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THE ONTARIO STRAWBERRY.

THE

Canadian Horticulturist.

VOL. IX.] OCTOBER, 1886. [No. 10.

THE ONTARIO STRAWBERRY.

This new variety was given last spring by the Fruit Growers' Association to those of its members who chose to receive it for trial. It is too soon as yet for them to report upon its behavior in their several localities, with the various treatment and in the variety of soils and circumstances under which it will be tested, but believing that it would be interesting to all growers of the strawberry to learn how it had succeeded in Mr. Little's hands during the past season, we now give the substance of his reply to our inquiries.

Of its origin nothing positive is known. Mr. Johnston, of Shortsville, N.Y., bought the stock, a few plants, some five years ago, named and disseminated it. As a cropper it has proved to be a larger bearer with Mr. Little "than a number of the new and greatly admired sorts in the specimen beds." This, it must be confessed, is somewhat vague. It would have been more definite had its productiveness been compared with some of our well known sorts, such as Wilson, Sharpless, or Crescent. The blossoms are perfect, by which is meant that the stamens and anthers are well developed so that there is an abundance of pollen produced to fertilize the seed vessels and so cause the fruit to set, without being obliged to plant some other variety yielding pollen sufficient to ensure fertilization.

The berries are larger than those of the Manchester, taking the season throughout, while some of the berries are larger than any of those borne by any other variety in Mr. Little's grounds, and Mr. Little has a very large number of varieties. In form they are "slightly elongated and ribbed, but never mis-shapen, somewhat resembling Cumberland Triumph." In color they are "not so bright as Manchester, but better than Cumberland Triumph," and in texture they are "firmer than Manchester."

The quality of the fruit is designated as "very good, sprightly, the very best for family use." Here again it is to be regretted that we have not some comparison with other varieties with the qualities of which we are familiar, yet the expression "*very best* for family use" would seem to indicate high quality.

The plant, Mr. Little says, is "one of the very best here, it is entirely free from burning in the sun, and from all

diseases, standing up strong and stocky, as if well able to do its great work of producing the very largest berries."

The Fruit Growers' Association expects that every one who received plants of the Ontario last spring will report through the *Canadian Horticulturist*, after they have fruited it, how far they find it to accord with the results given by Mr. Little.

NOTICE.

All communications and correspondence in connection with this journal are henceforth to be addressed

L. WOOLVERTON, M.A.,
Editor of the Canadian Horticulturist,
GRIMSBY, ONT.

THE HARDINESS OF BLACKBERRIES.

We learn from replies given to the *Minnesota Farmer* by fruit growers in Minnesota, Dakota and Wisconsin, that none of the Blackberries known to cultivators are hardy in that region, that unless they are protected in winter they are never profitable, not even those esteemed the most hardy with us, such as Snyder, Taylor or Stone's Hardy can be relied upon without protection. One gentleman who had tried to grow blackberries without protection says that he raised two crops of Kittatinny in ten years, and one of Snyder in three years. Most of those who had succeeded in raising crops of fruit recommended removing the earth from one side of the stalks, bending them over and covering with earth sufficient to hold the stalks in place, and doing this late in the season so as not not to injure the buds by too much moisture before the ground freezes. They also advise mulching the surface with manure. When protected in this way the Wilson and Lawton yield large crops.

QUESTION DRAWER.

THE GREEN GRAPE VINE SPHINX AND ITS PARASITE.

DEAR SIR,—With this I mail a caterpillar I found on a grape vine this evening covered with what appeared to be eggs. Never having met with one before, I send it that you may give us information concerning it, and as to what those eggs (?) are, how they came there, and for what purpose, and what will they produce, friend or foe to grape vine. I hope this will be in time for the October Number.

Yours truly, G. HALTEN.

Oakville, 7th Sept., 1886.

REPLY.—The caterpillar is known as the Green Grape Vine Sphinx, *Darapsa Migron.* You will find a full description of it in "Insects Injurious to Fruits," by Wm. Saunders, President of the Entomological Society of Ontario, a book that ought to be in the library of every fruit grower. It is a very common insect, and the most destructive grape-leaf eater we have. The little white oval substance covering the body of the caterpillar, which look like eggs, are the cocoons of a small two-winged parasite, a species of Ichneumon. This Ichneumon punctures the skin of the caterpillar, and lays its eggs in these punctures. From these eggs the larva, or worms, are hatched. These feed on the caterpillar, and, when full grown, eat through the skin and spin themselves up within these little white cocoons, from which, in a few days, the little Ichneumon flies emerge, soon ready to lay eggs in other like caterpillars. The catterpillar that has thus

been made a feeding-ground for these parasites soon after becomes shrivelled and dies.

PROPAGATING GRAPE VINES.

I have been trying to propagate grape vines from cuttings by instructions given in the October Number of the *Horticulturist* for 1884, but they did not root. Is there any other method by which I might get them to root? The cuttings were taken off in the fall, kept in the cellar till spring and then set out.

Yours truly,
W. J. PORTER.

Kemptville, Sept. 6, 1886.

REPLY.—Yes, there is another method, namely, by layering. Bend down in the spring a shoot of the previous summer's growth, and cover with earth sufficiently deep to keep the part that is covered always moist. Leave the end of the shoot to project out of the ground. When the leaves drop in the fall you find that the layer has sent out roots.

CORRESPONDENCE.

THE WINDSOR BEAN.

I have grown the Windsor Broad Bean on several occasions on my grounds, but with only partial success, barely the value in return paid for the seed. At first I attributed the cause to our hot summers, by producing abortive blossoms, which were abundant enough. On another occasion, with the usual result, I attributed the failure to the black aphis, which appeared on the tips of the stalk. Again, I tried pinching back and poisoning the aphis, but with only similar results. However, this past season I was more observant, and found but very few insects, save the aphis, approach the blossoms, our native wild bees preferring the blossoms of the clovers instead. The humming bird I often observed attacking the blossoms, and to it I attribute the few pods we find on the stems. This bean is botanically distinct from the China variety, which is a self-fertilizer. The Windsor variety is not, and depends upon the aid of insects. Our humble-bee cannot reach the nectaries of the blossoms; its probocis is not long enough. The same with our common honey bee, hence avoiding the blossoms. The European humble-bee is much larger, and better fitted for this purpose. The blossoms of other leguminous plants require insect aid in fertilization, as in the case of the red clover in New Zealand, which does not produce seed there. Acting upon the advice of scientists, the European humble-bee has been imported there, but the results which followed I have not been able to ascertain.

Yours truly,
SIMON ROY.

Berlin.

NEW STRAWBERRIES.

BY JOHN LITTLE, GRANTON, ONT.

MR. EDITOR,—With your permission I will tell you and the readers of the *Horticulturist* about some of my new friends, the last arrivals of the strawberry family.

They are not like some of the human family—you can say what you like about them and they will not tear your character to pieces, and if you will give them their needed supply it is wonderful the manifold return, though a silent one, they will give you for the attention given them.

I will be brief at this time, just mentioning their names in the order of their merit, as they have done here this season. The first are Ontario, Jewel, Gola, Deeve, Acorn, this last not fruited; these are Mr. P. M. Augur's seedlings. Next, a seedling from Ohio—shown at the June meeting

at Columbus—named Mrs. Cleveland. Summit, a new seedling of Matthew Crawford's; I have fruited it for three years; sixteen berries this season weighed one pound; no plants for sale. From T. T. Lyon Nos. 3, 5, 9, worthy of testing in Canada; Howell, as early as the Crescent and as large as Manchester; Emerald and Bancroft, the former early and the latter the latest of the late. These are only a few out of a number I give my full attention to with my raspberries.

BEES IN THE ORCHARD.

MR. EDITOR,—I notice a question asked in the *Canadian Horticulturist* headed, "Bees as Helpers in the Orchard." Now, sir, I have been keeping bees for twenty-four years—never been without them during that time. I also am a fruit-grower on a small scale. I have my bee yard located among my fruit trees. My pear trees are in my bee yard. I am never troubled with blight, and I grow the finest samples of pears I ever saw grown in the county of Lambton. I grow several sorts, such as Clapp's Favourite, Flemish Beauty, Bartlett, Sheldon, White Doyenne and Louise Bonne de Jersey. I have been in the habit of showing fruit at the agricultural fairs, and when I gather fruit to show I always find the finest samples in my bee yard.

There are a great many persons interested in keeping bees in the neighborhood of Arkona, and I have heard the remark made by apple buyers that they can buy handsomer samples of apples here than in any other part of Ontario.

