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For Amateurs,
 Gentlemen Farmers,
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PRUNUS PESSARDI.

THE
Canadian Horticulturist.

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NOVEMBER, 1885.

[No. 11.

THE PURPLE-LEAVED PLUM.

After all there is something very attractive in the foliage of our purple-leaved trees and shrubs when they are so planted as to bring it in contrast with the green leaves of other trees, forming a back ground upon which the rich coloring is projected and with which it is contrasted. We have a few very fine purple foliaged plants that are well worthy of attention. The Purple-leaved Beech has been in cultivation for many years, but it is so difficult to transplant a tree of any size and have it thrive well that few specimens of it are to be found. Were our planters willing to abide the day of small things, and be content to plant it when its size is so diminutive as to make it seem insignificant, it would more frequently survive and in a few years become a beautiful ornament. A very fine specimen of this tree we saw some years ago in the grounds of Senator Macpherson, at Yorkville; and, if no calamity has befallen it, by this time it must be a prominent and beautiful feature of the park.

The Purple-leaved Birch is of more recent introduction, and well worthy of the attention of ornamental planters. Less difficult to transplant than the

beech, it is much more likely to succeed with ordinary care. In habit it is as vigorous as any of its fellows, and its young shoots are brilliant in their coloring throughout the season of growth. Even the bark of the branches and twigs is of a dark purple hue. In our grounds the trees have been perfectly hardy, not the slightest injury resulting from summer's heat or winter's cold; indeed it would seem to be able to stand by the side of our native birches in our most northern latitudes.

In those parts of the land where the peach tree can be successfully grown, the Blood-leaved Peach can be planted as confidently as any other peach tree. It is said to have been found growing in Kentucky, on the battlefield of Fort Donelson. Were this the age of mythology we should, no doubt, be told that the blood of some hero who fell on that aceldama had nurtured the young sapling, and so dyed its natural juices that the very leaves are red. If this tree be well pruned back every spring it will form a handsome compact head, and the young growth will be of a deep blood color throughout the summer.

Besides these there is a purple-leaved Oak, whose dark purple leaves retain

their peculiar color all through the season. It is a variety of the Royal Oak of England.

Also a variety of the Norway Maple known as Schwedler's, whose young shoots are of a bright, almost crimson color. The foliage becomes darker with age, until in the autumn it assumes a purplish green.

But it was our intention to bring to the notice of planters a tree of yet more recent introduction, known as the Purple-leaved Plum. Our colored plate is a very good representation of its foliage. We imported a few trees of it a short time ago from Europe, and have been much pleased with its behavior. It has been perfectly at home in our climate, and made a good healthy growth. Although it has flowered twice, no fruit was formed. We learn from the *Rural New-Yorker* that it has fruited in the grounds of P. J. Berckmans, of Georgia; that the fruit is of the myrobolan order, of the color of the Acme tomato, firm in flesh, moderately acid, but not of high flavor. In the early spring the leaves are of a beautiful rosy purple; these change, as the season advances, to a deep purple, and afterward to a greenish purple, and finally to a bronzy green; but the young shoots during the season of growth are of the rosy purple of early spring, thus giving to the tree a most pleasing variety of coloring during all the summer months.

HARDY LILIES.—C. E. K., of Little Rock, Arkansas, asks about Lilies suited to the open garden, and as I have had large experience with all the various species of the Lily family, I answer, that *L. Thunbergianum*, in its many varieties, from chocolate to lemon in color, will be found the hardiest and surest to bloom of all Lilies, and they are very beautiful, too. They are as hardy and as sure to bloom as Tulips.—G. B. W., in *Vick's Magazine*.

THE CANADIAN HORTICULTURIST.

PROSPECTUS FOR 1886.

This magazine has been for the past eight years, and is now, the only publication devoted to horticulture in Canada, having special reference to the varieties of fruits, flowers, trees, shrubs, and vegetables, and modes of cultivation best suited to our climate. It is intended to make it during the year 1886 more valuable, if possible, and attractive than it has ever been. Canadian contributors, residing in various parts of our Province, will give the results of their own practice and experience, which will be invaluable to others in similar circumstances. The subscription price is only one dollar a year, for which the subscriber will receive not only the *Canadian Horticulturist*, which is issued regularly on the first of every month, but also the Annual Report of the Fruit Growers' Association of Ontario for 1885, as soon as printed, containing the discussions at the meetings held during the year, accurately reported by a competent stenographer. In addition each subscriber will receive in the spring of 1886, by mail, post-paid, whichever he may choose of the following articles, namely, either (1) three plants of the Ontario Strawberry, or (2) a yearling tree of the Russian Yellow Transparent Apple, or (3) a plant of the Lucretia Dewberry, or (4) a yearling vine of the Early Victor Grape, or (5) two plants of the Marlboro' Raspberry, or (6) a package containing three varieties of flower seeds, viz., *Gypsophyla*

paniculata, Aquilegia cerulea, and Delphinium, mixed colors.

Subscriptions may be sent at any time to the Editor, D. W. Beadle, St. Catharines, Ont.

TO OUR READERS.

The Canadian Horticulturist is not published with the expectation or desire of pecuniary profit. Every dollar received from subscribers is expended in procuring and publishing information that will be both interesting and valuable to its readers. If you have found our monthly interesting and valuable to you during the past year, will you not please to help us increase its attractiveness and usefulness by obtaining a few new subscribers. It costs but a little more to publish an edition of five or six thousand, than of only two thousand. The increased funds that would be at our disposal if the subscription list were doubled, would enable us to greatly improve the Magazine. Will you not help us to make our *Canadian Horticulturist* the best and most attractive horticultural monthly.

As some acknowledgment of your kindness in obtaining new subscribers we will send to you, prepaid, on the receipt of five dollars and the address of five new subscribers, any one of the following collections of bulbs or plants. Collection No. 1, one Chionodoxa lucillae, one Lilium longiflorum, two Fritillaria meleagris, two Spanish Iris, and two Narcissus Poeticus; No. 2, five tulips, two Chinese Peonias, one Spotted Calla, one Tiger Lily; No. 3, a Collection of five different Lilies; No. 4, a Collection of five different sorts of Iris; No. 5, two double and two single Hyacinths, and three double and three single Narcissus; No. 6, Five herbaceous perennials, Fraxinella, Dianthus, Japan Anemone, Japan Spirea, and Clematis erecta; No. 7, Three hardy flowering shrubs, Hydran-

gea paniculata, Spirea Van Houtte and Purple Fringe; No. 8, a collection of twelve different sorts of flower seeds; No. 9, four hardy Roses; No. 10, Four Tea Roses; No. 11, Three Polyantha or Miniature Roses; No. 12 Four climbing Roses.

For ten dollars and ten new subscribers we will send, prepaid, any two of the above collections you may designate; or if preferred, we will send you one strong yearling tree of the Russian Vladimir Cherry, grown from trees imported by the Fruit Growers' Association direct from Russia.

If you prefer books we will send you, prepaid, on receipt of three dollars and three new subscribers, *Every Woman her own flower gardener*, 148 pages, bound in cloth.

For five dollars and five new subscribers, *Window Gardening*, 300 pages, illustrated with 126 engravings.

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Our prospectus for 1886 will explain fully what each subscriber is entitled to receive during the year.

New subscribers will receive the *Canadian Horticulturist* from the time the subscription is received until the end of the year 1886.

TO OUR NEW SUBSCRIBERS.

If you desire to have the report of the Fruit Growers' Association for 1884 and the *Canadian Horticulturist* complete from the first of January 1885 they will be sent to you on receipt of sixty cents. Thus for \$1. 60 you will receive the Reports of 1884 and 1885 and Volumes VIII and IX of the *Canadian Horticulturist*, complete.

THE SAUNDERS PLUM.

We received about the first of September last from Messrs. Stone and Wellington a sample of this plum, which the Fruit Growers' Association of Ontario has named the "*Saunders*" in honor of their much esteemed President. The samples received were of medium size, yellow in color, and in flavor strongly suggestive of the Imperial Gage, and when we say this we cannot say more in favor of its quality, for the Imperial Gage is considered to rank as "*best*."

We are informed that the tree is exceedingly hardy and has never been affected with the black-knot, although other trees surrounding the Saunders are literally covered with black-knots. It is a heavy annual bearer, always yielding fruit even when other varieties in the neighborhood fail. The tree is a chance seedling found growing in the eastern part of Ontario.

