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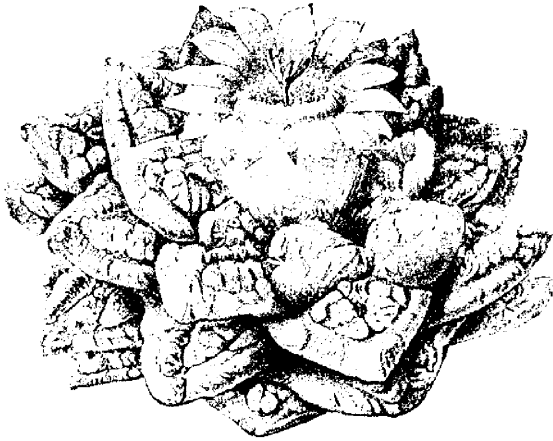
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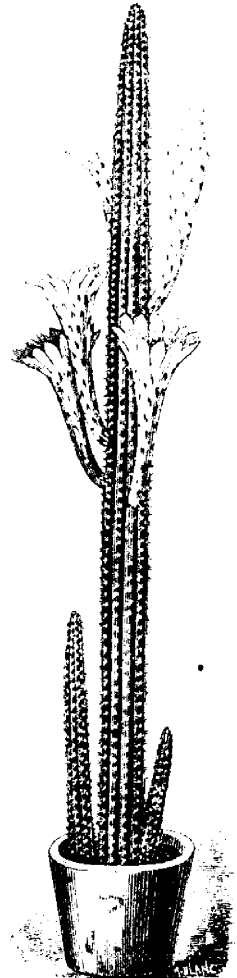
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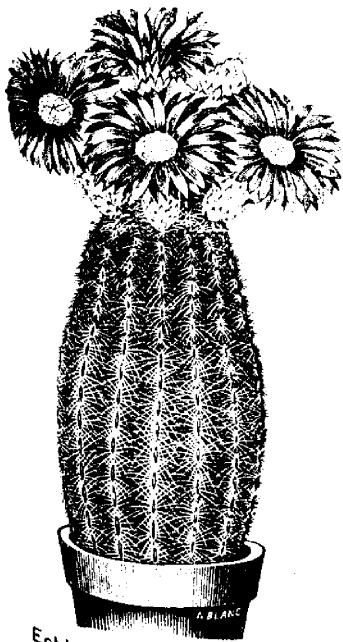
SPECIMENS OF CACTI.



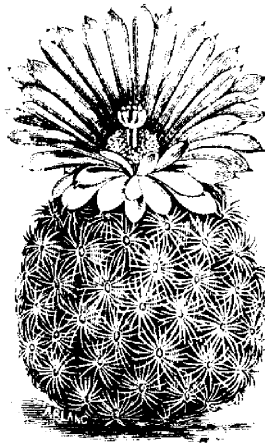
Anhalonium fissurata.



Cereus colubrinis



Echinocereus pectinatus.



Mamillaria pectinata

THE Canadian Horticulturist.

VOL. IX.]

JULY, 1886.

[No. 7.

THE CACTUS.

A much needed service has been rendered to cultivators of the cactus by Mr. A. Blanc, of Philadelphia, Penn., U.S.A., in the publication of his catalogue of cactus plants, wherein is not only a full description of many valuable varieties, accompanied in many instances with engravings giving the appearance of the plants and of their flowers, but also hints as to their cultivation, in which full directions are given concerning the soil to be used, the temperature required, and the various details needing attention to secure success. Accompanying this neat little work was a letter from Mr. Blanc offering us the use of such of the cuts as we might wish, for the purpose of giving our readers a better appreciation of the appearance of some of these very curious and interesting plants, than can possibly be given by any verbal description. We have availed ourselves of this very kind offer, and present our readers in this number with a plate containing four different species.

To those who wish to grow plants in the house, the cactus family offers many varieties that will thrive in the dry and heated atmosphere of a room,

where most other plants suffer and often perish. Besides, they are very patient of neglect. You may forget to water them for a month, and they will not show proper resentment by drooping and dying, but patiently wait for your return to thoughtfulness. They do not object to sunlight, nay the hotter and fiercer its rays fall upon them the better they thrive; so that if you can give them a shelf at the window, and heat enough to keep out frost in winter, with water when they are growing and blooming, they will almost take care of themselves the rest of the time.

The soil which they require is any good loam well mixed with sand, so that it shall be porous, and thoroughly drained. If the bottom of the pot be filled half way to the top with bits of broken pots, so much the better. During the winter they will need but very little water. Mr. Blanc says if the whole tissue of the plants seems to be plump and full, no water is needed; but, if there be the slightest approach to laxness, or a dulness in the surface color, then water should be given. In the spring and early summer when the plants are growing rapidly, they will require water twice or thrice a week.

In our plate will be found one species taken from each of four different genera, which may be considered as types, shewing the style of growth and of the flowers of each of these genera. And yet, so varied are the forms in each genus, that no one species will give any adequate idea of the numerous changes in appearance which are wrought out in nature, while retaining the same structural habit. Were we persuaded that any considerable number of our readers are interested in this department of Flora's domain, instead of only presenting them with an engraving of one species from each genus, we would devote several numbers of the *Horticulturist* to the illustration of these curious plants, giving a number of species from one genus on each plate.

The Mamillarias, which in our plate is represented by *mamillaria pectinata*, is an exceedingly interesting genus. Many species, says Mr. Blanc, resemble exquisite pieces of mechanism finished with the greatest minuteness and accuracy. Others would seem to have undergone a kind of crystallization, the whole surface being frosted over with star-like spiculæ arranged with geometrical precision, while yet others appear as if covered with finest gossamer. The spines of *M. fulvispina* are ivory white at the base, turning to purple towards the point, and regularly curved towards the top of the plant. *M. senilis* has such delicate spines that it resembles a ball of raw cotton. The flowers of *M. pectinata* as will be seen from the engraving are large, being nearly three

inches in diameter when fully expanded. The exterior sepals are of a reddish green, the interior sepals yellow, with a dark midrib; the petals of a beautiful sulphur yellow. *M. pusilla* has yellowish white flowers, with a red stripe through the centre of each petal. The flowers of *M. Rhodantha* are bright rose, and those of *M. Wrightii* are bright purple. It is impossible in the brief space at our command to give anything like an exhaustive description of the many species that are included in this genus, but enough has been said to shew that there is a great variety in the appearance of the plants and the color of the flowers.

In the genus called *Anhalonium*, we have some most curious forms. Perhaps the most interesting of them all is the one known as *Anhalonium fissurata*, an excellent representation of which will be found in our plate, so good, indeed, that further description is unnecessary.

We have selected one of the so-called Torch Cactus to represent the genus *Cereus*, a genus that includes some of the most wonderful and some of the most beautiful of the Cactus tribe. This genus embraces two distinct groups of species; the one group grows erect, with rigid stems, some of them attaining a height of from forty to sixty feet; the other group has slender, trailing stems. In the latter group is found the celebrated night-blooming *Cereus*, of most delicious perfume, yet as evanescent as it is beautiful, fading before the morning.

The genus *Echinocereus* is repre-

sented in our plate by *E. pectinatus*, which Mr. Blanc says is decidedly one of the very best for blooming that can possibly be obtained. Strong plants often bear twelve to fifteen flowers, and open four or five at a time. The flowers are large, often measuring three and a-half inches across, and are of a beautiful bright purplish pink, and very fragrant. Next in freedom of blooming is *Echinocereus cespitosus*, which bears large purple flowers; some varieties bear yellow flowers, and others dark rose and shining crimson.

We hope to be able in some future number to give our readers further notes of this curious family of plants; meanwhile, anyone can procure a copy of Mr. Blanc's "Hints on Cacti," by enclosing to him the trifling sum of fifteen cents, addressing him at 314 North Eleventh Street, Philadelphia.

THE SUMMER MEETING

of the Fruit Growers' Association of Ontario will be held in the Town Hall, Lindsay, on Wednesday, July 7th, 1886, at ten o'clock in the forenoon, continuing through the day and evening.

An adjourned meeting will be held at Bobcaygeon on Thursday, the 8th of July, at one o'clock. The members will leave Lindsay at eight o'clock on Thursday morning, by boat, pausing at Sturgeon Point to inspect the vineyard of Mr. John Knowlson, and arrive at Bobcaygeon in time for dinner at noon. The meeting will continue until three o'clock. Members can then return by

fast boat to Lindsay in time to take the evening trains east and west.

Members intending to be present can have rooms secured for them by writing to Mr. Thos. Beall, Lindsay, informing him of their wishes.

Members travelling by rail will please purchase round-trip tickets when leaving home.