THE VALUE OF THE HONEY BEE IN AGRICULTURE.—Honey and wax have ever been two most useful articles in domestic economy, and from the earliest times the honey bee has been the companion of man. What an addition to a farmer's house is a beehive nestling among the fruit trees, with its hundreds of busy inhabitants, some settling about the door or flying lightly above the roof, others darting off in quest of new supplies of food, and still others returning on labouring wings laden down with their baskets filled with crude pollen. What a scene of industry and system is bee life! The grand use in nature of the bee is the securing to the farmer or fruit-raiser a good crop and the permanence of the best varities of fruit. Gardeners have always known that bees fertilize squash, melons, cucumbers and flowers conveying the pollen from one plant to another, thus insuring, not only the complete fertilization of the seed by the pollen, and so improving the fruit, but actually causing the production of more squashes, melons and cucumbers by causing certain flowers to set that otherwise would have dropped to the ground sterile and useless. This has been proved by fertilizing the flowers by hand, a very large, indeed an unnaturally abundant crop being thus obtained.

It has been noticed by a few, though the many have not appreciated the fact, that fruit trees are more productive when a swarm of bees is placed among them; for when the bees have been removed by disease, or other means, the fruit crop has diminished. It is no longer a doubt that bees aid in the fertilization of flowers, thus preventing the occurrence of sterile flowers, and by more thoroughly fertilizing flowers already perfect render the production of sound and well developed fruit more sure.

Many botanists think if it were not for bees and other insects, such as certain two-winged flies, moths, wasps, etc., many plants would not fruit at all. What is the use in nature of honey? The best observer will tell you that it is secreted by the plant for the very purpose of attracting bees to the flowers, otherwise it is of no use to

the flower or fruit. Of more importance, however, is the improved management of our fruit trees. Here the interest of the horticulturist and the bee-keeper combine and run parallel. A judicious pruning of our fruit trees will cause them to blossom more freely and yield honey more plentifully.

From these facts we learn the value of the honey bee to agriculture. Blot them out and we must go almost entirely without fruit and vegetables, besides being a source of profit for their honey and wax. The bee actually brings to our doors loads of fruit and vegetables and other products of the farm.

My pear trees and grape vines were so laden with fruit last year as to lead me to make the remark that we would not have many next year. But I find I was under a mistake. They are so laden with fruit that I will be obliged to prop my pear trees to keep them from breaking down, and a handsomer sample of fruit you never saw. I am certain if fruit growers would introduce a few hives of bees among their fruit trees their fruit would be much improved.

Yours truly,

Arkona, Ont. GEORGE OTT.

REPORT OF FRUIT CROP IN BERLIN.

In small fruits, such as strawberries, currants, and raspberries, the supply from local sources in the immediate neighborhood has been fully equal to the demand, and fair remunerative prices have been realized. The almost total annihilation of the common sour cherry has given an impetus to this class of fruit as a substitute for preserving purposes.

In plums, the crop will be good, of such varieties as have passed through the fiery ordeal of epidemic, and I think that those varieties which have escaped will be planted again, having learned a lesson of wisdom from experience, viz., that purer and healthier varieties must be depended on.

Early apples of the Russian type are very abundant; and, although of only recent introduction, will in course of time become popular, especially in towns and cities near by; but being summer fruits, they will not bear distant transportation.

Our common fall apples are comparatively a failure, and very little cider will be made. The cold wave which passed over during the time of blossoming, and which was succeeded by three nights of only slight frost, did material damage.

Winter apples, of the more valuable class, will be scarce; the only exceptions I notice are the Baldwins and the Golden Russets, which carry their full quota. Northern Spies are sparse, and Rhode Island Greenings are comparatively few. In pears, the crop will be fully up to the average. Summer varieties, such as the Doyenne d' Ete and Rostiezer, bear heavily; and later varieties, such as Ananas d' Ete, Bartlett, Belle Lucrative, Clapp's Favorite, and Louise Bonne, carry their full bearable crop.

The geographical position of this (Waterloo) county not being favorable for the general culture of grapes and peaches, I have nothing to report on them.

Yours truly,

SIMON ROY.

Berlin, 17th April, 1886.

P.S.—I may state, in connection with the pear, that I have seen no blight on the trees this season.—S. R.

RUSSIAN APPLES.

We Canadians are not likely to take much stock in either Russian politics or in Russian civilization, as we imagine they are "not up with the times," but we must certainly accord to Russia the

credit of having ultimated a race of apples precisely suitable to our climate —being of a similar character—and we are always liberal to give credit to whom credit is due. Russian apples are of comparatively recent introduction (thanks to the Uuited States Bureau of Agriculture).

I have now in my collection six varieties, viz.:—Red Astrakhan,* Alexander, Duchess of Oldenburg, Tetofski, Grand Sultan and White Transparent, all of which are very satisfactory—hardy, healthy, prolific and abundant biennial bearers.

The Alexander takes well in the market from its large size and fine appearance. The Tetofski, although of recent introduction, takes well, and is highly prized for its fine flavor for culinary purposes, especially in making jelly, at least the ladies, who are the best judges in these matters, say so, thinking they are superior to the ordinary Czar for that purpose. The Duchess of Oldenburg is not behind, and, although rather acid, is nevertheless highly appreciated. Sugar is cheap (thanks to our Government). Mallic acid and sacharine form a fine healthy combination—all acid fruits being better fitted for preserves than sweet ones. The White Transparent, which the Fruit Growers' Association has very judiciously disseminated, will certainly be an acquisition, and will be a strong rival to some of the others of the same genera. The Grand Sultan I cannot say much of, having only a few specimens on the tree.

Yours truly,

SIMON ROY.

Berlin, Aug. 17, 1886.

* The Red Astrakhan, although called a Russian variety, was introduced into Britain in 1818 from Sweden, and may have no scientific or botanical connection with the Central Russian variety Pyrus Malus. The habit of the tree and the distinct character of the fruit being different would naturally place the origin of that apple to that locality, as no doubt all our other summer apples have their origin from the same place.

RASPBERRY NOTES.

BY T. C. ROBINSON, OWEN SOUND.

First to ripen this year came the *Hansell.* I consider it very valuable for market purposes. Like Highland Hardy it is not a vigorous grower, and in taste as well as appearance it resembles the common wild raspberry. Hence I do not expect it to be popular in the garden of the amateur. But the berry is of good size with me, as thick as Cuthbert, but not so long. The color is most beautiful. It tastes almost as good as Turner, and is very firm. The plant gives a good crop with fair manuring and cultivation, seems uncommonly hardy, and it is the earliest raspberry I have tested. I know of no other variety that comes up to this grade of excellence for early market, and have rooted out Highland Hardy in its favor.

Turner comes in less than a week after Hansell, and is preferable for home use for its sweetness, extra hardiness, and ability to thrive under neglect. But I doubt if it bears any more than Hansell, and the berries are far softer, unfitting it for a distant market. The canes are generally smooth, and very large and strong.

Superb is rejected here for poor color, poor quality and tendency to crumble.

Crimson Beauty is a nasty weed which I can scarcely speak of with patience. Soft, small, sour and unproductive. Few fence corner wild rasps but excel it.

Cuthbert stands easily as the king of the raspberry family on my grounds. Large, fine colored, firm, delicious and productive, it will be hard to beat. If it were only as hardy as Turner, I would expect nothing better in the next decade, but it is hardy enough to stand the most of our Owen Sound winters. It is quite late in season of ripening.

Marlboro' has borne a little fruit on one year plants. It does not seem as

early as Hansell, and the berries do not taste as good as Cuthbert. But they are large and firm, and most people would smack lips over them. The plant seems hardy also, but I am eager to hear from some Canadian who has tested it further.

Shaffer's Colossal (call it "*Shaffer*") has persistently worked its way to the position of a standard variety, and I predict it will stay there. I know I have no room for "Philadelphia," or any of the Philadelphia class, while I have Shaffer, for the berries are large, look as well, taste better, and the bush grows and bears I believe some fifty per cent. more. I think a plantation of Shaffer will, with ordinary treatment, yield double the crop of even the productive Cuthbert, and the plants seem of the very hardiest.

Franconia does not succeed well on my sandy loam, but I have seen it growing on the grounds of our worthy Reeve, Jno. Chisholm, Esq., yielding as large a crop as the best Philadelphia or Shaffer would with ordinary treatment. Mr. Chisholm gives his Franconia no winter protection, but his garden is well protected by houses, trees and high board fences. His soil is clay, and he keeps it full of manure.