CANADA BALDWIN.

The following description of this hardy variety is kindly furnished by Mr. George Leslie, jun : Fruit medium size, roundish oblong, slightly larger on one side than on the other, handsome, stalk thin, 1 to 1½ inch long, set in a deep open basin, eye closed in a rather shallow open corrugated depression. Skin, thick, smooth, yellow, deepening on the sunny side into a deep dark red, striped and blotched with carmine varying to dark crimson, with distinct purplish grey dots, the most of the stem end being clouded with a purplish grey bloom. Flesh, white tinged with pink, sometimes slightly striped with pink, breaking, not very juicy, pleasant, mild subacid flavor, verging on sweetness, somewhat resembling the Fameuse. Tree, hardy, moderate grower, productive.

TO OUR SUBSCRIBERS.

Will you have the kindness to renew your subscriptions before the end of the year so that we may know how many copies will be required. It is a waste of funds to print more than will supply our readers, yet even those who do not renew until after the new year want to get the whole year complete. It may be impossible to supply the whole volume to those whose subscriptions are not received until after the January number goes to press, which is about the 15th of December.

QUESTION DRAWER.

REMOVING GRAPE LEAVES.

DEAR SIR,—Would you kindly let me know if it is proper to remove the leaves, or I should say foliage, from over the grapes to hasten their growth and ripening. I hold that it is not proper to do so, and I never do it with my own.

R. H. S.

Penetanguishene.

REPLY.—The leaves are the organs in which the sap is elaborated so that it will nourish the plant and continue its growth, which involves the fruit as well. They also are the organs in which the process of assimilation takes place; carbon, oxygen, hydrogen and nitrogen being taken from the air and converted into organic compounds. How can these processes go on if the leaves are taken away? It is not the action of the sun or of the air directly upon the fruit of the vine that causes it to grow and ripen. Indeed the grapes are much finer every way, in color and in flavor, when ripened under the shadow of the foliage than when exposed directly to the sun's rays. But

the leaves require to be exposed freely to the sun and air in order that these processes of elaboration and assimilation may take place. Hence it follows that the vine may be allowed to grow in such a tangled mass of leaves that they are not fully exposed to these agencies without which they cannot perform these functions; for this reason judicious pruning is necessary, and the taking away of superfluous shoots, so that every leaf may have its full measure of light and air, and so be able to perform its work of developing and ripening the clusters which hang beneath them in the shade.

BUDDING.

SIR,—Would you kindly inform us through the *Horticulturist* how to bud apple trees. After removing the wood of the bud should the bud be taken out also, when should the tying be removed, and will the bud start to grow the same season it is put in?

EDWARD BARTLETT.

REPLY.—Select a smooth place in the stock and with a sharp, thin-bladed knife make first a horizontal cut, just deep enough to cut through the bark, and then from the centre of this make a perpendicular cut of the same depth, the two cuts forming a T. After having made these incisions in the bark, take your scion, or stick of buds, in your left hand and cut out one of the buds together with a strip of the bark and a very thin slice of the wood, beginning to cut about half an inch from the bud, and bringing the knife out about the same distance above it. It is desirable that the slice of wood

should be exceedingly thin. Now carefully raise the bark at the corners of your cut, and holding the bud by the leaf stalk insert the lower end under the bark and slide it down the perpendicular slit until the upper end of the bark of the bud coincides with the cross or horizontal cut of the T. If a little of the bark of the bud extends above the horizontal cut it should be cut off with the knife so as to form a square shoulder exactly fitting to the bark of the stock above. The bud should be kept in place by winding around the stock some bass matting, or woollen or cotton yarn, taking care to bind the bark of the stock securely over the bud, leaving only the bud with its leaf stalk projecting. After the bud has become united to the stock and the ligature begins to bind too tightly the string should be taken off. I do not remove the wood from the bud. The bud will not usually start to grow until the next spring. You should procure five new subscribers to the *Canadian Horticulturist* and send their names and five dollars to the Editor and receive in return for your trouble a copy of the *Canadian Fruit, Flower and Kitchen Gardener*, in which you will find the methods of grafting and budding not only described but fully illustrated with engravings, besides much other very valuable and interesting matter.

EUROPEAN APPLE ORCHARDS.

I want to find out something about the prospective foreign demand for apples, about the areas in the old world devoted to orchards and to what extent

apple orchards are there being planted, and what parts of Europe are most given to apple culture, etc., etc. If you have any items of interest in this direction, perhaps you would kindly give us the benefit in the *Horticulturist*.

L. W.

Will some of our readers who are familiar with the fruit markets of Europe, and especially if having a knowledge of the area of orcharding in Great Britain and on the continent, and whether that area is being increased or not, please reply to this interesting inquiry.—ED. CAN. HORT.

BLACK CURRANTS.

What is the proper soil for black currants, and proper mode of cultivation. Would they do well on black muck soil?

J. C. CUMMER.

REPLY.—While thriving well in almost every soil, they will produce the best results in a well drained clayey loam, which is deep and rich, and if well supplied with manure will respond accordingly. We have not had any experience with them in black muck, but if well drained and liberally dressed with hardwood ashes, we should expect good results. The best fruit of next year's crop will be borne on the young wood of this season's growth, therefore in pruning preserve the young wood, and prune out old wood to secure a sufficiency of young bearing wood.

NUT PLANTING.

(1.) Is it best to plant walnuts in the fall, or to dry them and plant in the spring.

(2.) If planted in the fall do they

require to be taken up in the following spring and transplanted.

Yours, etc.,

Simcoe.

C. W. CULVER.

REPLY.—(1.) It is best to plant the nuts as soon as they fall from the tree. If not convenient to plant them where you wish them to grow, place them on the ground and cover them with four inches of soil. Early in the spring, before they begin to grow, plant them where you wish them to remain.

(2.) If you can plant them in the fall where you wish them to grow, it is better never to disturb them, but let them grow on until they attain their full size.

WHAT THE PEOPLE SAY.

FRUIT IN COUNTY OF GREY.

I have a good crop of apples and grapes and the Flemish Beauty pear tree was very heavily laden with fruit this season, but apples in general are scarce.

WILLIAM BROWN.

Annan, Co. Grey.

HARDY CATALPA.

DEAR SIR,—As you like to hear of the success of the plants sent out by the Association I beg to inform you that the "Hardy Catalpa" I got is growing well and I have great expectations that it will be a handsome tree in a very few years. It has made eighteen inches of strong wood, the leaf is six and a half inches wide and eight and a half inches long, and including the leaf stalk thirteen inches.

Yours,

M. ARMSTRONG.

Hamilton, Sept. 8. 1855.

FRUIT NEAR AULTSVILLE, STORMONT.

Apples are not so much spotted as last year, but still badly affected, especially the St. Lawrence and Fameuse, although I gathered twenty four barrels of Fameuse yesterday from four trees with hardly a spot. I could not give like experience for many years back. Yet at least half of my Fameuse trees are bearing fruit that is almost worthless. The east side of the orchard is always the worse. Trees that are much shaded are not always most spotted. The fruit on young trees is as badly spotted as on old. Trees in an orchard seeded down for ten years are this year more free from spot than those in the garden. We have had frosts, 29th September, but not enough to hurt the grapes, which are doing well. Worden was ripe a week ago, and Moore's Early, both fine grapes, the former especially. I pulled some Delaware, Wilder, Massasoit and Brighton to-day fairly ripe. Massasoit, although quite eatable, shews a good many uncolored berries.

JOHN CROIL.

THE CLEMATIS.

(For the Horticulturist.)

