is underdrained on three sides. It was used for raising roots in 1884, and deeply ploughed in the fall

of that year. Early in April, 1885, it was raked over and given a light dressing of hard wood unleached ashes, and planted with thrifty Wilson plants, in rows from two feet to two feet and a half apart; the plants from nine to twelve inches apart. Between the rows of strawberries were sown Globe Mangolds and Big White Carrots (about half of each), midway between the rows of berries. The ground was kept thoroughly free from weeds and grass through 1885, with the hoe and hand. No runners were disturbed, unless by guiding them so that they would be properly spread over the plot, or helped a little with earth to take root. Sixty baskets or quarts of strawberries were taken from the vines in June and July, 1885. Also, in October, 1886, sixty bushels of mangolds and carrots were taken from the same plot. The picking began on the 19th of June, and closed on the 20th of July. Rain, in abundance and at right times, greatly helped. I have tried to secure a second large crop from the same plot, but have not succeeded. The vines seemed to have exhausted either themselves or the soil, and weeds and grass, and especially the white clover—about the worst of weeds among strawberries—seem to spring up spontaneously, as if for spite. So that I strongly incline to be satisfied with *the one big crop*, and the few produced the year of planting, and turn all under after the second year.

J. B. AYLEWORTH, Collingwood.

SMALL FRUIT NOTES.

BERRY BOXES.—The Fruit Exchange, Benton Harbor, Michigan, has adopted the following sizes for their berry boxes for 1887.

Quart Boxes; 5 inches square and 2½ inches deep, containing 67 cubic inches, or a full quart.

Pint Boxes; same size square as the quart, and half as deep, to hold a full pint.

We would suggest the wisdom of the members of our Association agreeing together to accept some uniform size in berry boxes, and certainly quarts and half quarts are the most sensible sizes.

MARKETING.—A writer in *Tennessee Messenger* says the best way of selling our fruits is to induce the fruit buyers who speculate in fruit to come to our shipping points and there purchase direct from the growers, instead of from commission men in the towns. This method is practised in the peach business in New Jersey and Maryland.

FAY'S CURRANT.—Mr. Geo. Josselyn, Fredonia, N. Y., states in his spring circular, that he has already paid the estate of Lincoln Fay over \$22,000 in cash, as their share from his sales of Fay's Prolific, which he considers worth noticing, as the first instance in which the originator has received anything like a decent compensation for a good new fruit.

OVERDONE.—R. F. Schumacher says in *Ohio Farmer*, that small-fruit growing is overdone; and that wheat and potato growing is the more profitable of the two. He had to sell his strawberries at 3 cents a quart in Cleveland, and his grapes at 1½ cents a pound. No wonder he is sick of the business.

The Jewell Strawberry has so many points of excellence that one reads with regret the statement in the *Orchard and Garden* that it is a poor grower. Who has tested it thoroughly in Canada?

Minnewaski Blackberry.—W. A. Brown, Benton Harbor, Mich., considers this a very promising blackberry. He says he has not yet tested its general hardiness, but has faith in its success.

USES OF FRUITS.

Fruit-Eaters and Doctors. — We were struck recently by the remarks of a doctor friend of ours, who said no one thing will do so much to make people independent of the medical profession as the daily free use of fruit. He had noticed that those farmers in whose families fruit was regularly and largely consumed seldom needed his services. We thought what a pity that every farmer in the land could not be convinced of these truths. It is a deplorable fact that farmers' families do not enjoy that robust health that country air and out-door life, with plenty of exercise, should give. — *Rural New Yorker.*

Scientific.

Useful Fungi.—Among the numerous forms of fungus which live upon higher plants (many of which are so detrimental to their hosts) are some, it is now believed, which live with these on terms of mutual assistance. Frank found that the young root-points of some English forest trees, as the beech and the oak, are covered with a coating of fungus (probably belonging to the truffle or allied family), which seems to help in the nutrition of those trees. Another interesting case is that of fungi which live with orchids, and whose mode of propagation has lately been established by Herr Wahrlich.

To Escape Yellows.—Mr. Hiller, in the *Gardener's Monthly*, advises planting peach trees that are budded on plum roots, as a means of escaping the Yellow. He thinks that the roots of old peach trees, that have died of this disease, retain it a long time in the soil, and from them it attacks the newly-planted peach trees. The editor further contends in favor of the view that the Yellows comes primarily from the

attack of a fungus—the mycelium of a species of Agaric—upon the roots of the peach. If this is the case, plum budded peach trees should escape the disease.