The Directors will meet at eight o'clock on Tuesday evening, July 6th, at the Benson House.

The following subjects are proposed for discussion:—

SUBJECTS FOR CONSIDERATION.

1. *Strawberries*.—Time for planting. Hills or matted rows. Varieties for different soils. Name four of the most desirable varieties suitable for this locality; for market.
2. *Pears*.—Name four varieties suitable for cultivation here. What is the best mode of cultivation?
3. *Plums*.—Can plums be profitably grown here? What varieties? What insect pests are they liable to? What are the remedies?
4. *Apples*.—Why are there so many failures in our apple orchards? The right time to prune apple trees. Should orchards be cultivated after the trees commence to bear fruit? Are wind-breaks necessary? Aspects of orchards. Name ten varieties that can be profitably grown for market purposes here.
5. *Roses*.—Name twelve varieties suitable for general cultivation. Kind of soil most suitable. Insect enemies. Remedies.
6. *Tulips*.—Method of cultivation. Should the bulbs be taken out of the ground during the summer? At what time?
7. *Grapes*.—What varieties may be profitably grown in this county? The hardi-

est sorts. Method of planting and trellising. Comparative standing of white, red, and black sorts. How protected during the winter. The proper season for pruning.

8. *Hedges*.—Is the common native Spruce suitable? Black Spruce and Norway Spruce compared. Proper time to plant. How far apart. When to prune.

DOUGALL'S SEEDLING GOOSE-BERRIES.

The *Rural New-Yorker* says that these have not proven mildew proof in the *Rural's* grounds.

REMEDY FOR MILDEW.

Put one pound of sulphur and one pound of lime in two gallons of water, boil down to one gallon; of this put one wineglassful into five gallons of water and syringe the plants therewith twice a week.

REMEDY FOR GRAPEVINE MILDEW.

Prof. Riley, writing to the *Rural New Yorker*, gives the following remedy for the downy mildew which usually appears on the under side of the leaves in the form of small patches of white down. Dissolve a pound of sulphate of copper in a gallon of water. In another vessel put two pounds of unslaked lime and pour over it a quart of water. After the lime is slacked add the solution of sulphate of copper and make the lime into a thin bluish paste, by mixing thoroughly. This mixture is to be sprinkled lightly on the leaves with a small broom, but not on the fruit. This downy mildew is most abundant in wet weather, and is known to botanists as *Peronospora viticola*.

THE SALOME APPLE.

Professor Budd is reported to have said, at the last meeting of the American Pomological Society, of this apple: "It is a very nice keeper, and good grower, and would generally be called hardy, though not as hardy as Fameuse, but more so than Ben Davis. It is of good quality; keeps well with ordinary care; rather small in size; season, in Iowa, January to March; about as hardy as Pewaukee which is more tender than Wealthy; better than Ben Davis, but smaller."

TO PREVENT GREEN-FLY IN THE ROSE HOUSE.

Spread a layer of tobacco stems two inches deep and ten inches wide the full length of the greenhouse and give them a dash of water when you are watering. The slight fumes constantly arising from the tobacco will keep the green-fly entirely in subjection.—CHAS. HENDERSON, before the *Florists' Convention*.

QUESTION DRAWER.

GRAPES IN PERTH COUNTY.

Can you please inform me (1) what kind of Grape Vines would grow best here (Perth Co). Our soil is loamy, and trees and vegetables do well. I have a Grape Vine, but it does not do very well on account of the frost. Also (2) which is the easiest and best method of producing new vines from a branch of a vine. (3). Should the soil be rich for grapes. (4). At what time of the year should a person plant branches for a new vine. Strawberries seem to do well here; also gooseberries and currants. We have two plums which are Yellow Gages; the frost has not hurt them yet, and we expect

to have a lot of fruit from them this year.

Thanking you for so much space in your valuable paper,

I remain, yours respectfully,

Kirkton, Ont. J. B. SPARLING.

REPLIES.—(1) Early Victor, Moore's Early, Linden, and Worden, of the black varieties; Lady and Jessica of the white; Massasoit and Brighton of the red.

(2) The easiest and best method for most amateurs is by layering.

(3) Grape Vines require rich soil and generous feeding if they are to yield fine fruit. However, they can be overfed as well as other things.

(4) The spring of the year is the best time to layer. Lay down a cane of last year's growth. If you wish to try cuttings, plant them in the spring, but take the cuttings from the vine in the fall.

CORRESPONDENCE.

REPORTS OF PLANTS RECEIVED.

My report of plants received since I last wrote. I think the Hydrangea was the last noticed, which unfortunately died. I believe the Moore's Early Grape was the next, and then the Worden. They both lived, but have not made much growth. Next, the Prentiss, did not much more than keep alive, but unfortunately my sheep were let in during my absence and ate off the first shoot it made when quite young, and this winter has finished it. I found it lifted clear out of the ground with the frost in the spring. I planted Concord the same year as the Worden. They have done splendid, nearly all fruited, and all in the same row; but

one end was wet and cold. I did not know it then. I knew it was good land, and I happened to plant those three varieties on the cold end. Last year I got the Catalpa; it has done well and is living. I hope the Dew-berry will do with me; I received it all right. The Burnet Grape, got some years since, never did anything, seemed all the time sickly, and at last it died. My Ontario apple is a fine tree and is full of blossom just now. There is a great show of blossom; trees and shrubs of all sorts are covered.

This winter has been rather mild; in fact the winters are never very severe in this section. I find the *Deutzia crenata* is not at all injured this year, but generally the top of shoots gets killed if not protected; and the *Bignonia radicans* I see growing up a brick wall is not in the least affected.

In looking over the March number of the *Horticulturist* (I think they are getting better and better), among the many flattering testimonials, reports and questions, there is one solitary grumbler, all the others speak very favourably of the premiums received. I find this miserable raspberry (the Saunders) that I have, an enormous bearer; a purple berry, rather soft and sour, but the quantity make up for the quality. I think, Mr. Editor, that forty-nine out of fifty would not want the change that party suggested, because the reports and plants we get are each often worth the price of the subscription to any interested in fruit-growing, besides the valuable magazine. In your reply to S. G. Russell in the April number you state that the Silver Maple does not throw up suckers. I find it the worst tree I know that way; it is worse than the common poplar. A subscriber (Walkerton), asks about the Japan Quince. It is one of the hardiest shrubs grown in this section.

As regards R. L.'s question, my opinion is that the *Horticulturist* was never better, in fact it is improving all the time. I think your answer to George Sutherland, of Meaford, on the cultivation of the grape, is one of the best and simplest articles I ever read.

I found that the whey of milk, as recommended by Mr. McIntyre about two years since, a good remedy for the codlin moth, as I caught thousands, and hundreds of the small click beetles, besides a number of large moths. I found the first Tent caterpillars on the 22nd April; they are not very numerous this season.

WALTER HICK.

Goderich, Ont., 22nd May, 1886.

NOTE BY THE EDITOR.—Will Mr. Hick have the kindness to send to the office of the *Canadian Horticulturist* a few of the leaves of this Silver Maple that throws up suckers. He can place four or five between the folds of some soft paper and send them by mail at one cent for four ounces. We are very curious to see what kind of Silver Maple he has. We have been familiar with the Silver Maple for some half century, and do not remember to have seen any suckers thrown up by that tree.

PROSPECTS OF FRUIT AROUND BERLIN.

The coming season promises to be a fairly abundant one. Fruit trees, such as pears and apples, show well developed fruit buds. Biennial bearers, which carried little or no fruit, such as Golden Russet, Alexander, Duchess, and Red Astrachan, having had a year's rest. The same remarks may be applied to currants.

Now, if the season turns out as I

anticipate, having had a steady, cold winter, I expect that the early summer frosts will be light, and not do serious damage.

I have understood from some of my neighbours who are in the strawberry line, that the plants wintered well, and with but few upheavals. SIMON ROY.

Berlin, April, 1886.

SOME HARDY PLUMS, AND OTHER FRUITS.