In the County of Lambton this beautiful and thrifty climber and elegant flowering plant, in some of its improved and modern forms, is likely to be a grand success. It is true we are only just getting our interest in the Clematis in its improved form properly aroused, but yet several have been induced to try their luck by planting a root or two in our climate and surroundings, and when this has been properly done the satisfaction even for the first season has generally been very great. The consequence is that the interest in it is extending among our people. The Clematis seems to have so many fine qualities to recommend it that it can-

not fail of being a great favorite amongst us when thoroughly introduced. In the first place by means of slight winter protection the roots are known to be perennial, and although the tops should die down to the ground yet the next season's growth produces such a remarkable profusion of vine, foliage and beautiful flowers that it is quite astonishing, and will never fail to draw the attention of the most casual observers to so gorgeous a spectacle. These vines can readily be made to climb over and cover an old fence, or a trellis made for the purpose, and in either case the result will be attractive and charming, or they may be made to fill artificially prepared lattice work or wire work about the home verandah and produce the finest effects imaginable in the decoration of the home. The flowering season, commencing as it does in June or July, will last until October, thus filled by a succession of bloom during the whole season. In my travel this summer I came to the home of a lady who had been induced by some tree agent to purchase a root of an improved Clematis the year before at a great price. The lady had carefully planted it just at the west end of her beautiful residence in Watford where it grew finely and made her home still more beautiful by its abundant foliage and mass of gorgeous flowers. About the first object of interest on her lawn that she had to show me with an honorable pride was this Clematis, then in full bloom, planted by the side of her house only the summer before. The growth was very surprising. It was trained on a nice, neat trellis about eight feet high and five or six feet wide at the top, and the whole space was almost covered by the most gorgeous mass of distinctive blue bloom. It was most certainly a very attractive object to her family and her visitors, and not only abundantly repaid her for

her expense and care, but greatly helped to adorn and beautify the home where it stood.

MY EARNEST ATTENTION

has of late been very strongly drawn to the study of the Clematis as a decorative lawn plant likely to be very much used in this country as it has several points of great merit. Last season I was induced to select and purchase and plant some twenty or twenty-five of the best sorts of improved Clematis I could find described. Some of these have done remarkably well this season, have grown finely and have shown some of their most attractive and finest blooms. Although this result has been very satisfactory to me, yet I am hoping for far better results next year when their roots have become established in their new homes and strengthened for the production of more and better blooms. The Clematis likes a high, dry and very warm soil, or a good, strong, well-drained sandy loam seems to suit them even better, and for the best results in bloom it must be made very rich with strong fertilizers and good mulching. A slight protection in winter will be found very beneficial and help very much the succeeding season's growth and quantity and quality of bloom. To do this take down the vines from the trellis and if old wood must be saved prune nicely late in the season and cover the whole with a moderately heavy covering of leaves or light litter. Some varieties produce flowers or flowering shoots on their old wood and others produce new from the root, but in either case the results will be very satisfactory if generous treatment is given. I have noticed the Clematis is never inquired for or brought out at our floral exhibitions, although they may be procured in their season. Why this is so I cannot explain.

THE VARIETIES

I secured this season were the following: Belisarius, Fair Rosamond, Fortuneii, Helena, Henryii, J. G. Veitch, Lanuginosa candida, Lawsoniana, Stella, Madam Grange, Gem, Randalterii, Flammula, Tom Moore, Tunbridgensis flammula, Standishii, Crispa, Jackmanii, Coccinnea, Duchess of Edinburgh, Verchafeltii, Virgineana, Vita Alba, etc. To these I intend adding others as they may be brought to my notice. Of these, Viticella, Venosa, Henryii and Belisarius have bloomed very finely this season, and promise to be something very attracting indeed by their magnificent blooms. I am hoping to be able at some future time to report to you far more fully of their behaviour, and the result of my experiments with this interesting and promising class of plants for ornamental purposes.

Yours very truly,

B. GOTT.

Arkona Nurseries, Oct. 5th, 1885.

WINTER PROTECTION OF TREES AND PLANTS.

BY A. M. SMITH.

The loss of fruit trees and plants by freezing of the roots during the last and two or three previous winters in the Niagara district and other places which had been always considered to be the most favored sections for fruit growing in Ontario, has become something alarming, and fruit growers are beginning to ask, "What shall we do to protect our trees and vines?" In many places large vineyards of young vines have been almost totally destroyed and older ones have been badly injured, and peach, pear and cherry trees have also suffered to a great extent. The want of proper covering has allowed the frost to penetrate beyond its usual depth and the want of sufficient moisture in the soil (the winters having set

in when the ground was very dry) to draw the frost from the roots has been the cause of the trouble, and the question is how shall we retain nature's covering or what shall we use as a substitute to protect the roots of the plants. Everyone knows that where banks of snow lay through the winter that wheat, grass, and all kinds of vegetation come out fresh and green in the spring. The writer planted a vineyard three years ago last spring on the east side of a Norway spruce hedge, which held the snow for the space of two rows; the following winter killed every vine beyond the extension of the snow drifts while those under the drifts came out all right. A few days ago I visited a vineyard in Stamford which was planted two years ago. In the highest and most exposed part there had been planted a row of black currant bushes between each row of vines which had retained the snow in winter around their roots. These vines were thrifty and some of them bearing fruit, while rows adjoining, which had received equally as good care and cultivation, but had no currants between, had been wholly or partly killed the past winter. This has suggested an idea to a neighbor of mine, who has planted a drill of corn between each row of his young plants or vines which will be about three feet high when the frost comes, which he intends to let stand to hold the snow. His strawberry plants he has treated in a similar way by sowing peas along each side of the rows allowing them to fall over as a protection. I see that the Niagara Grape Co. have recommended to planters of their vineyards in Canada to sow rye early in the season so it will get a growth to protect the roots, and the plowing of it in the spring will help to enrich the ground. But to those who have not taken any of these precautions I would recommend mulching heavily with

coarse manure-straw, corn stalks, or anything that will keep out the frost or hold the snow from blowing away. If there is danger from mice place a little Rough on Rats or poisoned wheat around the fields under old boards or rubbish where they burrow, and next spring don't forget to plant wind-breaks around your orchards and vineyards. I am satisfied that the hedge referred to on my own place has more than paid for the cost of it in protecting two rows of grape vines for two years.

St. Catharines, Oct. 10th, 1885.

EXPERIENCE WITH APPLE TREES IN THE COUNTY OF GREY.

*R. Scott -
Hopefield*

In the spring of 1883 I planted some trees which I expected to be hardy, but I have been disappointed as the following will show: Out of three Wealthy apple trees one is almost dead and another is badly injured. My premium Wealthy is also badly hurt. Out of two Pewaukees one is dead and the other is badly injured, and one Wolf River killed to the ground. This damage was all done last winter, these trees being almost untouched the previous winter. The injury was almost entirely on the trunk, the bark being killed in patches, sometimes quite girdling the tree. Five Wallbridge were all badly killed back in the young wood both winters, but not hurt in trunk; three Mann the same, but one of them killed to the snow line last winter. Two Haas, killed back in the young wood, but not quite so bad last winter as the one previous. One Whitney number 20, unhurt. I have nine trees of the Duchess of Oldenburgh, eight years planted, which are quite hardy, also some which I think are Red Astrachan and some Fameuse of the same age that are pretty hardy. My orchard is high and exposed on all

sides, with a hard pan subsoil and undrained.

R. SCOTT.

Hopeville.

Such notes of experience are among the most valuable contributions we receive, and are always welcome.—

EDITOR.

CURRENTS.

Currants are not receiving the attention they demand; years ago everybody had their row of currant bushes, it was no trouble to grow them, just plant them out and with a very little attention all the currants could be grown that were wanted. When the currant worm came along and destroyed most of the bushes nearly everybody was discouraged, and gave up in despair, but they are so easily gotten rid of by the use of Hellebore with one application (if put on in time), that there is no longer any excuse for not growing them. Among the most profitable sorts I have grown, I would name Raby Castle and Victoria. Some say they are the same, but I think there is some difference in favor of Raby Castle. They both hold their foliage very late in the season, which protects the fruit so that it can be left on the bushes for a month after they are ripe. They improve in quality and will bring a much better price in market. The Cherry currant is not as productive as the above, and does not hold its foliage so well, and but little larger when grown side by side. The cherry will give larger berries while the bushes are young, but do not continue to do so in old plantations.

Fay's Prolific is said to be far ahead of all others, but it has not been tested sufficiently in Canada to know that it will be what has been claimed for it.

White Grape is a splendid variety (I have just been out to-day, Sept. 30th,

eating some from the bushes, and find they are first-class in quality) with less acid than the red sorts. The White Grape is one of the best for home use, and in some markets they will bring one cent per quart more than the red. I think there are too many people that go into small fruit growing who confine themselves to perhaps strawberries and raspberries, or some other two or three kinds, while if they would grow all of the small fruits (a few standard varieties of each sort) they would have less failures, and the work of growing and marketing can be done to much better advantage.