Caroline still impresses me as of great value for family use, on account of its great productiveness, beauty and hardiness. The berries are of the color of Brinkle's Orange, and of good size, and I think it comes next to Shaffer in productiveness. Unfortunately the plants are not so healthy, suffering rather more from "curl leaf" than any other variety I have seen.

Rancocas appears to me just like Hansell, only not so good, smaller and softer.

Golden Queen has borne me some very fine fruit, enough to judge of the appearance and taste of the berry. It seems to me about the shape, size, and color of Brinkle's Orange, but the quality is not so good, tasting very like its parent Cuthbert. It seems fully as firm as Cuthbert, and the foliage is very like that noble variety also, but the cane is greener in color. It seems a grand grower, and is altogether very promising.

Black Caps I must leave for a future communication.

AN ACRE OF MUSHROOMS.

On a vacant plot of building land in the immediate neighborhood of the Harrow road, and within four miles of Charing Cross, is produced, annually, what is probably the most valuable crop grown in the open air and without the aid of glass, on any one acre of English soil. The space occupied is, indeed, rather more than an acre, the rent being just £12 a year, but the space devoted to mushrooms and manure is under an acre, and the uninitiated will be astonished to learn that from this small plot has been gathered in the last 12 months about 12,000 pounds' weight of mushrooms, all of which have been sold at Covent Garden at a price varying according to the season, but averaging 10*d.* a pound for the whole year. Now, the value of 12,000 pounds at 20 cents per pound is just $2,400. We have, therefore, the amazing circumstance that an acre of our metropolitan area has produced a richer garden crop than the coziest corner of Kent, or the most favored nook on Lord Sudeley's jam farm in Gloucestershire. For instance, a crop of 30 cwt per acre of hops is so great as to be of rare occurence. The average price obtained for hops is now about $15 per cwt. It is obvious, therefore, that the sum obtained for the produce of our London acre of mushrooms is more than five times as great as what would be obtained, in a particularly good year, for a first-rate crop of hops. The fol-

lowing are exceptional prices that have been realized per statute acre for other fruits and vegetables in recent years :—

Very early potatoes	$500
Onions	960
Early lettuces	500
Plums	500
Gooseberries	500
Strawberries	750
Black currants	840
Filberts	1,000

It will be observed that onions and filberts head the list, but the produce of an acre of mushrooms is worth more than double that of either onions or filberts.—*Pall Mall Gazette.*

THE SMOKE TREE.

Bless this dear old plant! If we were constrained to part with all our shrubs but one, we should hold on to the Smoke tree. It is easy as one looks at it from a little distance to fancy it a cloud tinted with the faintest rose and the faintest green blended together, or a mass of smoke such as may issue from a combination of colored fireworks. There is no shrub like it while in bloom. The delicate, downy inflorescence is not due to the flowers, which are quite inconspicuous, but to the feathery pedicels that elongate and so diffuse themselves as to conceal the leaves, while because of their delicacy we see only softly-blending colors that might well indeed be smoke or a cloud.

We have seen specimens of this little tree 20 feet in diameter—a mass of light, mossy green and purple or rose. Later, all this becomes gray, and its beauty is gone, though the later growth of leaves takes its place in a measure. One likes old-fashioned things that bring to mind the old homestead or the familiar country gardens of early days, and the Smoke tree, though among the choicest collections of plants of more recent times, seems like an old and tried friend among aristocratic strangers.

It has been said that this little tree, so distinct from all others, so oddly beautiful to those who see it for the first time, rejoices in a dry, warm soil. It is true. But it also thrives in heavy, moist soils. We have it in both positions, and it seems to prefer the latter. Its botanical name is *Rhus cotinus*, and is known familiarly as the Purple Fringe, Wig tree, and Venetian sumach, as well as the Smoke tree.—*Rural New-Yorker.*

FARMERS' ORCHARDS.

Read before the Farmers' Institute, by T. Beall, Esq., Lindsay.

While this south riding of Victoria is not supposed by its inhabitants to be generally favorable to the production of fruit, it is known that samples are often shown at our county exhibitions, and at the Mariposa fall shows, which would take first prizes at our provincial exhibitions. This is especially true of apples.

The prize lists of our county exhibitions show that these exhibits are not confined to any one locality, but are produced throughout the whole riding, from the southern, western and northern parts of Mariposa, the southern, northern and central portions of Ops, and in Verulam, along the southern shores of Sturgeon lake. It must not, however, be understood that apples can be profitably grown on every farm, although there are but few farms whereon sufficient soil may not be found to produce at least enough fruit for the family use.

The causes for the prevailing opinion that apples cannot be profitably grown here, notwithstanding the beautiful samples that are every year exhibited at our fairs, are not difficult to find, and indeed may all be summed up by one expression—lack of knowledge—as may be witnessed in too many orchards throughout the country, and proven by almost every act of the would be grower, from the time the trees are being con-

tracted for with the tree pedler until the last tree is dead.

In order that this statement may be better understood, I will endeavor to show what kind of knowledge is necessary to secure success. But first let me impress upon your minds this one fundamental fact, which becomes apparent to any one who has eyes to see and ears to hear. That the climate in this riding is eminently suitable to the health, growth and development of all the hardy varieties of apples. Let this fact be accepted, then the causes of failure will be much easier understood.

To the person about to plant an orchard, the first question for decision should be: Is the fruit I purpose growing intended for the use only of my own family; or am I going into the business of fruit growing as a commercial enterprise, *i.e.*, growing fruit for market? Let this question be well considered, and it will be seen that farmers' orchards generally are either too large or too small. Too large for the use of their family, and too small to deserve the necessary attention for profitable marketing. When a little more fruit is grown than the family requires, the balance is often wasted. Being too small to pay for marketing at the proper time, cattle, sheep and pigs are allowed to help themselves, and if a portion of the overplus be taken to market, the fruit is often in such bad condition that less—sometimes one-half less—than the proper marketing value is all that can be realized for it. I have seen two lots of apples of the same variety offered for sale on the same day in this town, one of which was sold at once at 80 cents per bushel; the other was with difficulty sold at 50 cents per bag. The lot which brought 80 cents per bushel had been carefully hand-picked, placed in baskets and taken to market in a good spring waggon. The other lot had been shaken from the trees, thrown into bags like so many potatoes, and then taken to town in a lumber waggon. Those at 80 cents paid a handsome profit, while the lot at 50 cents per bag were—not quite so profitable; the grower of which said he could not afford the time to handle these apples, as he was, at that time, too busy with farm work. That man's orchard was too large. The farmer who plants more fruit trees than is necessary for an abundant supply for his family, unless he be well versed in practical pomology, and is prepared to give the necessary time and attention to his orchard, will certainly find it, in most cases, an unprofitable speculation. Profitable orcharding is the result of judicious selection of varieties, intelligent cultivation and treatment, and timely and ample provision made for handling and marketing the fruit.

A few years ago, at a summer meeting of the Fruit Growers' Association of Ontario, during a season when summer apples had been a poor crop generally, and therefore had brought large prices, one gentleman stated that he had only about a half crop, yet he had sent several hundred barrels to Montreal, which brought him about $5.00 per barrel. That man's orchard is not too large, although it contains about 300 acres. Another man stated that he, too, had sent a few barrels of the same variety to Montreal a week or two later, and had received less than $2.00 per barrel. That man's orchard, although but a few acres in extent, was probably too large for him. The next question will naturally be: What varieties are you to plant? Now, don't go to nurserymen's catalogues for an answer to that question. Neither should you allow the ubiquitous tree-pedler to have one word to say on the subject, because as a rule these gentry know less about the matter than you

do yourselves. But, go to your nearest neighbors who have orchards, consult with them, and you will soon ascertain what varieties will suit your locality best, and just here let me add in large type: Don't get too many varieties. If you have decided to plant your orchard for your family's use only, two or three trees each of such varieties as may furnish you with a constant supply of fruit of the best quality from the beginning of August until the end of the following May, is all that is required; but, if for market purposes, then three or four varieties is all you should attempt to grow, let your orchard be ever so large; and these varieties should be selected, not for the quality of the fruit, but for its market value when ready for sale. Many of the poorest apples in quality are the most profitable to the grower.

Having determined on the varieties you intend planting, the next question in order will be: How to procure the trees. Well, the best way to get your trees is to send your order to some reliable nurseryman, and tell him to send the choicest trees he has of the varieties named; and depend upon it, you will get in this way the best possible value for your money.