Having purchased a home of my own in that part of the City of Ottawa known as "Sandy Hill," I at once, in opposition to existing theories as to soil, climate, &c., planted in my garden several varieties of that best of fruits—the plum. I was partly induced to follow this course, from the fact that the former owner, some eight years before, had planted one tree—Pond's Seedling—which appeared to be healthy, and which I was informed had in former years borne some fine fruit. I have since added to my collection, and now have twelve varieties, some of which have fruited, and ten of which are now white with blossom, viz.: Huling's Superb, Pond's Seedling, Imperial Gage, Yellow Gage, Smith's Orleans, Coe's Golden Drop, Purple Gage, Weaver, a seedling Blue, and our common wild variety. All of these appear to be hardy, except the Golden Drop. One thrifty tree of this variety succumbed to the cold of '83-'84, and another, which last autumn gave great promise, has but a few blossoms. I would not advise anyone to plant it so far north. The Pond's Seedling is a good plum for this section of country. While not ranking with the best in quality, it is so large, and the tree so hardy, that it must ever prove attractive. With me it has proved to be a free bearer, having had three full crops in four years, and for two of which I had to prop up the limbs to prevent

them from breaking down with their load of fruit. In the spring of 1883 I grafted a young native tree with this variety, and last season picked therefrom nearly half a bushel of beautiful plums, many of which would not have suffered by comparison with those I saw at the Industrial and Provincial Exhibitions. I would strongly recommend this variety to all who may wish to grow fine fruit in spite of Jack Frost.

The Weaver is doubtless a near relative of our common wild plum, being as hardy, equally as prolific, and commences to bear quite as young. A small tree of this variety planted in April, 1882, bore its first crop last summer—somewhat over a peck of choice plums—which were delicious eaten from the hand. None of this variety were canned so that I am unable to speak of its cooking qualities, but I see no reason to regard it with suspicion in this respect. It must prove a profitable market plum as soon as buyers learn to distinguish it from the ordinary wild variety, to which it bears a striking resemblance. I also grow a blue plum, (a seedling) which for canning purposes is not excelled by any with which I am acquainted. It is a regular bearer, and quite hardy. The Imperial Gage, Huling's Superb, Smith's Orleans, and the German Prune also appear to thrive. The Lombard, which we are so often urged by tree pedlars to try has not proved hardy, dying back to snow line each season. To those in the East about to plant I would recommend Pond's Seedling for size and beauty, the Weaver for profit, and the Imperial Gage or Huling's Superb for quality. I cannot understand why the people of Eastern Ontario should grow those astringent little red plums, which are two-thirds pit, one-fourth skin, with just enough nutriment between to support a cur-

culio during the earlier stages of its existence, when such varieties as I have mentioned above might be grown with little more care, and but a trifling additional expense.

GRAPES.

The excellence of the grapes grown in this section is well known to the horticulturists of the Dominion, and while the quantity produced, especially of the earlier varieties, does not equal the demand, causing us to import from points farther west, the day is not far distant when all this will be changed, and the fruit of the vines now being planted in the Ottawa Valley will not only monopolize the home market, but largely assist in supplying the requirements of a great and growing Northwest. Nearly all the earlier varieties are being cultivated. Such a diversity of opinion exists respecting the merits of the various kinds, that one can scarcely decide which is the best for general cultivation. Very much depends upon the soil, culture, &c. Then tastes, like doctors, differ, and when this is the case each must judge for himself. While on the whole I prefer the Concord, there are many who think the Brighton and some of the Roger's should occupy the first place. Any kind ripening after the Concord would be almost worthless to us here. I am cultivating over thirty varieties, many of which come into bearing for the first time this year, and about which I shall have something to say in a future article.

The Russian Mulberry, about which so much has been said and written, fruited (!) with me for the first time last season—that is, if the tiny berry is worthy of the appellation. It was too small to see without the aid of a magnifying glass, and as sour as a Champion grape in August. The tree was planted three years since, and was then about the size of a lead pencil.

It grew so rapidly that my garden was in danger of being wholly shaded by its branches. To avoid this I have just removed it to its proper place—the lawn. For a man blessed with only an ordinary city lot, and who is desirous of utilizing the major portion for a garden, the Russian Mulberry is not the tree he wants. But on the lawn it will give every satisfaction. It can be sheared to any desired shape. It will grow from a cutting almost as freely as a currant bush. It will grow faster than any other tree that I know except the "Balm of Gilead." It continues to grow until stopped by the frosts of October or November, consequently the tips winter-kill, but it makes up any loss so sustained by growing at the average rate of an inch in three days during the following summer.

Ottawa City.

P. G. KEYS.

BLIGHT ON THE PEAR TREE AND ITS PROBABLE CAUSE.

Various causes have from time to time been assigned to pear tree blight, some asserting that it is caused by a stroke of lightning, being led to this opinion from the sudden wilted appearance of the tree; others again hold with tenacity to the opinion that it is caused by a fungus, from the fact that such is frequently seen on the surface of the bark of affected trees; others again suppose it is caused by perforations of some insect which poisons the liber, hence its spreading upwards, while others nearer the point assert that it is caused by an open winter with alternate freezing and thawing.

Blight is without doubt caused by the action of the frost, but not, however, in winter, but in early summer. It is in the latter part of spring or in early summer that the damage is done, the ascent or flow of the sap being

injured by frost, the cellular tissue and capillary conduits of the sap are ruptured immediately under the epidermis, which is usually thin, on such parts of the tree so affected; thus the sap becomes fermented, followed by decomposition and imparting a species of blood-poisoning to the limb. Other effects of a similar character may likely occur in the descent of the sap in the fall, it being overtaken by an early frost. Winter pears are very subject to this calamity in certain seasons, and some summer pears, which apparently had finished the descent of the sap, will, upon warm weather late in the fall, start another flow of sap, which is almost certain death to the tree. Against these two latter calamities I cannot advise any precaution. The first or blight proper may be averted by judicious management, either by the selection of elevated sites retentive of winter frosts in the ground, thus checking a premature flow of the sap until all danger of late spring frosts are over, or when low or flat sites are selected, with soil of a porous character, mulching is absolutely necessary for the same purpose.

I was on a visit to Hamilton some ten years ago, or perhaps more, and visited our old friend the Rev. Robert Burnet, and as a matter of course I was called into the garden to view his pear trees, in which he took much pleasure. I felt cheap when comparing his trees with ours in Waterloo County. The thrifty appearance and fine-looking fruit made me wish that I had a similar site. I then went over to Mr. Holton's, at the east end, and saw Mr. Springer's apparently fine dwarf pear orchard, which, of course, I very much admired. The following season I visited the same places and saw that the destroying angel had passed over, such was the complete character of the calamity. Partial destruction fre-

quently takes place and gives rise to the doubtful opinion that some varieties are blight-proof.

Waterloo County, or at least the greater part of it, is the most (or nearly so) elevated county in Ontario, and geologically is in the line of the glacial drift, hilly and broken, and contains a mixture of almost all soils, composed in part of boulder, clay, sand, gravel and alluvial soil strongly impregnated with calcareous matter, and from its elevated position we are more exempt from injuries caused by blight than any other county in Ontario, simply from the fact that the frost is carried off by the slightest breeze of wind and deposited in more depressed places. We here have generally a fair crop of fruit annually. Last year it was in excess and was almost a drug on the market; every grocery store was fully supplied with mostly Flemish Beauty and Bartlett, which are the popular varieties grown here. Some inferior goods were sold by the farmers (rather than to take them home again) at about the same price as apples, thus realizing the wishes of the border Scotchman who carried a banner in one of Gladstone's processions inscribed, "Down with the Peers," and when interrogated by a bystander why he did so, and being asked if the peers had done him any harm, wittily replied, "Naethin at a' mon, but we maun hae them doon tae the same price wi' arpels, that's a'," peers being the doric pronunciation for pears.

I am very doubtful if pear-growing will be generally successful throughout Ontario and those parts of the States lying contiguous thereto, which are subject to late spring or early summer frosts.

The pear-tree is much more sensitive to external influences than the apple, and consequently requires more care in its cultivation. It must be borne in

mind that the pear which we have in cultivation is indigenous to Asia Minor and Persia and cultivated varieties thereof, or rather seeds thereof, were at first introduced by the Roman conquerors of these countries into Italy.

Ontario climate cannot at all be compared to the fine, equable climate of the countries alluded to, so we must quietly submit to circumstances and endeavour to make the best of it.

You will observe that pears worked on the Quince are more subject to blight than those worked on the free stock. The reason of this is that the Quince, being indigenous to the Levant, will force into the pear a premature flow of sap, thus rendering the tree more liable to injury. Various nostrums have been advised from time to time as specifics, such as sulphate of iron, iron filings and chips, and even inserting sulphur into the stem of the tree—all of no avail. I once read an article by a writer on the pear strongly recommending the placing of iron filings around the base of the tree as far as the roots extended as a specific against blight, giving as authority an instance of what he saw in front of a blacksmith's shop at Vincennes, Illinois, which had been liberally supplied with the *debris* of the shop, thrown out, no doubt, during the winter, when in fact it had nothing at all to do with it save in retaining the frost later in the season; no doubt the unsightly mass would be cleared off in spring if only for appearance sake.