Unless we can find some black currant that is more productive and reliable than Black Naples or Lee's Prolific, we cannot plant them with the hope of getting a paying crop more than once in three years; true, there are some localities where they are quite regular and heavy bearers.

Perhaps in no other small fruit is there so much need of improvement as in the black currant. It is to be hoped that some of the many new seedlings of Wm. Saunders, of London, may prove to be much more valuable than anything we now have. P. C. Dempsy, of Trenton, is also testing a number of his own new seedlings, some of which are very promising.

W. W. HILBORN.

Arkona, Sept. 30, 1885.

JEWELL STRAWBERRY.

J. S. Woodard, of the *Rural New Yorker*, writes us as follows: "I have examined the Jewell on all kinds of soils, and we have fruited it two years, and I do not hesitate to say that it is the best berry, all things considered, that we have. I believe that it will be more universally popular than the Wilson, and that is saying a good deal."

CAN THE APPLE BE RAISED WITH PROFIT?

The important question which our northern fruit growers have now to decide is in regard to the Apple. Can it be raised with profit? We cannot, at present, examine the question in detail, but it may be said that the planting of Apple orchards has greatly fallen off for a few years past; many have been neglected and left a prey to insects, mainly for the reason, perhaps, that some seasons of unfortunate weather have prevailed for awhile, and left us without a crop until last year; and for the same cause some have even cut down their orchards. This course is wrong, and a few years more will make it plain. We shall always need the Apple in abundance; no other fruit can wholly take its place. With the present low rate of orchard planting the demand for good Apples will soon exceed the supply, no matter what other fruits are in the market.—*Vick's Magazine.*

THE TRIUMPH GOOSEBERRY.

A new Gooseberry is now being introduced by Mr. Geo. Achelis under the above name. It is said to be remarkable for the size of the berries, they being in actual measurement seven eighths of an inch in diameter, which would make them about two and a half inches in circumference. It is an American seedling, but of what parentage we are not informed. The introducer claims for it that during the dozen years in which it has borne fruit it has not shewn the slightest sign of mildew; also that it is exceedingly productive, one branch a foot long having on it sixty five berries which were, on an average, one inch in diameter.

We shall eventually get gooseberries that will thrive in our peculiar climate which will rival in size and excel in flavour the famous gooseberries of Eng-

land; for our more sunny skies impart to all fruits a richer coloring, and to most of them a higher flavor than they can acquire in the more moist atmosphere and under the more cloudy skies of the British Isles. Our Canadian hybridizers are at work upon this fruit, and we believe that Mr. Dempsey has already raised some seedlings of great promise. They have not been brought to public notice, for it is his practice to test thoroughly all his productions and ascertain by years of trial whether they are worthy of attention before he speaks of them in public. Should they prove to be adapted to our climate, to be of fine flavor, good size and productive, the public will hear more of them; if not, they will be consigned to the land of forgetfulness.

SUMMER PRUNING OF GRAPE VINES.

Professor Budd writes to the *Prairie Farmer* on this subject as follows:—In our hot dry air of the West very little trimming is needed in summer, if the vines are properly pruned when laid down in November. In this connection I will say that vines left on the trellis have been generally killed at the West the past winter. We find it best in laying down to cover the tops with earth when bent over to the ground, and to throw a small mound of earth over the crowns. The bow, formed in bending over the canes, is left uncovered. The object in view is merely to lessen evaporation from the canes when the roots are locked in frost. Again, tens of thousands of recently planted vines have been root killed. In all cases where the vines have been planted two feet in depth—filling the holes gradually as the canes made growth, they have come through in perfect condition. On dry porous soils our people must learn to plant deeply if they would be successful.

PEAR BLIGHT.

N. Y. AGRICULTURAL EXPERIMENT STATION,
Geneva, N. Y., Aug. 24, 1885.

The progress of the work at the Station on pear blight this season has been substantial and practical. The work last year established the infectious nature of the disease. The large number of artificial inoculations made for this purpose were quite free from any danger of accidental contamination, as there was no spontaneous occurrence of the disorder in the orchard or the immediate vicinity. This year the disease has shown itself in force, over one-third of the trees in the orchard being attacked, as well as the trees in the adjoining grounds, and the nursery stock, hawthorn hedges, etc., of the vicinity. This opportune visitation has permitted a very thorough study of the progress of the disease in its virulent form.

Last year's work, as well as that of Professor Burrill in Illinois some time since, indicated that the disease does not as a rule spread from limb to limb, and we have now discovered the reason why it does not, and what is more important, have found out the manner and time of its real attack upon the tree—when it first finds entrance into the tissues and begins the work of destruction.

While taking a stroll the last day of June a solitary hawthorn shrub was met, with the larger part of the leaves brown and dead. Its odd appearance attracted attention, and a close inspection indicated that it was suffering from blight, a conclusion fully corroborated by a subsequent microscopic examination. In all cases the blighting had evidently begun at the ends of the branches, and largely at the ends of the short spurs along the sides of the limbs. These spurs usually terminate in one or more clusters of flowers in the hawthorn, which at that time had long

passed, and on the uninjured parts had matured into fruit fully two-thirds grown. On the diseased spurs, however, the dead flowers had not perceptibly developed beyond the condition at flowering. Here was surely a significant fact. The blight must have attacked these parts not later than the period of flowering, which this year was from the middle to the twentieth of May. The germs found a favorable place of entrance through the moist surface inside the flower, and from that point passed down the flower stalk into the branch, and so on, killing the tissues as it progressed. In cases where it did not find entrance in this way it had attacked those shoots of the present season which were making the most vigorous growth, as the length of the internodes and the number of partially grown leaves on the dying portion readily showed. Subsequent inspection of several untrimmed hawthorn hedges near the Station confirmed all that has been said above, both in regard to the behavior and extent of the disease.

The orchard was at once carefully gone over, and evidences of blight were found in no less than one-third of the trees. The following varieties were among the blighted ones: Bartlett, Buffum, Doyenné Boussock, Flemish Beauty, Mt. Vernon, Seckel, Sheldon and White Doyenné. In fact the blight seemed no respecter of varieties so far as our assortment was concerned, for all kinds on one side of the orchard were touched, while almost every tree on the opposite side remained free. It was found that in many instances the entry had been made through the flowers as in the hawthorn, but more often through the growing tip of a branch. An armful of blighted branches from Kieffer pears, which are not found in our orchard, were brought me on July 24 as badly blighted as one often sees.

The blighted branches were removed with pruning shears on July 1, by a day laborer who was none too keen eyed. Ten days afterward the orchard seemed far more blighted than at first, and in many instances it had struck at the bodies of the larger limbs, and in one instance at the trunk below the limbs.

There was now a marked difference in the amount of blight showing on the several varieties. The Bartlett led them all, some of the larger trees being so much affected that when the diseased branches were removed there was but little of the top left.

At first this was puzzling. A careful study of the case, however, furnished a solution. Although all had probably taken the blight about equally, yet it had spread through the tissues at very different rates in the different varieties. The Bartlett showed itself the most susceptible. The apparently rapid blighting of large limbs was readily traced to the incursions of the disease through the short spurs near their bases. In the less susceptible varieties the disease had not travelled the whole length of the spur at the time of the first pruning, and was therefore all removed. In the most susceptible kinds it had gone the length of the spur and already entered the large limb when the spur was cut away. Here it did not take long to girdle the limb, prevent the passage of sap, and thus practically kill it. In the single instance where blight occurred on the trunk of a tree below the branches, it was perfectly evident that it had entered through a vigorous young shoot that had started out at that point this spring. The failure to cut it away before the blight reached the trunk cost us the entire tree.

In addition to the out-of-door observations, a very extended course of experiments in the house have been carried

on. It is only necessary to refer to these in the present connection in order to mention the artificial cultivation of the germs of the blight. These have been grown in sterilized infusions of corn meal, hay, barn-yard manure, green fruits, starch, etc. The important point is that they will live and thrive outside the tree in dead organic substances.