Next; as to planting: Have the ground into which the trees are to be planted, in the highest state of cultivation. See that the planting is properly done. The soil neither too wet or too dry, but mellow and friable. Make the holes large enough so that every root may be fully extended, and deep enough, so that the tree may stand a little deeper in the soil than it stood in the nursery. Work the mellow soil around and between the roots with your fingers. When the hole is filled up level, tramp the earth down until it is firm; then cover the trodden earth with rich, loose soil to the depth of two or three inches.

Cultivation and after treatment:—

Corn is perhaps the best crop to grow in an orchard the first year, as it impoverishes the soil but little, and its tall growth shelters the stems of the young trees from the hot sun just when shelter is most needed. Root crops of any kind may be grown for the succeeding five or six years. Allow no weeds or grass to grow during this time under or around the trees; then no fear of girdling by mice need be entertained. All pruning during this time may be done with the finger and thumb; a small knife may occasionly be required. The operator should know the habits and peculiarities of growth of each variety he is working, and allow no shoot to grow where a limb may not be in future years. Have the trunks and limbs as far up as possible; wash once or twice each summer with an alkaline wash, and thereby greatly assist in increasing the health and vigor of the trees. This treatment also tends greatly towards keeping insect enemies in check. When the trees commence to bear and the effects of the Codlin moth feared, the tops of the trees should be sprayed with water in which Paris green has been mixed. This must be done when the blossoms are mature and just ready to fall, to be effectual. It will not do to say I am too busy with my seeding and will attend to the orchard in a day or two. To-day is the time; to-morrow may be too late. When the orchard is in good bearing condition all cropping should cease and grass may be grown which may be eaten by pigs or sheep or it may be mowed occasionally but never removed without supplying its equivalent in manure, in addition to a heavy top dressing of good manure every year The land when first reclaimed from the forest contains a bountiful accumulation of all that is necessary for the production of our various crops, but every

crop taken from the land makes the soil poorer to that extent. The honest man will therefore return to the soil every year an equivalent for the crop removed.

GOOSEBERRIES.

The *Rural New-Yorker* reports as follows :—

Triumph was received from George Achelis, of Westchester, Chester Co., Pa. It is a large berry, certainly; but it so mildews this season that a longer trial is necessary to make a report in other particulars.

Cayuga and *Industry*, the former from H. S. Anderson, Union Springs, N. Y., the latter from Ellwanger & Barry, Rochester, N. Y., have not as yet fruited.

Orange is from H. M. Engle of Marietta, Pa. "It is," he writes, "probably a seedling of the Houghton." This berry is with us of real value. It is one of the earliest to ripen, if not the earliest. It is of medium size, sweet and tender. The color is a dull yellow. Plant thrifty.

Imported Variety from H. Sumner, Polo, Ill. He imported it 10 years ago from England. The berries average of fair size. Some mildew and some do not. A longer trial is needed.

Dougal No 10, mildews badly.

Dougal No. 3, berries from medium to large—scarcely any mildew. Green when ripe. Ripens with Porter. Quality medium.

Dougals No. 2. Fruit of medium size and high quality, hairy. Color light green shaded with purple.

The Editor of the *Canadian Horticulturist* fruited the *Industry* this year and was much pleased with the size and quality of the fruit; when cooked the fruit was inviting to the eye, much more so than that of the green varieties, and of a rich and agreeable flavour. It has not yet suffered from mildew.

FOOD-HABITS OF BIRDS.

It is well known that certain birds are directly destructive to farm crops, causing a loss of many thousands of dollars each year, and that others are highly beneficial, preying upon mice and insects which are injurious to vegetation; but the extent and significance of these effects and their bearing on practical agriculture is little understood. Moreover, great difference of opinion exists, particularly among farmers, as to whether certain well-known species are on the whole beneficial or injurious; and many kinds which are really of great practical value are killed whenever opportunity offers. For example, hawks and owls are almost universally regarded as detrimental, while as a matter of fact most of them never touch poultry, but feed largely, and some almost exclusively, on mice and grasshoppers.

The wholesale slaughter of small birds has been known to be followed by serious increase of noxious insects; and invasions of insects which threatened to devastate large tracts of country have been cut nearly short by the timely services of some of our native birds.

In view of the above facts, and many others which might be cited, it is clear that a comprehensive, systematic investigation of the inter-relation of birds and agriculture should prove of value to farmers and horticulturists. Such an investigation has been undertaken by the newly-established Division of Economic Ornithology of the Department of Agriculture, and the assistance and co-operation of persons interested is earnestly solicited.

The food of all birds consists either of animal matter or vegetable matter or both, and its consumption must be serviceable or prejudicial to the interests of mankind. Therefore, according to the food they eat, all birds may be classed under one or two headings—

beneficial and injurious. Many species are both beneficial and injurious, and it is impossible to assign them to either category until the percentages of their food-elements have been positively determined and the sum of the good balanced against the sum of the evil.

In a very large proportion of our small birds the food varies considerably with the season, sometimes changing from vegetable to animal, or from injurious to beneficial. Furthermore, many birds feed their young upon substances which the adults rarely or never eat; and the young on leaving the nest sometimes greedily devour things which are discarded as they grow older. Hence it becomes necessary to ascertain the food of each species at different times of the year and at different ages.

Information is desired on all questions relating to this inquiry, and special attention is invited to the following:—

1. Has the common crow been observed to catch young chickens or to steal eggs?
2. Has it been observed to eat corn or other cereals in the field? If so, how long after planting, and how extensive was the injury done?
3. Has the crow been observed to feed upon injurious insects? If so, what kinds of insects were thus destroyed, and to what extent?
4. Has the crow blackbird or grakle been observed to carry off the young of the robin or of other small birds, or to destroy their eggs?
5. When breeding near the house, has it been observed to drive off small birds (such as robins, bluebirds, &c.) which had previously made their abode on the premises?
6. Has it been observed to eat corn or other cereals in the field? If so, how long after planting, and how extensive was the injury done?
7. Has the crow blackbird been observed to feed upon injurious insects? If so, what kinds of insects were thus destroyed, and to what extent?
8. What birds have been observed to feed upon or otherwise injure buds or foliage, and what plants or trees have been so injured?
9. What birds have been observed to feed extensively upon fruit? What kind or kinds of fruit have been most injured by each species, and how extensive have been the losses thus sustained?
10. The bobolink (rice-bird or May-bird of the Southern States) congregates in vast flocks during its migrations and commits extensive depredations in certain parts of the South. The division will be glad to receive detailed accounts of these depredations from persons living in the affected districts, to whom a special circular will be sent on application.
11. What birds are considered to be injurious to grain crops, and what kinds are regarded as beneficial? On what facts are these opinions based?
12. What birds have been observed to feed upon injurious insects, and upon what kind or kinds does each bird feed?
13. Do blackbirds (other than the crow blackbirds already mentioned) commit serious depredations in your vicinity? If so, which of the several species of blackbirds are concerned, and what crops are affected?
14. Has any kind of bird been observed to feed upon the honey-bee? If so, what species, and how extensive has been the injury done?

When possible, the exact date should be given of all occurrences reported.

Persons willing to aid in the collection of birds' stomachs will be furnished with the necessary blanks and instructions.

Special circulars on the English sparrow, and on the economic relations of mammals, will be furnished on application.—C. HART MERRIAM, *in Country Gentleman.*

A NEW ORNAMENTAL TREE.

The Japan Lilac, Syringa Japonica, has been raised from seed at the Harvard Arboretum, at Cambridge, Massachusetts. The seeds were planted in the spring of 1877, and some of the trees raised from them bloomed for the

first time last summer. These trees have already attained a height of fifteen feet or sixteen feet, with a straight, clean stem covered with thin, smooth, light-colored red bark, similar to that of a thrifty young cherry tree. The leaves are five or six inches in length, accuminate, wedge-shaped at the base, coriaceous. The flowers are small and white, and are borne in immense panicles, eighteen inches to two feet in length and three-fourths as broad. These panicles are borne in profusion, and the flowers open during the first week in July and remain in bloom a long time.

The tree is considered perfectly hardy here, and grows rapidly. What height it will attain is not certainly known. It promises to be a splendid ornamental tree for this country. The time of its blooming is later than that of most other trees and shrubs, and this feature gives it additional value.—*Vick's Magazine.*

THE DUCHESS OF OLDENBURG APPLE.