Having worked a number of pear trees for my own use at standard height upon rough wildlings, all appear to do well and are bearing fruit. They have as yet exhibited very little or no blight and have the advantage of a harder stem than those which are grown from buds or grafts worked low down. Foreign or imported stocks are not likely as a rule to conduce to the

healthy base of a tree worked on any such system. Seeds from our own grown trees are preferable. There is plenty of natural fruit growing throughout the country adapted for this purpose; such seedlings will at least have one or more degrees of acclimatization in their favor.

As a rule you will find that pear trees of American origin are much better adapted to our climate than the generality of the soft-wooded foreigners are, and are likely to supersede them in the future.

SIMON ROY.

Berlin, April, 1886.

THE CURRANT BORER.

In March number of the *Horticulturist*, I see Mr. E. Robinson, of London South, asks a question respecting the Currant Borer. Some years ago I was troubled with this pest. I cut off all canes affected and burnt them. I also dug or loosened the soil around the bushes with the garden fork for about two feet all round, in the spring of the year, and let in my hens. You would have thought they would have scratched the plants out of the ground; but they made a total clearing of the borer, so that I was not troubled with them for years after, and always had heavy crops afterwards. I attributed it to the hens hunting and eating up the larvæ buried in the soil.

WALTER HICK.

Goderich, Ont.

DEUTZIA CRENATA.

The *Deutzia crenata* received two years ago is not hardy enough to stand the winter without being covered. A year ago I put a barrel over it, putting in straw around it, it came through all right; last winter I thought I would try it by only putting some straw around it, but it froze down to the ground.

W. WALTAM.

Waupoos, P. Ed. Co., Ont.

DRY EARTH STORAGE.

BY P. E. BUCKE, OTTAWA.

Few of us are unacquainted with the mode of storing the white grapes received from Spain and Portugal in cork dust or chips. The grape itself has no particular merits in the way of flavor, but it has a thick skin, and is known as one of the fleshy varieties; it is therefore easily preserved. This grape is especially esteemed as a refreshing article of diet in winter, when close warm rooms are crowded with parched humanity. Could this grape be replaced by almost any of our own during the same season, and in the same profusion, its place would never be missed. Happily we believe we are on the track of a means which points to the end sought for. A Mr. Fraser Torrance, late of Montreal, has, it is understood, made a wonderful discovery as to a new substance for packing fruit. The article, like the cork dust, is both porous and dry. The substance alluded to is infusorial earth, and is composed of shells of a very minute microscopic animal which inhabits the water and liquids of various kinds. The shell is so small that thousands can be lifted on the point of a knife, and if placed upon the hand and rubbed with the finger, are so minute as to enter the pores of the skin. Yet each atom, as it were, is a shell formed of silica. It is claimed, and from the experiments which have been made and investigated by some of the most eminent men in this line in Canada it seems justly that fruit packed in this earth is kept at an uniform temperature, neither heat nor cold will readily pass through it. The air spaces in the shell act in a somewhat similar manner as the double windows on our houses in winter. It is well known that the dead air space keeps the heat from passing out or the cold from coming in. Considerable experiments were made

last autumn by Messrs. R. Jack & Sons, Chateauguay Basin, near Montreal, who packed quite a number of varieties of grapes and apples. The cases containing them were inadvertently left out in a shed until the thermometer had fallen well below zero; however, when the box was opened the fruits were all in good order, the frost having failed to penetrate to them. The earth is perfectly inodorous, and imparts no taste of any kind to the most delicate substance.

Mr. Chas. Gibb, of Abbotsford, subjected it to the severest test that could be applied by packing some butter in it. It is well known that fresh butter is an absorbent, and is readily tainted by being placed in contact with any foreign matter. Even if it is put in a place where bad smells are detected, it immediately flavors the fresh article. After ten days the butter was taken out, and no trace of taste or smell could be discovered. Apples, or any fruit that can be readily wiped may be packed directly in the earth, but such fruits as grapes, currants, strawberries, peaches, &c., may be placed in paper bags, which should be packed in shallow trays in the earth.

Mr. J. F. Torrance has taken out a patent for his boxes, but the earth can be procured in Montreal at \$1.50 per 100 lbs., by the bag. We gather from the Montreal *Star* that boxes holding 30 lbs., of earth can be procured of Messrs. Esplin, (Montreal), for 45c. each. If such men as Professor Sterry Hunt, Chas. Gibb, Robert Jack, and a host of others can be relied on, we must take it for granted that, so far as tested, it is a marked success.

HYDRANGEA PANICULATA.

The Hydrangea Paniculata came out all right this spring with a little straw around the roots.

W. W.

Waupoos, P. Ed. Co., Ont.

CHERRY TREES AT YARMOUTH, N.S.

I tried Starr's Prolific Cherry many years ago, grafting two or three young stocks with it. The trees made a strong growth and attained considerable size, but failed to fruit, as do all varieties tested here now, from what cause I am at a loss to know. The trees grow well, blossom abundantly and set fruit, but before half-grown all drop off. I tried special top dressing, manure, sand, &c., &c., but at last gave it up and sawed off trees eighteen inches through.

In the earlier history of the county cherry trees succeeded, but nowhere in the county now. In some parts of the Province cherries do well, but it is mostly in very warm localities, and there may be some exceptional conditions of soil.

C. E. BROWN.

Yarmouth, Nova Scotia.

PARIS GREEN.

It must be borne in mind that Paris Green is composed of two active dangerous poisons, viz.: Arsenic and Oxide of Copper, known chemically as Arsenite of Copper, and its use as an insecticide must be made with extreme caution and by a very careful person. It is certainly sure death to potatoe bugs and every bug.

In so far as its use to potatoes is concerned, it may be applied with impunity, as it will only reach the surface of the ground; but its use for other vegetables, and fruit-bearing trees and shrubs I would not advocate. As applied to cabbages it is extremely dangerous, and instances have occurred of persons being poisoned by it, at least they have imagined so.

Its use even on plum trees as a curculio remedy is at best a risk, even although washed off the fruit by rains it is not altogether cleared off the limbs, some of it will stick on without doubt.

Rather risk having all the fruit destroyed by insects than that one human life should be endangered.

White hellebore being a weak vegetable poison, answers a good purpose for rose slugs and currant caterpillars, and can be used with more safety, as it would require a large quantity of it to produce any dangerous results.

On two occasions I used a solution of bitter aloes on plum trees, with very favorable results in banishing the curculio; but such was its cathartic results to myself and others around that I was obliged to abandon its use, and adopted the safer plan of jarring and shaking the trees. Now I can save all trouble in this matter. I have only a few trees left out of thirty varieties which I prided myself on cultivating.

The plum trees around Berlin are verging on extinction, and I hope they will carry black knot and curculio with them.

SIMON ROY.

Berlin, April, 1886.

EXPERIENCE WITH PARIS GREEN FOR INSECTS.

MR. EDITOR,—I duly received the Early Victor grape and have carefully planted it. It is a fine little specimen and is now showing two vigorous shoots. I hope my experience with it will be more satisfactory than it has been with my other vines hitherto.

I have read the Report of the Fruit Growers' Association for 1885 with very great pleasure and, I trust, also with some profit. I was particularly struck with the experiences of the President, Messrs. McD. Allen, Hickling, Beall and others with Paris green on various kinds of fruit trees; so, a few days ago, having made the discovery that the currant worm, though exceedingly diminutive, had already begun its ravages, I, in accordance with the experience above referred to, forthwith mixed "a teaspoonful of Paris green

with a patent pailful of water," and syringed nearly every fruit tree I had, and since then I have not been able to detect the smallest sign of either gooseberry or currant worm, or any other grub which infests fruit trees; but, unfortunately, two or three days afterwards I saw something wrong with my gooseberry bushes; towards the lower part of the stem the leaves began to droop, then to shrivel, then to turn brown, just as though a sharp frost had struck them. We had not had any frost, so I feared that Paris green was the matter with them. I was loth to attribute the change to that, but other trees which had also been syringed with the mixture began to exhibit similar symptoms, until I could no longer resist the evidence before me that Paris green, and naught else, was the cause of the trouble, for the blight was invariably in the direction in which the stream from the syringe was applied, and the parts beyond, being protected by the foliage had always escaped injury. The damage done is considerable, though, if what I now see is the extent of it, it wont be serious, and I send you my experience that it may appear in the *Horticulturist* and may be useful to others.

My own impression is that the "teaspoonful"—a somewhat indefinite quantity—which I applied, is too large a dose, possibly two douches of half that quantity would have been in the end as efficacious and much less injurious to the plant; at any rate, I purpose to follow this course in future.

I may further add that the trees injured are, proportionally, in this order: gooseberries, black raspberries and pears; plums, apples, red raspberries, blackberries and currants, red and white, do not appear to be affected at all.