These are the facts. They explain the phenomena of pear blight in this way. The disease is due to living germs. These germs can live and multiply indefinitely in any damp spot where there is decomposing vegetable matter. From such places they are raised into the air when dry, or carried up by moisture. From the air they lodge upon the trees, and when the conditions are favorable pass into the tissues and cause the blight. The conditions referred to are in general (1) very tender tissues, such as are found within the flowers and at the ends of expanding shoots in spring, and (2) a moist atmosphere. No varieties are entirely blight proof, but the disease spreads so slowly in some that they receive little injury, especially when not making too rapid growth. The reason why the blight, when seen in July and later, does not pass directly from one limb to another, or from one tree to another, is because in the first place the germs cannot escape, being confined by the bark, or else escape in a viscid exudation which holds them firmly together, and in the second place there are very few places on the tree at this time of the year where the surface tissues are sufficiently tender for them to find an entrance.

Does not all this suggest some thoughts regarding preventives and remedies? Do not force the tree into too rapid growth by heavy fertilizing or otherwise. Place no confidence in sulphur, lime, or washes and applica-

tions of any sort. Promptly remove every trace of the disease a foot or more below the lowest spot where it shows, and burn the branches.

PEAR ORCHARDS.

The old fashioned pear trees that grew to the size of some oaks and yielded annual crops of many bushels were not, says the Philadelphia *Record*, affected by blight. The trees were frequently subjected to the axe in order to rid them of their surplus wood, but little careful pruning was given them and they received no cultivation at all. The fruit, however, was entirely different from that which is now sold in the market, being hard and fit only for preserving. With the introduction of the Duchess and Bartlett pears and other varieties, the quality of the fruit was greatly improved, but the trees do not grow as large as the common kind, nor are they as hardy. With the advent of the improved pear came the blight, and since it made its first wholesale attack on the pear orchards it has ruled supreme, as no remedy other than the destruction of the tree is known for its cure. The methods of cultivation may have much to do with this disease, but probably forcing the trees to a very rapid growth is the cause, more than anything else, of pear blight. Our orchards of improved pears have not been treated in a natural manner, for the pear tree is a slow grower and does not bear until it is a fair-sized tree, but growers have compelled the improved varieties to assume conditions not suitable for health and vigor, which render the tree subject to the blight and other diseases incidental to pears. Two fruit growers at Newfield, N. J., procured the same varieties of pears from the same nursery and put the trees in the ground at the same time. They were cultivated, however, quite differently. One of the growers yearly cultivated in

his orchard garden crops, with occasionally corn, applying liberal dressings of manure, under which treatment the trees grew rapidly, and not only improved in appearance and color, but bore early and gave large yields. His neighbor did not use his orchard for any other purpose than the growing of grass, which was occasionally mowed, ploughed and seeded to grass again. The orchard that was kept in grass has on it to-day trees that are only half the size of those in the orchard that was cultivated with hoed crops. It has never borne as well, nor has it equalled it in appearance and other respects. The blight, however, has nearly destroyed the orchard that looked the most promising, while the slow growing trees are as sound as when first set out, although both orchards are very near each other. The pear orchard that gave its owner such heavy yields is nearly destroyed, but the other seems likely to last for several years, not a tree being affected with the blight. As these orchards were alike (soil included) in every respect, but differently treated, this experiment may furnish a lesson to pear growers.

MY CELERY HOUSE.

I have used this house for three years for storing and blanching. It will hold 30,000 stools, and I have not lost \$5 worth from rot or other causes. The plants have been well blanched, crisp, without rust or earthy flavor. I have no trenches to dig, no banking for winter and less earthing during growth. My stock can be inspected any time, taken out in cold or rain or at night, cleaned, washed and packed for market in the same place. Celery once handled can here be blanched in three weeks, and the temperature can be kept cool and damp, to insure the best quality.

The cellar, sixteen by forty feet and three feet deep, has a wall eighteen inches thick and rising a foot above ground, upon which plates for rafters are bolted to keep the roof from spreading. Inside, the house is four feet high at the eaves and eleven at the peak. The ends are weather-boarded on both sides of six-inch studs and filled in with sawdust, which is also packed between the roof and a lining of rough boards nailed on the lower side of the rafters. This is frost proof and protects against sudden changes. A ventilator ten inches wide the entire length of the roof at the peak, with lifting lid worked by a lever inside, admits air when needed and gives escape for any heat that may generate from the celery. A door at each end, lined and packed, a small window over each to admit light, and steps to get down with, complete the house, costing about \$200.

In putting away the celery, posts are set in the ground ten inches apart beginning at each side of the end of the house and coming towards the centre, which gives seven feet to the side, leaving a passage-way two feet wide through the entire length of the building. Three sets of posts on one side and four on the other will just suit sixteen-foot boards, two and a half length on one side and two lengths on the other, with a space eight feet square for a washing-tank and room to prepare for market. Beginning next to the wall, we nail a board one foot wide to the posts, so that the tops of the celery are even with the top of the board, leaving a space from four to six inches between the bottom of the board and the ground, through which one hand can be thrust to pack the roots, while the other holds the tops of the celery above. We have some loose rich soil to throw over the roots, but not on the stalks. After the trench or box is full from end to

end, with a hose throwing a small stream we wet and settle the soil around the roots, which form new rootlets in a few days. We never handle when wet or damp from any cause, neither allow the stalks to be wet when wetting the soil around the roots.

After the house has been filled about five days, care must be taken to give proper ventilation at the top, as there will be a violent heat created by the mass of celery so packed, and unless that heat is allowed vent rot will follow. After this heat subsides there will be no further trouble or danger, though it is best to ventilate freely in warm weather, but always from the top.—*T. F. Baker.*

SOIL FOR ROSES.

The ground for roses should be thoroughly drained and rendered as porous as possible, and fertilized. In clay soils the use of sand, lime, soot, burnt earth and loose, light vegetable matter, such as leaf mould, will alter the texture and improve the quality. At the time of planting, strong fertilizers are not required, and should not be given until the bushes have become established; they then like rich soil, which should be made light for the delicate rooting kinds, and more tenacious for the robust and hardy, and it would be reasonable that the classes and varieties differing in their nature should have more than one soil, if all are to receive that which is the most suitable. A renewal of the surface soil with old pasture loam every two or three years will supply important elements unattainable by any other method. We should avoid the application of more fertilizers in a soluble state than the plants can consume. It is well that the earth should be filled with stimulants in different stages of decomposition, that the plant may in all conditions of growth have plenty of food. When the plant is growing and

especially when flowering, weak liquid manures may be applied. Bone and potash act favorably early in the spring. A frequent sprinkling of water adds health to the foliage and prevents injury by insects. The earth should be wet only when dry, and then thoroughly.—J. H. BOURN, *before the Massachusetts Horticultural Society.*

EPIPHYLLUMS.

The two species of Crab's Claw Cactus, *Epiphyllum Russellianum* and *E. truncatum*, the hybrids of which ornament our greenhouses during winter with their exquisitely colored and strangely shaped flowers, are natives of Brazil, where they are found growing upon the trunks and branches of trees. They are of the easiest culture, blooming abundantly even when small, and adapted as well for the window-garden as the greenhouse. Grafted on the *Pereskia* stock, with stems from eight to twelve inches high, they make beautiful objects; but much more lovely are they when grown on their own roots and in a basket. They do not want anything else in the basket with them, but show their beauty best when planted alone, the long fringy flowers being just the kind most suitable for adorning the flat, leaf-like branches, and which are set off to best advantage when drooping over the edges of the basket.

The soil most suitable for them is good, turfy loam, having about one-fourth of thoroughly decayed manure or leaf-mold, well mixed, and sufficient sand to give porosity to the whole, as it is imperative to allow the water to pass off freely, anything approaching sourness of the soil from too much water being detrimental to the plant's growth. When the plants get large enough to be put in five-inch pots and over, they should have plenty of drainage.

Cuttings should be taken off just before the plants begin to grow, and inserted in the cutting-bench, where they can get a good, sharp, bottom heat; when rooted, put into small pots and place near the light. As they increase in size, put into larger pots, and keep growing by giving plenty of water, pinching the points out of any shoots which may be taking the lead. About the month of June set out of doors in a sunny position, and when their growth is completed, withhold water gradually, but not sufficient to cause them to wilt. If wanted to flower in succession, and a good many plants are on hand when housed in the fall, keep part of them in a cool house, and bring into heat as required; but do not water much those kept in a cool house, as they are apt to loose their roots from rot, especially if growing on their own roots. Grown on the *Pereskia*, they are more hardy, and capable of enduring greater hardships than on their own roots. They can be grafted on some of the *Cereus* family, but the *Pereskia* is the best stock for their successful culture. The number of flowers a single plant sometimes produces, when well treated, is astonishing. I counted, to-day, the flowers on a plant growing in a six-inch pot, and the number was seventy-six. The flowers are very useful in the arranging of bouquets and baskets, lasting a good while in perfection after being cut.