Were we writing for the orchardist, as distinct from the people, there would be little need of referring to this excellent Apple here, as its merits are widely known to the regular fruit growers. But a kind that is so universally esteemed by orchardists everywhere, and especially in the North and West, should be better known by the average amateur.

A leading merit of this fine Apple is its great hardiness – sufficiently accounted for by the fact that it is a Russian variety. Added to this, the tree is a strong grower, forming a roundish spreading head, and it is an excellent bearer. What would strike most people as a good characteristic of the tree, is, that it requires but little pruning at any time—much less than the average of orchard trees.

The fruit is from medium to large size, of a handsome, regular form, and is streaked, the ground color being yellow, with red streaks. The flesh, while not of the highest quality, is sufficiently pleasing to the taste to insure a ready sale for the fruit in market. It is a fine cooking apple. The flesh is a handsome yellowish white, juicy, slightly sub-acid. There is a faint blue bloom diffused over the fruit.

The subject of our article is an early autumn fruit, being at its best in September. Possessing, as it does, such a number of good points, it should find a place in the lists of all who set out apples in the northern belts of this fruit. In moderate proportion, it would rarely if ever disappoint the grower.—*Popular Gardening.*

GERANIUMS FOR WINTER BLOOMING.

We notice every year advice to amateur florists to use only young plants of geraniums for winter blooming. We have tried both young and old plants, and are in favor of old plants every time. A young plant—meaning by that a plant started in the spring—will not have many branches for the first year, consequently it will not have much blossoming surface. It may bloom well, but if many flowers are wanted you must depend on old, well-branched plants for them. Some plants will not bloom well after a certain age is passed, but the geranium will bloom for years, and as long as plants keep in a healthy condition I would not throw them aside for young ones, unless they become too large for the space allowed them. We have plants six and seven years old, and they give us a profusion of flowers every winter. One such plant is worth a dozen small ones.

In spring we put them out on the veranda and cut them back well; indeed, we cut off at least two-thirds of their branches, trimming them into as sym-

metrical a shape as possible. In a short time half a dozen new branches will start for every one cut off, and by fall we have compact, bushy plants, well furnished with blossoming points. We keep all buds picked off during the summer and do not encourage a vigorous growth. The aim is to keep them as nearly dormant as possible, and in order to accomplish this we give only enough water to keep the soil moist. A slow, healthy growth will result. In fall, before taking them into the house, we repot them, using a compost made of garden-mould, well-rotted manure and sand. The light-colored varieties seem to be the freest bloomers in winter.—*American Agriculturist.*

PEOPLE WHO LIVE IN TREES.

In thinly populated districts of Southern and Central Africa, where lions, leopards and hyenas abound, the natives live in huts like gigantic bee-hives, firmly fixed among the large branches of the Baobab tree. On the approach of night they ascend to their huts by means of rude ladders, while the lions roar about their camp-fires until the approach of day drives them to their lairs.

As many as thirty families have been found to occupy a single tree. In many instances natives who till the ground at any great distance from their tribe build these huts for nightly accommodation. In travelling through the country one frequently sees these trees alive with baboons and other kinds of the monkey tribe, busy in collecting the fruit and indulging in ceaseless gambols and chatter; for this reason it is commonly called the monkey-bread tree. When the tree is not occupied as a habitation, the hollow trunk serves the natives as a sepulchre for executed criminals—the law of the people denying them the right of burial—inside of which the bodies dry up, and to a great extent resemble mummies. To a European this tree is a marvel. Coming across one inhabited by monkeys, it is extremely dangerous to shoot any unless one is with a party, for if any are wounded the whole colony take up the battle, and more than once I found that a retreat in short order was necessary. —CAPT. PINTO, *in American Agriculturist.*

THE HUCKLEBERRY.

When Bartholomew Gosnold, in 1602, discovered wild grapes growing in great abundance in the swamps and low grounds on a little islet near the New England coast, he gave to it the name of Martin's Vineyard, no doubt believing that he had found the home of the wild grapes of the New World. But that little islet, now known as "Noman's Land," nor the larger island, which bears the name of Martha's Vineyard, are considered favorable locations for vineyards, although the wild grapes do grow all along the New England coast, and in swamps and low grounds throughout these United States. While it is true that the wild grapes of North America are found more abundantly in swamps and low grounds than on high and dry soils, still no vineyardist would think of planting a vineyard in a swamp, because long experience has shown that high, dry and well-drained soils are far preferrable for such purposes than those that are low and wet.

There is another very valuable native fruit, about which the same erroneous ideas exist that were for a long time held in regard to the indigenous grapes; it is our swamp high-bush huckleberry, or blueberry (*Vaccinium corymbosum*). It is found growing wild in the same localities and under the same conditions as the wild grape, not only in swamps, but also on high and dry soils. Because the plants are more abundant in swamps than on hills and in dry soils does not

prove that under cultivation low, wet soils would be the best. From my own experience with this species of the huckleberry, I would not choose low, wet soils in which to plant it for fruit, but in a sandy, or, at least, well-drained one. The plants thrive best in peat and the almost pure vegetable deposits of the swamps; also in the light, sandy soils, and even high up in the hills of New Jersey and adjoining States, in light, sandy soils, in which the running blackberries and five-finger plant have to struggle to obtain nutriment from the sterile soil. A plant that will grow and thrive—bearing a heavy crop of fruit in moderately favorable seasons—in such soils will certainly thrive under good cultivation, provided the soil is not a heavy, unctuous clay. I have had no experience in cultivating the huckleberry on clay soils; but in sand, or sandy loam, they may be grown almost as readily as currants or gooseberries.

The plants can be had in abundance from the open fields and swamps, and usually they can be lifted with good roots, and then by cutting away the older stems—leaving the younger and more thrifty—there is no difficulty whatever in making them live. The past spring I had occasion to move some plants of the high-bush huckleberry that were set out eighteen years ago. They were dug up, and with saw and hand-axe the stools were divided up and replanted, and all have lived and are now growing finely and even bearing fruit. I have dug up wild plants for my own use and for several of my correspondents and friends almost every season for the past twenty years or longer, and have not as yet discovered that the huckleberries of any of the species are at all difficult to make grow or thrive under cultivation. They may all be propagated by layers or seed; but the latter is a slow process, as the plants make little progress for the first few years, and we may save a decade or two by taking up the wild plants.

As there are several distinct natural varieties of the high-bush species, as well as of other species, it is well to mark the plants to be taken up when in leaf or fruit. The genuine or true *Vaccinium corymbosum* bears quite large, round berries, covered with a blue bloom; but there is a variety with oval fruit, jet black, without bloom, and another with globular berries also destitute of bloom. Of the dwarf, early blueberry *(V. Pennsylvanicum)*, common to high, dry and rather sterile soils, there are also several distinct natural varieties, one of which is an albino, the fruit being pure white and fully as transparent as the white grape currant.

In cultivating any of the huckleberries on sandy soils it is advantageous to keep them well mulched, thereby insuring an abundance of moisture at the roots, as well as preventing any baking and overheating of the surface soil. Under proper care and in rich soils the plants will grow far more rapidly and yield larger crops of fruit than when left to grow uncared for, as in their native habitats.—A. S. FULLER, *in American Agriculturist.*

HOW TO APPLY PARIS GREEN.

Not long ago I saw on Long Island what was to me a new way of applying Paris geeen. A farmer was riding a two-horse machine through his potato field, dropping the poison on four rows at a time and as fast as his team could walk. This work is usually performed by hand at great disadvantage. The poison is mixed with water and applied to a single row, of course—slow and heavy work. The poison is no doubt as effective when diluted with water as when mixed with dry powder. But the latter is most covenient, and I prefor cheap flour to plaster because it is

lighter. Each hill needs but a small quantity, and, of course, the mixing should be thoroughly done. In default of the horse machine the quickest method I know of is this: Get coarse cloth that will allow the mixture to sift through easily and make some bags of convenient size. Have a deposit of the mixture at each end of the rows and in the middle if they are long. Take a bag in each hand and shake it over the rows as fast as you can conveniently walk and the work will be done in half the usual time.—*Philadelphia Weekly Press.*

A NEW ENEMY TO THE APPLE TREE.