Yours truly,

J. L. THOMPSON.

Glen Cottage, Toronto, 18th May, 1886.

MONKEY'S PUZZLE AND OTHER TREES.

Some of the ornamental trees referred to in Eglinton's communication, in a late issue of the *Horticulturist*, may not be generally known here under the name given by him, such as Widben Pear and Monkey's Puzzle; but according to the description given, the first is the *Pyrus aria*, commonly known by the name of White Beam Tree, the name Widben being likely a corruption of the latter. The tree, as Darwin would say, is the connecting link between the apple and pear. The second, the Monkey's Puzzle, is, as far as recollection carries me, the *Arancaria imbricata*, which I have occasionally seen growing in very favorable localities in Scotland. It is not at all likely that Eglinton refers to the *Gleditchia triacanthus*, or Honey Locust. This tree is indigenous to America, and must be well known to him under its common name.

The first is not indigenous to Britain, although apparently so; and the second is a sub-tropical (or nearly so) tree; and neither may be generally suitable for our climate.

The other tree, or large shrub, referred to in T. B. Cotter's communication, is, no doubt, from the description given by him, the *Amelanchier Canadensis*, or June Berry; very common here around beaver meadows. When in blossom, it is very showy, and I should say very desirable, in a shrubbery. The flowers are in racemes, like the wild black cherry.

SIMON ROY.

Berlin, Ont.

WEIGELA ROSEA.

The Weigela passed the winter safely, with only a little straw thrown over the roots.

W. W.

Waupoos, P. Ed. Co., Ont.

THE BOUSSOCK PEAR.

In an orchard of 400 pear trees, I have about twenty Bussock, purchased some fifteen years ago, and now I regret that I did not plant a greater number of them; for the reason that the tree is a regular bearer, the fruit excellent, and fine in appearance. Another advantage is, the slug does not prey upon the leaf of the tree as it does upon that of the Bartlett and some other varieties. In order to reach the full excellence of the Boussock, it should be picked fully ten days before ripening on the tree, because if left on the tree to ripen the fruit becomes puckery and sour, and because of this peculiarity many have denounced the Boussock as worthless.—JOSEPH LANNIN, in *Michigan Farmer*.

THE "BLEEDING" OF APPLE TREES.

BY T. H. HOSKINS, M.D.

A recent writer says he has trimmed apple trees every month in the year, and has come to the conclusion that from May 25th to June 25th is the best time, because a wound made in the full flow of the sap will begin to heal immediately. He adds that March and April are the two poorest months to prune, because there will be a liquid "forming" (query, flowing?) out of the wound, which will kill the bark underneath the limb. Another writer insists that March is the best of all months to prune, because the sap is not then in motion, and the wound will dry before the sap starts, and that then the process of healing will go on most favourably, while anything but very light pruning in June will greatly weaken and sometimes kill the trees. Still another writer says, shortly and emphatically, "Prune when your knife is sharp," without regard to season. All these writers are orchardists of experience. Is there, then, no proper time to prune, or no way of intelli-

gently reconciling the seemingly contradictory views of these practical men?

WHY APPLE TREES BLEED.

A widening accumulation of facts does, in all disputed questions, tend towards the reconciliation of conflicting opinions. In the thirteen years that I lived in Kentucky I never saw an apple tree "bleed," that is to say, I never saw a flow of disorganized and blackening sap from the stump of a severed limb. In the first years of my orcharding in Northern Vermont, this so-called bleeding exhibited itself in nearly every case where a limb of any size was removed, no matter at what season the operation was performed. It was the most discouraging of my experiences at that time, and I could not understand it, or find a remedy for it.

About fifteen years ago, at a session of our State Board of Agriculture in the Champlain Valley, where this question of pruning and subsequent bleeding was discussed by many orchardists of that orchard country, one of the speakers dropped the casual remark that he had never known an apple tree that was not "black-hearted" to bleed, no matter at what season it was pruned. That thought was much more fruitful to me than my orchard had been up to that time, for all my trees were black-hearted, except the Siberians and Russians, which I at once remembered never bled, no matter when they were pruned. And at the same time I remembered that apple trees are never black-hearted in Kentucky.

THE CAUSE OF BLACK-HEARTEDNESS.

The state of black-heartedness in the apple tree is unquestionably the result of excessive winter's cold. In New England a large proportion of the most popular apples are grown upon trees that are more or less black-hearted. The Baldwin is always black-hearted in Maine, New Hampshire and Ver-

mont, and frequently so in the three southern New England States. Along its northern limit it can only be grown when top-grafted on some hardier stock. With me a Baldwin tree or graft has never lived long enough to bear an apple.

Now if it be true that only black-hearted trees bleed, then the experience of orchardists must vary according to whether they are growing more tender or more hardy sorts. When I began, though I planted the hardiest known of New England sorts, yet almost all my trees became black-hearted in a few years. Now that nearly all of that class of trees have been uprooted from my orchard, and replaced by the "iron-clads," I see almost no bleeding, and when I do see it I know the cause. I do grow a few sorts that suffer some in this way (such as Fameuse), because of the excellence of their fruit. The Fameuse is with me about as hardy as the Baldwin in the upper Champlain Valley, and though the trees are short lived in both cases, they are planted because of the merits of the fruit.

WHEN TO PRUNE.

In my experience it makes no difference at what season a black-hearted tree is pruned, as regards the subsequent flow of disorganized sap, provided the limb severed is so large that the stump will not quite or nearly heal over in one season. This flow takes place during the whole growing season, and injures (often kills) the bark over which it runs. A tender tree, subject to black-heart, should be pruned very sparingly. Branches not too large to heal over in one season may be taken off, and the best time to do this is in June, as the sap is then too thick to flow freely. But heavy pruning in June is a severe shock to the tree, even to the hardiest kinds, and almost surely fatal to any tender sort. Fall and winter pruning is also injurious to

tender sorts, as the bark around the wound will be killed for some distance, and there is little hope that it will ever afterwards heal. But any of the varieties that never become black-hearted may be pruned "whenever your knife is sharp," remembering this, that June pruning is a shock more or less severe, according to the amount of wood removed. "Prune in summer for fruit," is an old and correct rule, for the very reason that the shock of summer pruning (like anything that weakens the tree) tends to cause the formation of fruit buds. The effect is much like that of root pruning, and both must be practised with moderation and judgment.—*The Examiner*.

THE ANIS APPLE.

In the summer of 1882 after wandering for days through the old orchards of the Province of Kazan, Russia—over one thousand miles inland and on the 57th parallel of north latitude—we expressed the opinion in home letters that the Anis family of the apple could endure lower temperature in a snowless region than any other really good variety of apples in the world.

The report then made, and the comments of Mr. Gibb and myself in more recent bulletins on northern fruits, have created an urgent demand for trees, both north and south.

As some of the varieties have now fruited on the College Farm and at other points in the state, and the comparative hardiness of the trees has been tested as far north and west as Bismarck, Dakota, and Western Manitoba, we can now determine very nearly the correctness of our conclusions, when studying the family in its natal home.

1. The habit of the pink Anis, blue Anis, and mottled Anis—the three best varieties—will not please our nurserymen, as root grafts three years old are low, bushy shrubs, rather than trees

such as purchasers like best. Although it comes into bearing when very small it finally becomes in orchard a neat round-topped tree of the size of a full grown Tetofsky.

2. The fruit is oblate, basin very full and wrinkled, with considerable color and bloom. In size it comes nearly or quite up to the Fameuse. In texture it is firmer than the latter, but the flesh is equally white. Mr. Gibb, who is very critical as to quality of fruits, says, "It is really a dessert apple of fine quality."

3. The season varies with latitude and amount of summer heat. At Ames it is not later than Fameuse, but if picked early it will keep better on account of its thicker skin and firmer flesh. In North Iowa it should keep until mid-winter with good treatment, and in North Dakota it should keep until May.

In like manner in Russia it is a fall apple in the black soil sections where dent corn ripens, and a prime winter apple four hundred miles further north.

4. While the tree succeeds well wherever tried as yet, it is quite evident that it will prove most valuable at the far north, where the fruit will keep through winter.—J. L. BUDD, in *Students' Farm Journal*.

THE GLADIOLUS.

There are few flowers more conspicuous than a well grouped bed of the gladiolus. Stately in growth, free of flowering, distinct in color, with a great variety of shades, no flower garden of any pretensions can be said to be complete without them. It belongs to a class of flowers that have changed greatly in the hands of the hybridizer and careful cultivator, and to the French, it may be said, we are the most indebted for the great advance made in this flower. In the olden time but few kinds were known *gandavensis* being

one, and from which many of the present kind have sprung.