The following are some of the best and most distinct kinds in cultivation:

E. Russellianum.—This species flowers later in the season than *truncatum*, and has flowers of somewhat different shape. There are some varieties of this species distinct and superior, the most conspicuous being *rubrum*, having large, bright red flowers.

E. truncatum has large, rose-colored flowers, and blooms earlier in the season than the preceding species. Seed-

lings from this, and also hybrids between this and *Russellianum*, are numerous, some of them of the most delicate colors. Among them are *bicolor*, white edged with rose, fine; *Ruckerianum*, dark red, violet center; and *violaceum*, pure white, purple edges.

This class of plants deserves better treatment than is generally given to it; although, for all the neglect and inattention the plants receive during summer, they will often bloom during winter. They repay good treatment as well as any plants, and it is during the period when they are least attractive that they prepare for flowering, and should have the most attention.—*American Garden*

THE BENEFITS OF FRUIT.

Among the most admirable of the characteristics of an advancing civilization seems to be a tendency to demand fruit in ever-increasing quantities. This is shewn by the speed with which the enormous supplies now poured into the market are disposed of. In the United States ingenious physicians have adopted a plan of curing inebriety, which depends largely upon the adoption of a fruit diet. The "grape-cure" has, of course, long been known in Europe as a pleasant and efficacious way of treating certain ailments; and the salts and other chemical ingredients contained in fruit are found to act as a substitute for alcoholic liquor, and also, it is said, as a remedy for the drink-craving. However that may be, it is an undoubted fact that an increasing number of individuals, not being drunkards, do in this country, as every summer comes round, adopt of their own free choice the fruit-cure for thirst. In every age and in every country the natural love for fruits which has been implanted in the human breast has been strikingly exemplified in the imagery of the celestial regions. As a refresher

and a blood-purifier fruit stands unrivalled, and the only precaution which need be inculcated is to beware of that which is unsound. Barring misadventure, however, a fruit harvest is generally sure to be a profitable speculation; and, as it enriches the growers so, or in even greater measure, it is certain to benefit the consumers.—*London Telegraph*.

PRUNING THE CURRANT.

The late much lamented Charles Downing advocated cutting out the superfluous buds when the slip is first set, and starting from the ground with a single stock, which is allowed to branch out a foot from the earth, and grow to the height of three or four feet. Currants trained in this style of dwarf trees are not only ornamental, but bear fine fruit and have the advantage of being easily kept free from grass and weeds, and are convenient to prune after several years of growth, by cutting out a portion yearly of the oldest branches and allowing new shoots to take their place.

On the other hand many of the most successful cultivators prefer the bush form; but to have success for a term of years, the ground must be stirred often so that the bushes may be kept free from all other growth.

After trying both methods of training I prefer the bush form for the following reasons:—the currant is a great bearer of fruit and this tendency to overbear, after several crops, so exhausts the older branches, that a portion of them—depending upon how much enfeebled they are—need to be removed yearly, and only the most vigorous new shoots allowed to take their place, the weak ones being cut back to the roots, that the top may not become too thick. By this mode, as there is no main trunk to be kept, the whole bush is renewed in few years, three or four at most, which is

more easily done than in the tree form. A second reason why I prefer the bush form is that the currant like all other good fruits, has its insect enemies, which if not promptly destroyed, themselves will destroy its vigor. Nothing can be more weakening to any plant than to have its foliage suddenly stripped off, as so often happens to the currant when the worm is neglected. I find a perfect remedy for this in mulching heavily with coal ashes, after loosening the earth in the fall, or as soon as frost is out in the spring. Another—but most insidious because concealed—enemy of the currant, is the borer, which perforates the stem its entire length, and soon destroys its vigor. The only remedy I know for this is to cut away the branch below where it is punctured, and burn all such to destroy the borer within.

Having wandered so far from the subject of pruning currants, in giving my own experience in raising them, I repeat that whichever form is adopted, the tree or bush, a portion of the old growth must be cut away yearly to give place to new and thrifty shoots.—S. C. HARLOW, in *Home Farm*.

APPLES FOR NORTHERN NEW ENGLAND, AND GOOD FOR NORTHERN ONTARIO.

Here is a list for northern New England, which does not include a single variety now grown in southern New England and New York, yet every one of them is the equal, in its season and use of the best fruits of like season and use in that section.

SUMMER—Yellow Transparent, Grand Sultan, Charlottenthaler, Tetofsky.

AUTUMN—Switzer, Peach of Montreal, St. Peter's Prolific Sweeting, Duchess of Oldenburg, Golden White.

WINTER—Wealthy, Scott's Winter, Newport Winter Sweet, McIntosh Red, Giant Swan (of Minnesota).

In addition, we have on trial the following most promising Winter Russians from the importations of the Iowa Agricultural College:—Longfield, Antonovka, Anis, Titovka, Arabskoe and Bogdanoff. These Russian and "iron-clad" Apples have their place, and a big one, in these United States.—DR. T. H. HOSKINS, in *American Garden*.

THE BLACK WALNUT.

One of the most valuable trees of the North American forests is the Black Walnut (*Juglans nigra*). It is a hardy tree, with pinnates leaves and deeply furrowed bark. The flowers are *monœcious*, that is, the staminate and pistillate grow on the same tree. The male or staminate flowers are produced in rather short catkins, while the fertile or pistillate are in terminal pairs. The species is widely distributed, its native habitat extending from western Massachusetts to eastern Nebraska and Kansas, and from Ontario, Canada, to northern Florida and Texas. But the greatest aboriginal growth, both in numbers and magnitude, was found in the forests which covered the river bottoms and hillsides in the region lying between the great lakes and the Ohio River. Some specimens found there were truly forest giants. On the shore of Lake Erie, near the mouth of Walnut Creek, in Western New York, a Black Walnut tree was cut, some 50 years ago, which attained much celebrity as the "big tree." The hollow lower section of 15 feet, after being exhibited in this country, was carried to England, and there converted into a gin-shop. No authentic data of its actual dimensions are at hand, but tradition gives its diameter as between 12 and 15 feet. Near where that grew, a freshet, a few years since, revealed a buried Black Walnut trunk which was afterwards unearthed. The "butt cut" was nearly eight feet in

diameter, and was split into quarters with wedges to bring it within reach of a mill-saw. Of course these were exceptional growths, and show the ultimate magnitude attained by the species under favoring conditions; yet the average growth is from three to six feet in diameter, and the height from 60 to 90 feet.

As a *Timber Tree*, it is the most valuable of our native species. The wood is a rich, dark brown, deepening with age, fine-grained, and susceptible of a high polish. For cabinet work, gun-stalks, counter-tops, stair-rails, and fine inside finish for buildings, it is unrivaled by any other native wood. In the Chicago market, good Black Walnut lumber is quoted at \$50 to \$150 per 1,000 feet, board measure, in car-load lots. Crotches, burls and other parts with feathered or wavy grain, sell at very much higher prices for veneers. In the early days, while the country was still covered with "the forest primeval," the settlers were accustomed to work up this timber into fence posts and rails. That which was not straight in the grain was burned, to clear the ground. Many farms in Ohio and Indiana were laboriously cleared of Walnut timber which would now be worth thousands of dollars more than the value of the land from which it was cut.

For *Cultivation* on the prairies and eastern borders of the plains, the Black Walnut is deservedly popular. At the 17th Annual Meeting of the Kansas State Horticultural Society this tree was placed at the head of a list of 15 species which had proved successful in that state. The Black Walnut, when young, is successfully planted from nursery rows, but having a long tap-root, it is better, perhaps, to plant the nuts where the tree is to remain. They are gathered only in the fall, and deposited in beds, two or three deep, were

they are lightly covered with earth or sand. Keep the bed moist through the winter, and subjected to the action of the frost. When fairly sprouted in the spring, the nuts are carefully taken up and planted where the tree is to stand. It is recommended to plant in alternate rows with Cottonwood, Box Elder, or some rapid growing evergreen, to shelter the young trees from high winds and hot sunshine. The sheltering trees may be removed before they interfere with the growth of the Black Walnuts. The latter begin to produce nuts when eight or ten years old. The nuts, when fresh, are large and roundish, somewhat resembling a green orange. The kernel is less palatable than that of any of the allied species, somewhat rank in flavor, yet is relished by many. The largest market for them at present is for planting; they bring little for eating purposes.—*Prairie Farmer*.