We have received several specimens of a minute beetle from U. L, Mowrey, Providence Co., R. I.. which he found boring into and through branches of his apple trees, It appears to be a hitherto unknown enemy of the apple, at least, we find no mention of its habits or food in entomological works. Its scientific name is *Xyleborus obesus*, and it was first described by the late Dr. John L. LeConte, in the "Transactions of the American Entomological Society," for 1868. Dr. Le Conte reported that this species had been found in Virginia, Massachusetts and Canada. The beetles are about one-eighth of an inch long, and rather stout, cylindrical, blackish-brown, aud clothed with long, soft, erect, pale colored hairs. Its antennæ are of a reddish brown, and the head, convex, coarsely, but not densely punctured. It is closely allied to the Pear Scolytus (*Scolytus pyri* of Peck), described in Harris' "Insects Injurious to Vegetation," but differs from it by its stouter form, and by the absence of the small, acute tubercles on the sloping tip of the elytra or wing-covers. This insect is likely to become a dangerous enemy of the apple and nearly related trees, and it would be well for orchardists throughout the country to be on the lookout for this pest, and all infested branches and twigs should be carefully cut off and burned, in order to destroy both larvæ and the mature insects.—*American Agriculturist.*

A DOZEN LILIES.

For a dozen good hardy varieties and species I would name the following, but will add that there are others equally desirable:—

Lilium auratum (Gold-striped or banded.—Flowers are very large, sometimes twelve inches broad; petals spotted with chocolate purple, and a broad gold-colored stripe down the centre of each petal. There are several varieties with a red stripe in place of the gold or yellow.

L. lancifolium album.—Pure white, not so large as the former, but showy.

L. lancifolium roseum.—Form and size of the last, but of a pale rose color spotted with purple.

L. longifeorum.—Flowers trumpet-shaped, six to eight inches long, pure white and very fragrant. Variety *Harrisi* has recently become very popular for forcing in winter.

L. browni.—A variety of species intermediate between *longifeorum* and *auratum*, with somewhat trumpet-shaped flowers, white within and chocolate color without.

L. chalcedonicum.—Brilliant scarlet. The petals are so much reflexed that the flowers appear like a round scarlet ball.

L. Leichtlinii.—A beautiful Japanese lily, growing two or three feet high, with long slender alternate leaves. The flowers are of a bright golden yellow, spotted with small oblong blotches of maroon brown.

L. candidum.—The common white lily of the gardens; and, although one of the oldest in cultivation, it is worthy of a place in every collection.

L. tigrinum fl. pl.—Very similar to the common tiger lily, but the flowers are double and more enduring than the single form.

L. superbum.—The common wild lily of our Northern States, but deserves a place in every garden on account of its stately growth and showy flowers.

L. Philadelphicum.—Another native species, seldom cultivated in this country, but highly valued abroad. Flowers bell-shaped and of a reddish orange. A low growing species, seldom more than two feet high.

L. nigrum.—A black lily of Kamtschatka. This is no doubt closely allied to our Superb lily, but the flowers are of a very dark purple color.—A. S. FULLER, *in Orchard and Garden.*

THE FLORIST'S TULIP.

The tulip is perhaps one of the most precious of flowers in the estimation of the florist, because of the extraordinary transformations through which it passes, as well as on account of its possession of other qualities of a not less fascinating character. One singular peculiarity of the Tulip is the extraordinary change which takes place when the seedling breeder "breaks," or, in other words, assumes its proper and permanent character. That a flower which, on its first blooming, from the seed, and probably for a series of years afterward, should (to take the case of a fine Byblœmen) present but one dull slate color with a circle of white at the base; that this flower, so unattractive in its appearance, should all at once, without any apparent cause, completely alter its nature; that the dull slate color should disappear entirely, giving place to a delicate feathering of rich purple or violet, while the pure white, which was confined to a narrow circle at the base, should spread all over and become the ground color of the petal; and that the latter and true character should be maintained during the whole of the after existence of the plant, is surely so remarkable a fact in vegetable physiology as to deserve at the hands of the scientific and practical botanist the closest investigation.

Many persons, though well acquainted with flowers, are unaware of the changes through which the seedling Tulip passes. It is four or five years before it flowers, then it takes on the self-colored or breeder form; but in the breeder state it is easy to class it with the Bizarres, Roses or Byblœmens, according as it may belong to either of these three divisions. Then, at the expiration of sometimes one or two years up to six or seven years, it breaks into its true character, and becomes what is termed "rectified." Why the Tulip should be an exception to the universal law observed in seedling flowers, and have an almost exceptionally intermediate state, passeth knowledge. The practical florist asks of the botanist the why and wherefore of this, and no reply is forthcoming.

It is said that in the whole range and history of plants there is no analogy to this phenomenon.—*Vick's Magazine.*

RELATION OF STOCK TO SCION.

My attention to this matter of what may be called "graft crossing," was awakened a great many years ago, when I was a boy, about the year 1838. I was then extremely fond of the Sops-of-Wine Apple, known also as Bell's Early. My grandfather had a large orchard, but no Sops-of-Wines, and at my urgent request he grafted scions of that variety into branches on half a dozen trees for my benefit. I watched these scions anxiously for fruit, and in three or four years they all bore. But I was greatly disappointed to find that this fruit, though externally appearing to be Sops-of-Wine, was hard, green-fleshed, and miserable to eat. There was but one

exception, and that was upon a Pound Sweet tree the others being upon Russets. This Pound Sweet graft bore very large, handsome and excellent Sops-of-Wines, but the rest were worthless.

Some thirteen years ago, I was speaking of this to the late Albert Noyes, of Bangor, Maine, who said he had had many similar experiences, especially in getting extra sized fruit for exhibition by grafting upon Alexander, all varieties seeming to grow larger and handsomer when so worked. But this size was got at the expense of quality.

A more curious matter still is, that by grafting "in and in" upon the same tree the change produced can be much intensified, By "in and in" grafting, I mean grafting a scion upon the limb of a tree, then next year taking a scion from the graft and grafting it into the same tree; next year take a scion from the second graft and insert it in the same tree. This may be repeated again and again, the result being that you will have all grades between the original fruit of the graft and the original fruit of the stock. To be quite successful there must be difference enough between the stock and first scion to start a change. But by "in-and-in" grafting the effect is often so marked from one year's graft to the next, and so on, as to make a positive demonstration of the actuality of this which I call "graft crossing."

R. Dibble, of Brantford, Conn., was the man who, in June, 1873, first called my attention to this method of intensification of the graft cross by grafting in and in. He wrote: "About forty years ago, my father had a large and thrifty apple tree that bore exceedingly sour fruit. I helped him graft a part of it from a very sweet apple standing near. The second year we grafted another part from the scions set the previous year. The third year we grafted the rest of the tree from the second setting. These grafts produced three different kinds of fruit, all differing from each of the original stocks. The first strongly resembled the sweet apple, but were only moderately sweet. The second were slightly striped, like the sour apple, and neither sweet nor sour, while the third were clearly striped, and a moderately sour apple." Mr. Dibble, adds, "No man can graft a Rhode Island Greening on a sweet apple stock and another from the same on a sour stock, and have the same fruit in appearence and taste as the original from each tree. To say the least, I have never been able to do it. I have a number of them, but no two are alike."—T. H. Hoskins, *in Vicks's Magazine.*

THE ERIE BLACKBERRY.

In the multiplication of varieties, the blackberry has not kept pace with the raspberry and strawberry; yet the last five or six years have witnessed the addition of some very valuable new sorts to a list which was, and is still, by no means very large. Among these kinds two deserve special mention: the Early Harvest, particularly for its extreme earliness, which gives it sole control of the markets far in advance of all other sorts, and Wilson Junior for its size and productiveness. Intermediate between these two, in regard to its season of ripening, stands the "Erie," named thus by Hon. Marshall P. Wilder in consideration of its place of origination, which is near Lake Erie, in northern Ohio.

We have good reason to believe that the Erie is the "coming blackberry," and will give to the fruit grower what has been looked for so long in vain—a variety with the iron-clad cane of the Snyder and the large fruit of the Lawton or Kittatinny. At Monmouth it has passed the last two winters without protection entirely unharmed, while all

other varieties, with the exception of Taylor's Prolific and Snyder, were more or less injured. In northern Ohio it has stood the test of 25 degrees below zero, coming out sound and full of life force to the very tip.

In vigour of growth the canes excel even the Snyder and Kittatinny. In size it equals the Lawton. The colour of its fruit is jet black and the quality excellent. But a very peculiar and valuable feature of the berry is its round form, which makes it seem still larger than it really is, and lends to a dish of the fruit a most attractive and appetizing appearance. There is little doubt that it must become a favourite in the markets.

The Erie has not yet been introduced to the general public, but will probably be offered for sale the coming fall.—*Orchard and Garden.*

A NEW MOLE-TRAP.