The colors comprise the most brilliant of orange, scarlet, and vermilion tints upon yellow and orange grounds, including many shades, from white and rosy blush, and salmon rose tints, to a salmon and nankin; from blush white, with purplish throat and marginal streaks of pink, to light rosy salmon grounds with flakes of deep carmine. Their period of flowering may readily be extended from July to September, by planting at separate times, from March or April to June. The earliest planted, however, should be the only ones from which the stock of bulbs are raised, as, although it does not materially affect the flowering by a late planting, it does not give time to perfect a large healthy bulb.

Ordinarily the simple increase of the bulb will be from two to three fold, which except in cases of great scarcity of them or new varieties, will answer all purposes, and such increase is strong enough to flower the next year. But in case of new varieties or a desire to get a large stock of any kind, the small bulblets found at the bottom of the bulb on taking up in the fall, are carefully preserved, and the next spring sowed in drills like unto seed, two or three inches apart and a foot in the rows, where during summer they will have made bulbs from the size of a hazel to that of a hickory nut.

A few of these will flower the following summer and all the succeeding one by this method. A stock can be very rapidly increased with some kinds; however, it will often happen that the choicest or best variety is a poor cropper of the bulblets. New varieties are the result of seed crossed with dissimilar kinds. Where the frost is not too severe or when snow keeps the frost from going deep in the soil, many of the kinds will often winter out of

doors, but to secure the finest stalks and individual flowers they should be taken up in the fall, as soon as the frosts have destroyed the foliage, dried off so that the bulb frees readily from the stem, packed away in a moderately dry drawer or bag—kept from freezing, and planted again the ensuing spring. If left out of doors, of course the bulbs, by the natural increase, get crowded for room and a struggle for existence takes place, and a quantity of medium flowers is the result, instead of a stately stalk with very large individual flowers of the clearest and most distinct color. We have known them quite successfully grown as green-house plants, mainly, however, for cut flowers. They may be had this way in early winter by retarding the planting of the old bulbs until July, or in late winter, by the planting of the fall ripened bulbs before Christmas.—EDGAR SANDERS, in *Prairie Farmer*.

EXPERIMENTS WITH PARIS GREEN AND LONDON PURPLE IN THE APPLE ORCHARD.

Prof. S. A. Forbes read an interesting paper at a meeting of the Illinois State Horticultural Society, detailing some experiments made with Paris Green in the ratio of one and one-half ounces to four gallons, London purple in half that quantity, and lime in indefinite amount. It should be noted that, owing to the scarcity of apples and the abundance of apple insects, the season was most unfavorable to the success of the remedies.

All the trees were thoroughly sprayed eight times between June 9th and September 3rd, the Paris green being applied when the apples were the size of small currants, and the lime and London purple four days later. The fallen apples were gathered six times from July 16th onward, and those remaining were picked as they ripened;

all of them, both picked and fallen, 16,529 in number, were examined individually for insect injuries, and those due to the codlin moth and curculios were separately noted.

The examination of 2,418 apples from trees sprayed with Paris green, and of 2,964 others from trees not so sprayed, showed that 21 per cent. of the poisoned apples were infested with the codlin moth, and 69 per cent. of those not poisoned, while 22 per cent. of the poisoned lot had been infested by the curculio, and 20 per cent. of those not sprayed. Thus, treatment with Paris green had been entirely ineffective for the curculio, but had saved something more than two-thirds of the apples, and it should be remembered that the Paris green not only protects the apples, but, by destroying the insects, lessens the amount of future injury. Analysis of apples one week after spraying with Paris green, a heavy storm intervening, gave abundant evidence that this insecticide could not safely be applied for some weeks preceding the harvesting of the fruit.

The comparison of 1,205 apples from a single tree sprayed with London purple, and 2,036 from a tree not so treated, showed that 49 per cent. of the former were affected by the codlin moth, and 59 of the latter. Also that 23 per cent. of the first lot of apples had been invaded by curculios, and 23.6 per cent. of the second lot. The London purple thus saved about one-sixth of the apples which would have been sacrificed to the codlin moth, and was without effect on the curculios. Comparing these results with those of the Paris green experiment, it must be remembered that the spraying with London purple began four days later than with Paris green, and that only half the amount was used, though both were applied to the limit of serious damage to the foliage.

From a tree treated with lime, 1,706 apples, as compared with 1,825 apples from a check tree, show that 54 per cent. of the former contained the apple worm, and 50 per cent. of the latter, thus indicating the uselessness of this substance against the codlin moth. The curculios were entirely unaffected, and it may be fairly concluded from these experiments that it is useless to attempt to combat the plum curculio in the apple orchard by insecticide applications to the fruit.

As bands for traps serve only to capture the apple worm after it has done its mischief, and hence interpose only a general protection, and are liable to be rendered ineffectual by the neglect of one's neighbors, the use of Paris green will serve at least as a valuable addition to remedial measures. Since it may be safely applied only to the Spring brood, it is best to use both bands and insecticides, each measure supplying the deficiencies of the other.

Final Conclusion.—Attending only to the picked apples, and condensing our statement of results to the last extreme, we may say that under the most unfavorable circumstances Paris green will save to ripening, at a probable expense of ten cents per tree, seven-tenths of the apples which must otherwise be conceded to the codlin moth, that London purple will apparently save about one-fifth of them, and lime will save none. Furthermore, all these applications are without effect on the curculios in the apple orchard.

THINNING FRUIT.

When planted in good soil, good thrifty fruits will nearly always overload themselves, and in order to secure the best, smoothest and largest fruit, considerable thinning must be done; this is especially the case with grapes and tree fruits.

Choice apples, peaches, pears, quinces; in fact, the best of all kinds of fruit command the best prices and always sell. Oft times the market becomes glutted with poor fruits, and the prices realized are really below what it costs to produce them and sometimes they cannot be sold at any price, while at the same time the choicest and best are selling at a profitable price.

Too many fall into the error of thinking that by thinning they lessen the quantity so much that they prefer to let the fruit all remain. This is a mistake, as well as to think that by thinning they lessen the profit on the fruit. When a tree is heavily loaded, the fruit must necessarily be small and this will lessen the quantity; then the fruit being small will sell for a less price, and really cost more to sell, and you lose rather than make by not thinning. Then in addition, when a tree or vine is allowed to overload and mature the fruit it is a strain upon the vitality of the tree. Judiciously thinning fruit always pays; but it requires considerable courage when the trees are laden with young fruit to go over and pull off and throw away a considerable portion of the fruit. To one who has never tried it, at first it would seem like a waste; yet it has been tested sufficiently to prove its value.

The work of course should be done early, as soon after the fruit has set as possible. The longer the fruit grows after setting, the more waste of vitality of the tree, that should go to the other fruit that is left upon the tree to mature. It should be done as evenly as possible all over the tree, thin so as to give each specimen left as much room as possible. Close crowding makes ill-shaped fruit. If you have never been in the habit of thinning try a few trees first to see the effect, and in a majority of cases you will conclude that it is

beneficial.—N. J. SHEPHERD, in *Michigan Horticulturist*.

THE SHIAWASSEE BEAUTY.

PROF. A. J. COOK.

The other night at tea, as we were all commenting on the delicious apple sauce, Mrs. Cook remarked that every family in the land ought to have one Shiawassee Beauty apple-tree. The sauce is of a beautiful pink color, and has a peculiar and delicate flavor that renders it a universal favorite. We are often asked what is it that gives the sauce the delicious flavor, and our reply that it is Nature's own flavoring stored up in the fruit, is often met with a very incredulous look.

This excellent apple is doubtless a seedling from the Fancuse or Snow, which it much resembles. The form and color, both of skin and pulp, are quite like the same in the Snow. It is larger, however, than the Snow, and keeps much longer. We have kept it well into January—is much fairer, as the tendency to scab and deformity, so peculiar to the Snow, is entirely absent in this. But the greatest difference is in its spicy flavor. While the Snow is pleasingly tart, it is remarkably tasteless. The Shiawassee Beauty, on the other hand, is one of the most marked or radical in this respect and its flavor is as delicious as peculiar. I have yet to find the person who does not esteem it highly. The tree is vigorous and spreading. Of several trees set out in my garden here in 1876, among which is a Duchess of Oldenburg and a Red Astrachan, none has made so large and fine a growth as this. It is not only vigorous, but it is very hardy. On my farm in the Shiawassee County, Mich., I have trees of this variety that have remained vigorous and hearty all through the several hard Winters of the last 15 years. It is a very persistent bearer, equal to the Duchess of

Oldenburg. My tree, set out in 1876, has borne every year for five years, and this year was a marvel of beauty, as it hung full of most beautiful apples, just such as I exhibited from it at Grand Rapids. I repeat the "gude wife's" words: "Eyes a family ought to have one."—*Rural New Yorker*.