WHITNEY'S NO. 20.

During a late visit to Mr. A. R. Whitney's orchard we found something over 1,000 trees of this famous variety in bearing, every one of which seemed to have passed the last severe winter unscathed, while nearly all other varieties suffered, as our apples generally did throughout the Northwest. Their hardiness is established beyond cavil. The parent tree has fruited abundantly every season since 1854, but this year its crop is light. Yet the tree seems perfectly vigorous, and good for many more paying crops. Mr. Whitney's history of the origin of No. 20 is as follows: In the autumn of 1849, he washed the seeds from a lot of pomace from the common Siberian crab apple. These were planted in the spring of 1850. The following winter he grafted 500 Willow Twigs on these Siberian seedlings. In September, 1854, one of the seedling roots, in nursery plot No. 20, on which the graft had perished, as

did many others that season, was found bearing. This one tree was left standing and the others cleared away. In the autumn of 1859 or 1860, samples of the fruit were shown in the *Prairie Farmer* office and public attention called to No. 20, which name had been given it from the plot on which it grew. The fruit of No. 20 bears little or no evidence of crab origin. It is of very pleasant flavor, excellent for table use, or for preserving and canning. For both quality and abundance of fruit and hardiness, No. 20 is a most valuable acquisition to the orchard.—*Prairie Farmer*.

APPLE TREES FOR THE NORTH-WEST.

For the special benefit of such as have had little or no experience as to the best varieties of apple trees to grow here in the Northwest, we name the few varieties which have passed nearly unharmed the most trying ordeal ever known to the old settlers of this locality. We name these four kinds as the best, all things considered. Each of these kinds is now growing and bearing fine crops of choice fruit, which is the best possible test known to orchardists. Let experts and experimenters set and care for as many more of the old or new kinds as they have patience, time and money to spare. But let the man who lives by his hard labor set only these kinds, and if you are advised and besieged by the many smooth tongued tree agents to add or extend the list, don't you do it. If you do so remember that you do it at a fearful risk of disappointment and failure. We know of no law that compels any man to please a tree tramp.

We name the Duchess first as being the most reliable of all for hardiness. The Wealthy has been occasionally injured in close protected sites. But all points considered, it has no peer either

in America or Europe where hardiness is a necessity. Whitney's No. 20 and Briar's Sweet are commonly called hybrids. They are the two best canning apples known. No. 20 is the best cooking apple; the Duchess next. All but the Duchess are fine apples to eat out of hand. They all bear young, abundantly and annually. The Duchess is an early summer apple. The Whitney and Briar's Sweet are early Fall. The Wealthy early Winter. We have not tried Winter apple to recommend. The hopeful Walbridge is a failure. This has been our last hope but it has perished, and let it go. "It's a poor apple anyway."—EDSON GAYLORD, in *Western Rural*.

MUSHROOMS—OPEN AIR CULTURE.

In England, mushrooms are grown in large quantities by beds made in the open air, and are regarded as the most profitable crop raised by the market gardener. The climate in England allows mushrooms to be grown all the year round, but the heat of our summer months, and the severity of our winters, essentially curtail the time during which mushrooms can be cultivated out of doors. There is no doubt that with us, beds would be productive during the months in which wild mushrooms are abundant, and probably they could be grown in the spring months also. To make the bed, manure from horse stables is needed. The long litter is forked out and laid aside to cover the bed later, and the remainder, consisting of equal parts, more or less, of solid droppings and short litter, such as one would use for a hot-bed, is made into a heap. The heap has from four to six turnings on alternate days, to bring all into an even state of fermentation. The beds are made two and a half feet wide at base, six inches wide at top, two and a half

feet high, and of any convenient length. When the ridge is three feet high, beat and tread it down to two feet; then add the remaining six inches, beating it firmly with the fork. After it is built, and its temperature an inch below the surface is eighty degrees, the bed is to be spawned. Spawn is sold at the principal seed stores, in the form of large and thin bricks. Each of these bricks is broken into about eight pieces; these pieces are thrust into the bed some nine inches apart. The spawn, if good, will commence to "run" in about three days, when the bed is to be covered with soil, or "cased," from an inch to two inches thick, according to the stiffness of the soil. The mushrooms break up through the covering of soil from below. To retain its heat, the bed must be covered, using the coarse litter separated from the manure for the purpose, and other straw, if needed; the covering varying in thickness from six inches to two feet, according to the temperature.—*American Agriculturist*.

LILY CULTURE.

The increasing culture of this class of plants within the last decade is astonishing; and along with the increasing culture has been the introduction of some excellent new species and varieties. A bed of lilies in a conspicuous place in the garden has an effect peculiar to itself, especially if it contains a goodly number of the large flowering kinds. Mixed at regular intervals along the herbaceous border with other hardy plants, they also look pretty; in fact, in any place where the ground is suitable they are pretty.

For soil, any kind in which flowers of all kinds flourish, if well drained, is suitable for their culture. Have it deeply dug, having thoroughly incorporated through it a good application of well rotted barnyard manure. See that it is well decomposed, for if not,

fresh manure coming in contact with the bulbs is very apt to make them decay. Often people in their anxiety to fertilize the ground well, for the reception of some newly received lily bulb, dig into the ground a large amount of fresh manure, and plant their bulbs in it; then wonder why they never start into growth. The reason is obvious. The fresh unfermented manure destroyed the bulbs before they got a chance to start. Better, if manure cannot be got that is not well decayed, plant in the soil as it is, and apply a good coating of the fresh manure on the surface of the soil after the planting is done. Any bed shaded considerably, but not over-hung with branches, is a good place to plant lilies; they succeed better in just such a position than most anything else, and will remain for years and flower freely every season without lifting to replant.

Lilium candidum, and allied kinds, are best planted in August, or not later than September, for this reason, that in order to secure good flowering shoots the following season, a good growth has to be made in the fall, which will not be done unless planted thus early.

L. auratum, *speciosum*, and such kinds, do best planted during October and November, and should be planted five or six inches deep.

When replanting a lily bed, select the largest bulbs and plant them by themselves, separate from the small ones, which can be set thickly together in some place where they can be left to make a growth and form flowering bulbs.

Some beautiful species and varieties of lilies are natives of the United States, the best of which are: *L. philadelphicum*, *L. superbum*, *L. canadense*, *L. pardalinum*, *L. parryi*, *L. californicum*, and the beautiful *L. Washingtonianum*. Among exotic species, but well adapted for out-door culture, select

L. auratum, *L. tigrinum* and varieties. *L. thumbergianum*, *L. candidum*, *L. kramerii*, *L. chalcedonicum*, *L. tenuifolium*, and the many varieties of *L. speciosum*.

During winter the bed should have a good mulching of manure or leaves, the rough part of which should only be removed in the spring, the rest being left to serve as a mulch during summer.—M. MILTON, in *Country Gentleman*.

THE SHAFFER RASPBERRY.

This raspberry was a chance seedling which sprang up in a garden twelve miles from Rochester, N. Y., among red and black raspberries. It has been thought by many that it was a hybrid, but no one has claimed this for a certainty.

The fruit will remain on the bushes a long time after they appear to be ripe, and will continue to improve in quality, until they drop off on the ground. Those who have not eaten Shaffers with cream, after reaching the last stages of ripening, have never tasted Shaffers in their best state. In this condition, however, their color has become very dark, and they are exceedingly soft. Therefore, for market purposes, they are picked while the color is bright and before they are entirely ripe. It thrives on sand or clay equally well, and it is not absolutely necessary to have rich soil. It bears enormous crops here on thin land. I do not understand why the Shaffer should prove as hardy as it does in the severe sections of the West. When it was first introduced, my friends in Northern Iowa asked if I could recommend it for that locality, and I told them I could not. I did not think that it would be hardy enough. But to my surprise it succeeds there, and gives the best satisfaction. Correspondents have written recently that it has

passed through the Winter safely with the thermometer 40 degrees below zero.