Whoever has a garden surrounded as mine, by old sod pastures, wherein the unfortunate proprietor has attempted for many a year to grow the bulbous plants over which the heart yearns with exceeding great desire—as dear to the heart as pleasant to the eye—will understand the feelings with which I saw, year after year, my first tulips, hyacinths and crocuses destroyed ruthlessly by moles.

Only by planting in deep, bottomless boxes or crockery were they at all safe. But these, after a time, would rot and crack with continued rains and freezing, and again was I left without protection.

Not only did my bulbs suffer, but my finest roses and lilies were ploughed under and rendered sick and useless, sometimes before I could discover the invasion. My newly-planted sweet corn, when just above the ground, would be left to stand green enough for a day or two, but grainless underneath, until soul and spirit were vexed and wroth over continuous planting. I bought a large, old-fashioned, wooden mole-trap of a farmer, home-made and clumsy, which did me no service, since I could not get the thing to work properly, and in the meantime the work of destruction still went on. I used to sit out hours sometimes, under an umbrella, watching for those blind rascals at work, and when I caught one his brains paid the penalty. I had tried field corn soaked in poison and put in the drain, but it was untouched. Then I wrote to a dealer, making arrangements for one of his famous mole-traps, when, lo, in desperation in the meantime, I again placed grains of corn soaked in a strong solution of arsenic in the runways, and succeeded. It seems that the mole has a sweet tooth in his head and prefers sweet corn to the more common field grains I had at first used.

I submit the preceding for the benefit of any who may, like myself, have a common cause of complaint. It has proved, since I first tried it, again and again successful in destroying them. The corn should be soaked over night in the poison, then placed in the runways.—H. K., *in Vick's Magazine.*

CURRANTS FOR HEALTH.

I shall not lay stress on the old, well-known uses to which this fruit is put, but I do think its value is but half appreciated. People rush around in July in search of health; let me recommend the currant cure. If any one is languid, depressed in spirits, inclined to headaches, and generally "out of sorts," let him finish his breakfast daily for a month with a dish of freshly-picked currants. He will soon almost doubt his own identity, and may even think that he is becoming a good man. He will be more gallant to his wife, kinder to his children, friendlier to his neighbors, and more open-handed to every good

cause. Work will soon seem play, and play fun. In brief, the truth of the ancient pun will be verified, that "the power to live a good life depends largely upon the *liver*." Out upon the nonsense of taking medicine and nostrums during the currant season! Let it be taught at the theological seminaries that the currant is "a means of grace." It is a corrective, and that is what average humanity most needs.—E. P. ROE, *in Harper's Magazine.*

WHAT ARE LENTILS?

The stores and markets of large cities offer a number of articles of food to meet the wants of their European customers, which are hardly known to, much less eaten by Americans in general. Among these articles is the Lentil, concerning which we have occasional inquiries. Lentils are the seeds of a plant of the Pea Family, the native country of which is not known with certainty. It was probably one of the first plants brought under cultivation, and is not now known in a truly wild state. The plant is mentioned in the books under the botanical names of *Ervum Lens*, and *Lens esculenta*, the latter being the name adopted by the best authorities. The plant is a slender annual, seldom over a foot and a half high; it has compound leaves, which are terminated by a tendril. The small, blue flowers grow two or three together at the end of a long stalk, and are succeeded by pods, containing from one to three seeds. The seeds are circular, with two convex surfaces; the optical glass having this form is called a *lens*, from the ancient Latin name for the Lentil. In color, the seeds usually are gray or drab, but this sometimes varies to brown, and there is a black variety. Lentils are raised in all warm countries, where they form an important article of food. In cultivation, a poor soil is preferred, as upon rich lands but few seeds and a heavy crop of foliage are produced. The various works upon foods rank Lentils among the most highly nutritious alimentary substances. Many years ago, there was introduced a food for invalids, with the high-sounding name of "Revalenta Arabica." It was found to be Lentil Meal, flavored with cocoa and other substances, and for a time was exceedingly popular. The common method of preparing them for food is to cook the seeds in soup or broth, until soft. In India, lentils are often added to rice, making a most nutritious diet. The lentils offered in our stores are imported, but there is no difficulty in raising them here, should there be a sufficient demand to warrant it.—DR. GEORGE THURBER *in American Agriculturist.*

SOME OF THE NEWER PELARGONIUMS.

Easily grown, beautiful and fragrant, it is no wonder that pelargoniums are favorites with the majority of flower lovers.

Annie Atkins is one of the most prominent of the newer varieties; it is very robust in habit, with fine, healthy, branching foliage, flower and trusses are very large, pearly-white tinged with pink. A desirable variety, for in-door culture especially.

Evangeline is another fine white variety, especially desirable for bedding; it is rather dwarfish in habit; the flowers are very large and pure white.

Harriet Thorpe is one of the best of modern introductions; its color and shading are so delicate that it seems almost so much out of place among its stronger-looking mates as would a La France rose among a lot of hollyhocks. Yet the variety is by no means tender. In color it is of the most delicate blush shaded with whitish pink; the edges of each are lined with a narrow edge of deep pink; the trusses are large and

well shaped. It is strongly branched and very compact in growth. The foliage is very fine and healthy.

Progression must not be omitted from the list of the fine varieties, for it is as near an approach to a yellow pelargonium as has yet been introduced. It is of a soft chrome-yellow shade, flower and trusses of good size and shape.

Excelsior is a noble variety, and one which we can highly recommend. It bears remarkably large flowers of pure scarlet, almost perfect in form; the habit of the flower is branching and compact.

The varieties named, while by no means all of the newer kinds, may at least be considered equal to any, and will repay trial. They are all double and of fine, healthy foliage. We can strongly commend them to our readers, and trust that many window gardens this winter will contain at least some of the kinds we have named.—*American Garden.*

SQUANTUM SUGAR CORN.

I should like to speak a good word for the Squantum Sugar Corn. Among the many novelties that are continually being introduced so many are worthless that often a good thing is catalogued for several years perhaps before its merits are generally known to the public. How much of a novelty the Squantum Corn is I cannot say, but it is not planted to any great extent in this section that I know of, and I notice that it is not generally catalogued by seedsmen, or, if it is, it does not appear under this name. I have planted this corn now for several years, and no other is acceptable on my table while it is in bearing. If it has any faults I have never discovered them. It is what I suppose would be called a second early, coming in after the Early Minnesota. The ears are about the same in size as the latter—perhaps a trifle larger—well filled with eight to twelve straight rows of pearly-white grains. It is exceedingly productive, bearing three and often four ears on a stalk, and remarkably sweet; in fact, the flavor is wherein it principally excels. What more a person wants I cannot see, and I know of nothing more delicious than a dish of this corn fresh from the garden. Some may prefer the larger ears of the Evergreen, Egyptian and Mammoth, but they are more fond of distending their jaws than I am. As long as corn is sold by the hundred, however, I suppose the larger eared, late varieties will gain the preference in the market, although, for my part, if I had to buy my corn, I would rather have the smaller ears of the Squantum, even at the same price per hundred. I have sent some of this corn to the grocers on several occasions each season, and it is the same old story every time—the customer sends back word that he wants some more of that kind of corn, and one even went so far as to say that he would have no other. It seems to me that if our farmers would pay more attention to quality sometimes and less to quantity it would pay them, at least in certain markets.—Wm. Hewitt, *in Rural New-Yorker.*

THE SPRINGFIELD BLACKCAP.

This new black raspberry is as yet but little known outside of Springfield, Mass., where it originated. The old bush was found, neglected, on J. W. Adams' place some years ago, and was rooted up and given away as of but little value. The variety was propagated, however, and later attention was called to it so strongly that others secured plants and have since propagated it as fast as possible. It is thornless, and by some has been considered identical with the old Davidson Thornless, but the characteristics of the variety belie this opinion. It is an exceedingly vigorous grower, hardy, a prolific bearer, and, being practically thornless, is easily picked

clean. The fruit is of good quality, but its great point is its early ripening. The Springfield Blackcap was ripe, on the farm of W. L. Chandler, on June 21, and three days later was in the market. Coming just at the close of the strawberry season, the fruit commands good prices and a quick sale, while ten days or two weeks later the red raspberries come in, and the market for blacks decrease. The Springfield is being quite largely grown by the few nurserymen who have been able to secure it, and promises to be a decided acquisition.—*Farm and Home.*

THE CLEMATIS IN FRUIT.