NEW PLANTS.

Among the new plants—new to me—which I have grown this year, there are two which I have found to be valuable acquisitions. The one is the Dahlia Glare of the Garden, and the other the bulb *Milla biflora*. These, of course, are not hardy, but are easily cared for during the winter season. Of the first, I have one planted out upon the lawn, which for nearly two months past has been continually covered with its brilliant flowers, never less than fifty and frequently over a hundred at a time. It has so little the appearance of a Dahlia that it has become almost a daily occurrence to have passers-by stop and enquire the name of the plant. The most vivid description of it was given the other day by one of a number of little girls passing by, who cried out, "Oh, look at that Christmas tree, in there, upon the grass." It is one of the Cactus Dahlia type.

Milla biflora has given, for a month past, an abundance of pure white, waxy, star-shaped flowers, an inch and a half in diameter and highly fragrant as the day closes. As a cut flower, for room decoration, it is particularly valuable, from the fact that it remains perfect for nearly or quite a week after having been cut. My bulbs were started in small pots in a cold-frame, and afterwards transferred to the open ground, but I presume the same treatment as required for the *Gladiolus* would answer for it.—*Vick's Magazine*.

A GLUTTED MARKET.

"This country around Keuka Lake," said Captain Smith Fairchild, who commands the little steamer *Urbana*, "is now one of the greatest grape growing regions in the world. The vineyards cover thousands and thousands of acres, clear from the edge of the lake up to the summit of the hills on every side of it. We ship thousands of tons of all kinds of grapes to the New York market every season, to say nothing of the tons and tons that we mash up into the best wine on the American Continent. But I can remember the first grapes that went from here to New York, and, although there wasn't more than 300 pounds of 'em, they glutted the market. That's a fact.

"Stanley Fairchild, my father, was a cabinet-maker, and Uncle Billy Hastings lived up on the hill yonder. Nobody had ever thought of raising grapes as a business, but Uncle Billy had some of the finest grape arbors that ever tempted a youngster. One fall his vines were so overloaded with grapes that he didn't know what to do with 'em. An idea struck him that it would be a good thing to ship a lot of 'em to New York. This was in 1847. There was no way to ship 'em except by lake and canal, and Uncle Billy thought the best way to do it was to pack the grapes in a barrel with cedar shavings. He brought a big cedar block to my father's shop, and told him to have it converted into shavings. I was a chunk of a boy then, and father set me to work with a plane to demolish that block. That put me down on the grape business at once, and I made a solemn wish that the steamboat or the canal-boat would sink that carried Uncle Billy's grapes, so that the business would end right there. I saw nothing bright in a future that had nothing in store for me but the making of cedar shavings. Well, I knocked that block into curly bits in

the course of a day or so, and Uncle Billy packed them in with a barrel of the nicest grapes that ever made boy's mouth water. They got to New York all right, and made a good sale. Uncle was delighted, and, like all speculators, wasn't satisfied. Nothing would do but he must send off another barrel, and he rolled another cedar block to my father's shop, and I was set to work to knock the spots out of it.

"If this industry keeps growing, I said to myself, 'this part of the country don't hold me.'"

"I peeled the second block down to nothing, though, and Uncle shipped his his second barrel of grapes to New York. Time went along, and one day Uncle got a letter from the party he had sent the grapes to. My father asked him how the business looked.

"Well," said he, "I made thirteen shilling clear on my first barrel, but my second one bust the market. It won't do to put too many grapes in the New York market at once."

"I went out behind the shop and howled for joy over the failure of the grape growing industry. But that pioneer shipment of Uncle Billy's set people to thinking, and now the New York market can't get enough of Hammondsport grapes.—*N. W. Sun.*

KING HUMBERT TOMATO.

I have been much interested in this variety, because it seems to offer a new type of fruit. So far as I know, this is the first strictly two-celled red Tomato that has been sufficiently large for table use. The two-celled Tomatoes are invariably smooth, and are usually earlier than the many-celled varieties, facts that should not be forgotten by the growers of new varieties of this vegetable.

The plant of the King Humbert is very vigorous and productive. The

fruit is oval, slightly flattened longitudinally, and thickish towards the blossom end; very smooth; with neither cavity or basin, bright scarlet, about one-and-three-fourths inches in longest diameter, and two-and-a-half inches through the axis; borne in clusters of from five to nine. The flesh is remarkably thick and firm; so firm indeed, that fruits picked and placed in a dry room will shrivel like an Apple before decaying—"ELM" in *American Garden.*

RASPBERRY NOTES.

Shaffer's Colossal still maintains a high place among the newer raspberries. Its color is all there is against it, and that is a mere prejudice. Superb has never pleased us. It bears for a long time large berries, with large drupes that part or "crumble" too easily. It is not for market at all. The Marlboro' holds its place well. The berries are of the largest—firm, of a fair color and fair flavor. The variety seems quite hardy and strong. The Rancocas is very early, very firm and of medium quality. The plants are bushy and hardy. It ripens more berries in the early season than the Hansell. The Hansell is a less vigorous grower, less fruitful, though it ripens few berries the first of any red raspberry we have tested. Crimson Beauty is praised by some and not by others. It seems the flowers are imperfect and that the plants should be set among those of other varieties to insure perfect fruit. The berries ripen early and are of good quality. The *Rural* finds this the same as the Imperial, if we may judge the latter by plants sent us by Secretary Holman, of Missouri. The Cuthbert still holds its place as the best late red; the Caroline as the best very hardy yellow. The Montclair is an improved Philadelphia. It has never been advertised much and is not perhaps fully

appreciated. Lost Rubies has proven a failure, or nearly so.

The Gregg, among, blackcaps, is, at the Rural Grounds, not hardy. The berries are of the largest; quality poor. It is late. The Ohio Blackcap gives the strongest and tallest canes of any. It is quite hardy. Berries rather small. This is far from new, but it is not well known.—*Rural New-Yorker*.

[NOTE.—It is somewhat surprising that the Gregg should not prove to be hardy at the *Rural New-Yorker* experimental grounds, when here, in the County of Lincoln, so much further north, it is only occasionally injured in exceptionally trying winters.—ED. CAN. HORT.]

BARONESS ROTHSCHILD AND MABEL MORRISON.

Among the many beautiful Hybrid Perpetual Roses, one which has played a conspicuous part for the last eighteen years is Baroness Rothschild, which was raised in France, in 1867. It is a large, full and well made flower, cupped form, and usually very symmetrical. The color is a soft rose, or light pink. It is a free bloomer, a vigorous grower, and one of the hardiest of the Perpetuals. It is an excellent autumn bloomer, and is highly prized as an exhibition variety. Its one lack is a deficiency of odor. The foliage of this flower stands up close around it, giving it a fine setting. The fine form and color, and the other good qualities of this variety should secure it a place in every good collection of hardy Roses. Baroness Rothschild is distinguished by the number of other fine sorts it has given rise to as sports. One of these, Mabel Morrison, has the characteristics of growth and constitution of its parent, varying only by its color. It is one of the most desirable of the white, or so

called white, Hybrid Perpetuals. The flowers are beautiful in form, semi-double, cup shaped, usually a creamy white on first expanding, and then changing to a delicately tinted shade of rose, and in either aspect admirable in the highest degree. In the close setting of the foliage around the flower, Mabel Morrison even surpasses its parent, and this habit is an attraction of great value. It originated in England in 1878, and has not yet become known as widely as it deserves; one cause of this is probably because it does not grow freely from cuttings, and many professional rose growers in this country propagate in no other way. Some however, increase it, as well as several other varieties, by budding on strong-growing stocks, and in this way it makes a very satisfactory plant, if properly cared for.—*Vick's Magazine*.

LAWN GRASSES.

As to the grasses best adapted to soils and situations, it may first be said that a wet soil is hardly to be considered as a fit situation for a lawn; nevertheless there are places where a wet condition of the soil cannot well be avoided, and for such the best grasses are *Poa trivialis*, or Rough-stalk Meadow Grass, *Alopecurus pratensis*, or Meadow Foxtail, and *Agrostis vulgaris*, or Red-top. For average good soil I have had the best results from a seeding in about equal proportions, of *Poa pratensis*, or Kentucky Blue Grass, *Festuca duriuscula*, or Hard Fescue, *Agrostis canina*, or Creeping Bent, *Cynosurus cristatus*, or Crested Dog-tail, and the Pacey Dwarf Rye Grass. The two last named are especially adapted to light, dry soils, as they are deep rooted and very fibrous, and will continue green in the driest of weather, even when the Kentucky Blue is apparently dead.