Review

We will gladly give our candid opinion of any books, magazines or catalogues received, especially if they are likely to interest or benefit Canadian fruit growers, but will not insert cut and dried reading notices in favor of any publication whatever.

High Class Fertilizers, manufactured by the Standard Fertilizer and Chemical Co., Smiths Falls, Ont.

One of the most important questions at present before us as fruit growers, is an abundant supply of suitable fertilizers for our orchards and gardens. The discovery of those exhaustless phosphate mines, of which Mr. Buck's article in the February No. treats, and of extensive stores of kainit (containing potash) in France, all help to encourage our hopes of a plentiful and cheap supply of these essential manures.

Messrs. Brodie and Harvie offer in their pamphlet a *special fruit tree fertilizer*, of which they say about 600 lbs. per acre should be used; and for a peach orchard about five or six pounds per tree. The guaranteed analysis of this is claimed to be: Ammonia, 2 to 3 per cent.; Phosphoric Acid (soluble and precipitated), 8 to 10 per cent.; Potash (actual), 8 to 10 per cent.; Magnesia, Lime, Soda, &c. The Company claim that their fertilizers are no mysterious mixtures of nondescript materials, but are manufactured on scientific principles from materials which are open to inspection.

REPORTS.

Studies in Practical Agriculture, published by Cornell University, and for sale by Andrus and Church, Ithaca, N. Y. Price 50 cents.

Report on the Fungus Diseases of the Grape Vine, by F. Lawson Scribner, B.Sc.

This is a most excellent work issued by the United States Department of Agriculture. It treats of the Downy Mildew, the Powdery Mildew, the Black Rot, Anthracnose, Grape-leaf Blight, and Grape-leaf Spot. It is illustrated with seven colored plates, and comprehends a thorough investigation of these fungi, with best known remedies. Later in the season we shall give our readers the benefit of the information it contains, so far as it applies to Canada.

Report of the Summit Co. (Ohio) Agricultural Society, 1886. Mr. Crawford, Cuyahoga Falls, Secretary.

Columbus (Ohio) Horticultural Society. Report for 1886. W. S. Devol, Sec.

Industrial Exhibition Society of Toronto. Reports for 1886; Directors and Committees for 1887. H. J. Hill, Toronto, Secretary.

Central Experimental Farm, Ottawa, Canada. Prof. Wm. Saunders, Director. Bulletin No. 1.

This is of general interest, and may be had on application, free.

CATALOGUES.

Lovett's Guide to Fruit Culture, Spring, 1887. Published by J. T. Lovett, Little Silver, N. J.

This is not only packed full of cuts and descriptions of fruits, new and old, but contains also eight colored plates.

Seed Catalogue, 1887. Wm. Rennie, Toronto.

A splendid catalogue of 72 pages; free on application. Mr. Rennie evidently makes a specialty of select vegetable seeds.

Choice Seeds and Plants offered by Dobbie & Co., Seed Growers, Seed Mer-

chants, and Florists, Rothesay, Scot., 1887. Ninety pages, too full of solid matter to allow room for many illustrations.

Small Fruit Plants and Grape Vines, 1887. T. C. Robinson, Owen Sound, Ont.

Seed Catalogue, comprising Garden, Field, and Flower Seeds, Fruit Trees, &c., 1887. J. D. Roberts, Cobourg, Ont.

J. S. Pearce & Co., successors to Pearce, Weld & Co. Vegetable and Flower Seeds, 1887.

PRICE LISTS.

Price List Niagara Falls Nurseries. E. Morden, Niagara Falls South, Ont.

Mr. Morden is a practical grower of small fruits for market, and therefore naturally offers for sale those varieties which he himself finds most profitable. His prices are very reasonable.

Price List of Evergreens, Roses, Clematis, &c., for sale by A. Gilchrist, Elora Road, Guelph, Ont.

Mr. Gilchrist makes a specialty of growing evergreens from seed.

Humorous.

A little Danbury girl, when asked by her mother about conspicuous little bites in the side of a dozen choice apples, answered: "Perhaps, mamma, they may have been frost bitten, it was so cold last night."—*Danbury News*.

A Gentleman was agreeably surprised to find a plump turkey served up for his dinner, and inquired of his servants how it was obtained. "Why, sah," replied Sambo, "dat turkey war roostin' on our fence frea nights, so dis mawnin' I seize him for de rent ob de fence."—*National Standard*.