Several species of Clematis, after being ornamental in flower, again become so in fruit. After the flower falls, it is succeeded by a cluster of what are commonly called seeds, but they are little seed vessels, each containing a single seed. Each seed vessel is terminated by a sort of tail, an inch or more long, which, in some species, is plumed with long, whitish hairs, as seen in the Travelers' Joy *(Clematis vitalba)*, of England. Our native Travelers' Joy *(C. Virginiana)* excels this both in the size of its clusters of flowers and fruit, and in that of the individual fruits, as well as in their plumed character. This native species is very abundant, and climbs quite high. In summer, its clusters of white flowers are hung upon the shrubs of thickets, and are suspended from the branches of trees. In autumn, the flowers are replaced by clusters of fruits, which are so downy as to be even more conspicuous than they. When in fruit, this Clematis is often called "Old Man's Beard." The heavy-smelling Clematis *(C. graveolens)*, from Thibet, is a rampant grower, and its solitary flowers, of a greenish-yellow color, are not at all showy. The ornamental character of this plant commences after the flowers have disappeared. We have a vine of this which covers the end of a shed; during the past autumn it has borne such an abundance of large, plumed fruit-clusters, as to quite hide, not only the shed, but the foliage of the vine. This species is well worth growing for its beauty in autumn. We have, at times, advocated the planting of shrubs that have bright berries, for the sake of their autumnal effect; we may add to the shrubs several of the showy-fruited species of Clematis.—Dr. Geo. Thurber, in *American Agriculturist.*

EARHART EVERBEARING RASPBERRY.

The so-called everbearing raspberries have so uniformly proved shy bearers, and some neverbearers, that people have almost come to the conclusion that such a thing as an everbearing berry does not exist. Nor do we think that the Earhart is truly an everbearer; but that it produces one very full crop, and at least two others of almost equal abundance, there is no reasonable doubt.

Its first crop, which is claimed to be as abundant as that of any berry grown, is on the old wood, or that grown the previous year. It ripens about one week earlier than Mammoth Cluster, is of good size and of a bright shiny black—very handsome. Its later fruit is borne on wood of the current season's growth, and it really ripens two good after crops—one in August and the other in September, although it has more or less ripe fruit at all times after the middle of August. The leaves are extremely wrinkled or corrugated, and of such distinct shades of green as to be very ornamental.

This berry is an accidental seedling, found growing wild about 16 years ago by Mr. Earhart, in an open grove on his farm in the eastern part of Mason County, Ill. When found, in August or September, it was full of ripe berries.

Mr. E. broke off the canes and carried them to the house; but when subsequent search was made for the vine, it could not be found, and for two years it was forgotten. When it was again found in the Fall, loaded with fruit, it was transplanted the succeeding Spring to the garden, where, it is claimed, the original bush is still growing.—*Rural New-Yorker.*

STRIPED BUGS.

We have never known this pest so troublesome on squashes and other vines as they have been this season, and we have never before exterminated them with so little difficulty. We inspected our vines one morning and found them literally covered with bugs. On our approach they arose in swarms. We at once applied Paris green in solution, very weak; the next morning the only evidence of bugs was the dead that lay thickly around, and not a live one have we seen since.—*Ladies' Floral Cabinet.*

[We are surprised that our contemporary should speak of Paris green in *solution;* in our experience it is not dissolved. Then *very weak* is exceedingly indefinite, conveying but a dim idea of the proportion of Paris green used, say, in a gallon of water. To be of value to others we need to to have correct and definite statements.]

MYOSOTIDIUM NOBILE.

This striking herbaceous plant, introduced from the Chatham Islands, New Zealand, about thirty years ago, is worthy of extended cultivation. Several strong plants of it were shown by E. G. Loder, Esq., Floore, Weedon, at the meeting of the Royal Horticultural Society this year, creating much interest. To many persons it appeared to be quite a new plant, although so long introduced. The flowers are of a light blue color, with a broad margin of white, and show a tendency common to most members of the order, namely, to expand with a purplish tinge, and then gradually fade to blue, pink or white, as the case may be. The purple tint in this instance is confined to the five spots at the base, and alternating with the five lobes of the corolla. The great petioles are of much consistency and substance, the upper surface of the huge cordate glabrous leaves is light green, and the under surface is coated with a softish pubescence—characters found in some species of myosotis.—*Gardeners' Chronicle.*

MILDEW.

We hear many complaints of mildew this season, and as we think we have an infallible remedy, will give it as it may be beneficial to others. It is an old idea improved upon, or at least we think so, as we have had better success when the last ingredient has been added.

Take one pound sulphur, one pound slacked lime, three fourths of an ounce of carbolic acid, in two gallons of water and boil down to one gallon. Cork well, and set away for use. Use a 2½-inch pot full of the mixture to five gallons of water, and spray foliage well. Keep the ventilators down two or three hours after applications, as the fumes will be retained better. We use this preparation twice a week, not only as cure but as a preventive.—H. M. WHEELER, *in American Florist.*

PRUNUS TRIBOLA.

This beautiful shrub cannot be planted too freely. It is quite hardy, a vigorous grower, and blooms abundantly. It is one of the earliest shrubs to flower, and brings spring to us in her freshest garments. The flowers closely resemble those of the Flowering Almond. With a Spruce or Arbor Vitæ or some other evergreen for a background, it appears

to the best advantage, but it is a good shrub in almost any position, and either grouped with others or standing alone. It is an erect, handsome grower.—*Vick's Magazine for September.*

BOOKS, &c., RECEIVED.

Transactions and reports of the Fruit Growers' and International Show Society of Nova Scotia. Our brethren in Nova Scotia are earnest workers and intelligent students of economic pomology, as this very interesting report fully testifies. The paper on the rationale of manuring and pruning an apple orchard, by Henry Youle Hind, M.A., is one of the most suggestive articles that has appeared in a long time, and deserves the careful consideration of every orchardist. Mr. Kimball thinks that plum growing in Nova Scotia is more remunerative than orange growing in Florida.

Adelaide Jubilee, International Exhibition, South Australia, 1887, giving the classification, system of awards, regulations for exhibitors, &c. This exhibition is held in commemoration of the Semi-centennial of South Australia's colonial existence.

Report on Agricultural Colleges and Experimental Farm Stations, with suggestions relating to experimental agriculture in Canada, by Prof. William Saunders, F.R.S.C. A most exhaustive report of some eighty pages, containing a brief account of the agricultural colleges and experimental stations of the United States, of agricultural education and experimental work in Canada, of agricultural colleges, experimental stations and schools of horticulture and forestry in England, France, Germany, Belgium and other countries. It is to be hoped that the suggestions made by Prof. Saunders will receive the attention which their importance demands, and not be allowed to lie unheeded.

Fertilizers; where the materials come from, where to get them in the cheapest form, and how to compound them, by J. J. H. Gregory, A.M. This is one of the best essays on the subject of manure that has appeared for some time. It treats of potash, wood ashes, coal ashes, bones, superphosphate, &c., making our own fertilizers, where to obtain fertilizing material at lowest cost, &c., &c. Every farmer and horticulturist would be greatly benefited by a careful study of this pamplet of some 115 pages. We presume that copies can be had by addressing Mr. Gregory at Marblehead, Massachusetts, U. S. A. We do not know the price.

The Library Magazine, monthly part, September, 1886, published by John B. Alden, 393 Pearl street, New York, is filled with selections from reviews and magazines of the ablest papers on topics of interest.

Report of the Montreal Horticultural Society and Fruit Growers' Association of the Province of Quebec, E. J. Maxwell, Secretary. The paper on Hardy Fruits in Wurtemburg, by Chas. Gibb, Abbotsford, P.Q., and the Resume of Out-Door of Grape Culture in the Province of Quebec, by Wm. Mead Pattison, Clarenceville, P.Q., are exceedingly interesting. The paper by Mr. Auguste Dufruis, of L'Islet, on Plum Culture, together with that by Chas. Gibb on Plums for Cold Climates, give information of much value to residents in the colder parts of Ontario.

Report of the Entomologist, James Fletcher, F.R.S.C., 1885, is full of valuable instruction with regard to our noxious insects. But a broad-bladed knife is too tedious an instrument wherewith to combat the onion maggot where they are grown by the acre, and we trust that Mr. Fletcher will yet be able to discover some more expeditious method of combating this foe.

PRINTED AT THE STEAM PRESS ESTABLISHMENT OF THE COPP, CLARK COMPANY (LIMITED), TORONTO.