It is a great mistake to stint the

seed when making a lawn. Three or four bushels to the acre should be laid on, and fairly covered before rolling down. The small granivorous birds, especially the sparrows, will be sure to eat all the seed left on the surface.—*American Garden.*

GOLDEN QUEEN RASPBERRY.

The Golden Queen may be termed an albino of the Cuthbert or Queen of the Market, but whether a seedling or a so-called "sport" I am unable to state, as it was discovered growing in a patch of twelve acres of that variety in the summer of 1882, on my farm in Camden County, New Jersey. I was at once forcibly impressed with its merit from its vigorous growth, large size and beauty—on picking a few of the berries and tasting them, it is putting it mildly to say I was delighted. Since the day it was found I have employed every means of testing the variety with the object of determining fully its character; and from my experience with it I think it may be fittingly described as a variety of six cardinal virtues, viz.: 1. In flavor it rivals (some have pronounced it superior to) that venerable and highest in quality of all raspberries, the "Brinckle's Orange." 2. In beauty it transcends all other raspberries I have ever seen, being of a rich, bright creamy-yellow, imparting to it a most appetizing effect, both in the crate and upon the table. 3. In size it challenges the large Cuthbert. 4. In vigor it fully equals its parent—the canes attaining the dimensions of the Cuthbert or Queen, noted for its strong growth—and resists heat and drought even better. 5. In productiveness it excels the prolific Cuthbert. 6. In hardiness it has no superior. The past unprecedentedly severe winter several rows of it stood wholly unprotected at one side of a large field of the Cuthbert, all of which were so badly killed by the cold that I was

compelled to mow them all to the ground, yet not a branch of the Golden Queen was injured. In addition to the foregoing, which is of less interest to the grower for the family supply, but of paramount importance to the grower for market, the berry is so firm that when pressed out of shape, it will, when turned out of the basket, resume its true form and not lose any of its juice, or, as is termed by fruitmen, "will not bleed;" also, if allowed to become over-ripe on the bush, it will not, as is usually the case with raspberries, drop to the ground as soon as the bush is disturbed, but retains a firm hold upon the stem. "What are its faults?" some one will ask. It would indeed be a novel fruit without any. And it doubtless possesses some. Yet I must say they have yet to be manifested, unless it would be desirable to have it ripen earlier. Its season is that of its parent.—*Ezra Stokes, in Orchard and Garden.*

THE LONGFIELD APPLE.

Prof. Budd: "There is one variety of Russian apples which has been fruited almost across the continent, which has exhibited many desirable peculiarities for places where something harder than Fameuse is needed. The name, as nearly as I can give it to you in English, is "Longfield." The Russian name is "Longerfeldskoe." During the last three years it has been loaded with fruit with me, making an annual growth of 12 to 14 inches while thus bearing. It is longer than the Jonathan, about the weight of an ordinary Missouri Janet; yellow, with a blush nearly equal to that on Maiden's Blush; keeps through the winter at the north. It has been extensively tried, and I think it should now have more general notice. The quality is quite as good as that of Fameuse, which it resembles in texture. I do not, however, consider it among the hardiest of Rus-

sian apples, but it is hardier than the Fameuse.—*Rural New Yorker's Report of the American Pomological Society.*

BLANCHING CELERY WITH DRAIN TILE.

BY FRED. GRUNDY.

The experience of another season has served to confirm my faith in this practice. It is certainly superior to the laborious banking process when intelligently managed.

Celery intended for early use should be set in trenches about three inches deep, which should be kept open in all subsequent cultivation of the ground. When ready for blanching, all the small outside stalks are removed, because they are of no value whatever, leaving but three or four stalks around the heart. Three or four-inch tile are then set over the plants, and the earth banked up against them about eight inches high. This banking must be done to prevent the tile from becoming too hot in the sun, which they will do to the great injury of the confined plants. Later on, when the weather becomes cooler, banking with earth is not required. The celery blanches perfectly inside the tile, and comes out clean, white and crisp.

Our family is small, and a few stalks are all we require for a meal. To get them I lift the tile, break off as many as needed, in the same manner as rhubarb stalks are broken, replace the tile and the plant continues to grow and supply fresh, nutty stalks, until the ground freezes. Fifty good plants set in rich soil give us a full supply of this delicious vegetable, from the time it tastes good until Christmas. At the beginning of freezing weather the plants are taken up with some roots and earth adhering, set in a long, narrow box, containing about four inches of sand, and placed in the cellar.

I find Golden Heart Dwarf and

Crimson Dwarf the most suitable varieties for this section, and I grow them exclusively. I use them with tile one foot long for bleaching. For the tall varieties of celery, tile eighteen or twenty inches long can be procured.—*Philadelphia Weekly Press.*

MEALY BUG.

We have tried various emulsions of kerosene oil for this pest, but with indifferent results. Alcohol, which is the basis of most insecticides for mealy bug, will do the work, but it is too expensive for general use. The imported preparation known as "Fir-tree oil" is by far the best and most economical remedy we have yet tried. It kills the bug and its eggs, and does no practical injury to the plants. In using the fir-tree oil or similar insecticide, it is better, when practicable, to dip the plants in the preparation. In my experience one dipping is as good as ten syringings, and much more economical. A common error in the use of all insecticides is the want of persistence in their use. It is much better to use a weak application of any insecticide frequently than a stronger dose of it at less frequent periods. For example, we have always found it more effective and safe to fumigate with tobacco smoke our house twice a week lightly, rather than once a week and more heavily.—CHAS. HENDERSON, in the *Country Gentleman.*

AUTUMNAL COLORED FOLIAGE.

All the gaylussacias and vaccinioms (huckleberries, cranberries, etc.) turn so brilliantly that for this reason alone they are worth a place in ornamental plantings. *V. corymbosum* (swamp blueberry) is sometimes ten feet high and six or eight feet in diameter. It is attractive in flower. The fruit is beautiful and tastes better than it

looks. Its habit fits it admirably for the formation of specimen plants, and in autumn it is fairly refulgent with glowing crimson. When it is remembered that this shrub is of the easiest cultivation, is it not strange that no one plants it? Will the time ever come when American planters will break loose from traditions of Old World gardens, and use the plants adapted to the American climate and American surroundings!—*Philadelphia Weekly Press.*

PLANTING BULBS FOR SUCCESSION OF BLOOM.

In planting my Dutch Bulbs I repeated a plan for successive cropping of flowers in the spring, on two small beds that in the past has usually pleased me greatly. These beds are only two feet across and lie conspicuously on each side of the front walk near to the steps. I set out Crocuses, Hyacinths and Parrot Tulips all in the same beds.

My way of planting was as follows: First, I dug up the soil well, mixing in some manure during the process, and after shaping up the top tramped it rather firmly. Then I dug out each bed exactly five inches below the surface. On this bottom fifteen bulbs each of Single Hyacinths and Parrot Tulips were set, and covered with a layer of two inches of soil. This new surface was for the Crocuses, and on it I placed six dozen imported bulbs, dividing the spaces between them uniformly.

Early next Spring there will be sheets of Crocus flowers over these beds. These will soon be followed by Hyacinth, and later yet will come along the Parrots.

After the Tulips are done, the same beds are planted with summer flowers, thus securing to me an almost perpetual period of bloom from March until October.—*Popular Gardening.*

JAPAN ANEMONE.

These plants are herbaceous perennials, with numerous radical leaves, and sending up leafy flowering stems a foot to three feet in height; these flower stems branch several times, each branch having a leaf at its base, and terminated by a flower. They are wonderfully hardy plants standing unprotected in the lowest temperature known in the Northern States, or from twenty to thirty degrees below zero, Fahrenheit. To produce the finest effects in the garden these plants should be set in masses, the two colors near each other, supported by a background of leafy shrubs.

As cut flowers for vases they are valuable, and they also serve an excellent purpose, when potted, in furnishing the greenhouse with flowers in the autumn months, when there are few other flowers to enliven it. The plants are easily increased by division of the roots.—*Vick's Magazine.*

THE JEWELL STRAWBERRY.

We have found this to possess more points of merit than any other we have ever tested, if we may judge by the experience of two seasons. The plants are very vigorous and free from disease. The berries begin to ripen June 12. The average size is large from the beginning until the end of the season—the form broadly conical, often flattened or widened at the top. The largest berries with us measured four inches in circumference. The color is a bright red, and the quality is very good, though not best. They are firm enough to ship to a distance. Its great claim to superiority rests in the vigor of the plants, the uniformly large size of the berries, and its productiveness, in which latter respect it is thought to stand first among all known varieties of strawberries.—*Rural New Yorker.*