This raspberry is attracting the attention of canning houses. The proprietor of one of our largest at Rochester, says he thinks it is one of the very best for that purpose. Canning houses desire a fruit possessing marked character. A sweet, mild, berry would be about worthless for canning. One suitable for that purpose should have a pronounced raspberry flavor, and possess great acidity. The popularity of the Wilson Strawberry as a canning fruit is largely owing to the acid it contains. Nothing but a sour berry will do. Sweet berries that are much better for table use fresh, are not valued by canning houses. The Shaffer Raspberry has a faculty of long endurance. The parent plant remained in full bearing for fifteen years, and I presume is in good condition yet. Its roots are far-reaching, and remarkably vigorous. The defect of color in the Shaffer came very near consigning it to oblivion. On account of its purplish color, I hesitated long before introducing it. It is an evidence of its valuable characteristics, that it has become popular in spite of its uninviting color.—CHARLES A. GREEN, in *Rural New Yorker*.

ANOTHER LARGEST AND BEST STRAWBERRY.

Mr. R. Johnston is introducing a strawberry which he has named Ontario, in honor of our magnificent Province we presume, which he describes in a recent number of Fruit Notes to be the strongest plant of any variety he has ever grown, free from burning in the sun, and from all disease whatever and producing the largest berries he has ever gathered in his long experience of five and twenty years. In form he says they somewhat resemble Cumberland Triumph, but are much brighter in color, that visitors pronounce it the best

flavoured berry they have ever seen, sweet but sprightly, fairly productive on light soil, doing better on better land, perfect in blossom, and he is confident that because of its firmness, large size, bright appearance and quality, it will be a very popular market berry. The season of ripening is about the same as that of Manchester. Wonder if Mr. Johnston has fruited Jewell, which was the largest berry out and the strongest plant a short time ago.

BEGONIA RUBRA.

The foliage was attractive enough in itself to make the plant very satisfactory and well worth growing, but it was magnificent when the clusters of flowers were developed. The bright coral-red blooms, borne on stalks of the same color, formed a most delightful and striking contrast with the foliage. The plant received more admiration from visitors than any other one in my conservatory that winter. It kept growing and blooming, and from that time to this it has never been without flowers on every branch. For a year and a half it has been in constant bloom, and has never shown any tendency or desire to rest. Several times over forty clusters of flowers were counted on it at one time, and each cluster was made up of dozens of individual flowers. The flower-stems are produced at the axil of each leaf. They are long, drooping and much branched, and each little branch or sub-division of the stem bearing several flowers. The general effect of the flower clusters is much like that produced by *Euphorbia Jacquiniflora*, though on a much larger scale. It is seldom that we get a plant in which the attractiveness of flower and foliage is so evenly balanced as in this instance.—*Vick's Magazine*.

THE HELIOTROPE.

One day the botanist, Jussieu, was herborizing on the Cordilleries, when he suddenly found himself inebriated by the most delicious perfume. He looked around expecting to discover some splendid flower, but perceived nothing but some pretty clumps of a gentle green, from the bottom of which little capsules of a faded blue color were detaching themselves. He observed that the flowers turned toward the sun, and he therefore gave it the name of Heliotrope. Charmed with his acquisition, he collected some of the seeds, and sent them to the Jardin du Roi. The French ladies were charmed with it, and made of it a floral pet. They placed it in costly vases and christened it the flower of love. From thence it soon spread to other parts of the world, and has everywhere been greatly admired. One day, a very charming woman, who doted passionately on the Heliotrope, was asked what she could see in this dull and sombre looking plant to justify so much admiration.

"Because," she replied, "the Heliotrope's perfume is to my parterre what the soul is to beauty, refinement to love, and love to youth."—MRS. M. D. WELCOME, in *Vick's Magazine*.

PROFESSOR BUDD, of Iowa writes to the *Prairie Farmer* of the Bogdanoff apple, speaking of it in very high terms for its hardiness, color, size, keeping, and dessert qualities. During the last cold winter it bore the severity of climate exceedingly well, coming out with its wood bright and uncolored, while the Wealthy was discolored. He describes the Bogdanoff as similar in appearance to the Domine, but larger and higher colored, and keeps well until May. We make it our duty to learn all we can of fruit that promises well in each section, and describe them from those who test them. When we speak of hardy varieties, they are recommended especially for severely cold climates, and not for general cultivation.—*Farm and Garden*.

AUTUMN LEAVES.

(For the Canadian Horticulturist.)

And hast thou thus been cast away,
 Poor sear and yellow leaves;
 Short has been thy happy day,
 Ah! how my lone heart grieves.

I've watched thee dancing in the sun,
 "Trees have tongues"; I've heard thee say,
 "In oblivion's gulf we'll soon be flung,
 Let us be merry while we may."

Poor cast-lered leaves, you've done your duty,
 And played your little part so well;
 Living your span, in faultless beauty
 Within this flowery dell.

Oh when oppressed by anxious care,
 Thy sweet Elysian shade
 Of fluttering leaves, and balmy air,
 A sanctuary made.

Sweet autumn leaves, I too, like thee,
 Have had my joyful day;
 But it is nature's firm decree
 That we should fade, fall, and decay.

But, blessed is the hope to me,
 All who the "Truth" receives,
 The glorious "Tree of Life" shall see,
 And kiss the "healing leaves."

Montreal.

GRANDMA GOWAN.

THE EUMELAN GRAPE.—From my experience I would give up a good many fancy grapes before I would spare the Eumelan. It has one fault—it is shy of starting and I have not been successful in raising new plants. But the fruit was worth 20 cents a pound in Montreal when Concordes were selling for nine cents. It is a good bearer with me, never drops its berries. So, like doctors, grape growers differ in opinion.—ANNIE L. JACK, in *Rural New-Yorker*.

THE SALOME APPLE seems to be growing in favor in Illinois, being very hardy, productive, and a long keeper. The apple is of very good quality, size only medium, color from a light to a dark red or nearly so. Bears well annually, but more heavily alternate years. Keeps well until May or even June. The *Western Rural* says in the issue of June 13th, that samples received at that office from Mr. A. Bryant, were then as sound as bullets, and gave evidence of being good keepers—*Farm and Garden*.

THE JESSICA GRAPE.—This new variety of white Grape, sent out a few years since by D. W. Beadle, of St. Catherines, Ontario, we found ripe on the 22d of August,

at Vine Valley, on Canandaigua Lake, ten days earlier than Champion, in the same locality, was fit to gather. At that time it was quite ripe, and had been so, apparently, for several days, as the birds had discovered its condition, and eaten quite a number of the berries. The fruit is of medium size in bunch and berry, has a pleasant, but not a high, flavor, somewhat acid, without foxiness, and no hard pulp, but juicy. Altogether, it is a fair Grape, and the earliest we know. It is a strong grower, with thick, healthy foliage.—*Vick's Magazine*.

ABOUT CALLAS.—Every one knows that the Calla requires rich soil and frequent watering, but very few amateurs give enough heed to this so as to have the earth sufficiently rich or the water supply sufficiently abundant. Nothing but the most severe perseverance in having the earth as much as half manure will insure success; then the plants when growing vigorously must not only be kept as wet as possible, but they delight in warm, and even moderately hot water. As ordinary saucers are shallow, we have placed a pot of Calla in a large earthen wash-basin, which we keep filled with warm water. It is also requisite to cut off each flower as soon as it shows any signs of withering; the result will be that a new bud will very soon make its appearance, often before the old stem is wilted.—*American Garden*.

NEWLY PLANTED TREES—Importance of Cultivating.—The soil will dry very rapidly and to a great depth if allowed to get hard and compact. There is but a small space left for air in solid soils, and from this fact they become hot and dry to a great depth in the summer. While if air is present, as it is in loose soils, being such a poor conductor of heat, it will allow only a small portion of soil to become hot, which soon cools at night and is filled with a copious dew, not only retaining the moisture already in the soil, but adding to it at a season when moisture is especially desirable. Newly-set trees are always benefitted by cultivation, because all their roots are surface-roots, and cannot thrive in a hot, dry, compact soil. Hence the necessity of summer surface-cultivation of newly-set trees.—*Farm and Garden*.