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ROSE LOUIS VAN HOUTTE!

THE
Canadian Horticulturist.

VOL. IX.]

AUGUST, 1886.

[No. 8.

SOME INSECT ENEMIES OF THE ROSE.

So many inquiries have been made recently for some efficient and available means of combating the common, yet at the same time very injurious insects that prey upon the rose, that we have thought it might be acceptable to our readers if we should devote some space to the consideration of the habits, appearance and ravages of these insects, at the same time giving such suggestions as we may be able to offer for their destruction.

The *Rose Slug* has been very abundant for several years, and judging from the pertinacity it manifests in the work of destroying the foliage of our roses year after year, we have little to hope for in the way of relief from the labors of its natural enemies. This insect is one of the Sawflies, is known to Entomologists by the name of *Selandria roseæ*, and is described by Harris as a small fly of a deep and shining black color, the body of which is in the male a little more than three twentieths of an inch long, and in the female about one-fifth of an inch, while the wings expand about two-fifths of an inch. They come out of the ground during the month of June, at various times, not all at once. The females do not

fly much, but may be found during the day resting on the rose leaves, and when touched they draw up their legs and fall to the ground. When about to lay their eggs they turn a little on one side, unsheath their saws, and thrust them obliquely into the skin of the leaf, depositing in each incision a single egg. The eggs hatch in from ten days to a fortnight, so that the young slugs can usually be found on the leaves about the twentieth of June. These have a round head with a black dot on each side of it, and eleven pairs of short legs. The upper surface of the body is green, paler on the sides, yellowish underneath, and the whole is soft, with a transparent, jelly-like appearance.

These slugs eat the upper surface of the leaves, leaving the veins and skin; thus giving the leaves a skeletonized appearance. When they are numerous, which has been the case now for several years, there will not be a green leaf remaining, and the whole rose-garden will look as if scorched by fire. When these slugs have attained their full growth they drop to the ground, burrow into the earth to the depth of an inch or so, form little cells in which

they pass the pupa stage, emerging again in the fly form to repeat their work of destruction.

In the summer of 1840, the Massachusetts Horticultural Society offered a premium of one hundred dollars for the most successful mode of destroying these slugs. Whale oil soap, in the proportion of two pounds of soap to fifteen gallons of water, sprinkled over the rose trees so as to wet the upper surface of the leaves as often as the slugs make their appearance, will be found effectual. The writer, however, prefers to use white hellebore, for the reason that a supply of this must needs be at hand to combat the Gooseberry Sawfly, and is equally destructive to this one when applied in the same manner. In using the hellebore it will be found advantageous to dissolve a little alum in the water, which will have the effect of making the hellebore adhere to the leaves. It is very important that the rose-grower be on the watch for this insect, and apply the hellebore or the whale-oil soap as soon as the slugs appear, for they work with great rapidity. Mr. Harris says that a second brood makes its appearance in August. We have not noticed this to be the case here, and we think that if the brood that works in the latter part of June and the beginning of July is thoroughly treated in the manner above mentioned, there will be nothing to fear from the August brood.

The Rose Leaf Hopper is a most provoking little pest, as agile as a flea, and as numerous as ever was the flea in Tiberias, where it is said that the king

of the fleas holds his court. And a cunning little fellow is he too, for when he sees you approaching from one direction he will hastily dodge off in the opposite, and if you press him too close he will take to himself wings and fly. Entomologists call this insect *Tettigonia rosea*. When it first appears it has no wings, is a small white creature, to be found on the underside of the rose leaves, with its proboscis thrust into the leaf, from which it is sucking the juice or sap. As they grow they cast their skins, which may be found adhering to the underside of the leaf, until arriving at maturity they are also supplied with wings. In the autumn they secrete themselves among fallen leaves or other rubbish, pass the winter in a dormant state, appear again the following summer, lay their eggs and perish. If they would only die before they laid their eggs; but then, they won't.

The remedies that have been found most efficacious are whale-oil soap, as recommended for the rose-slug, and tobacco-water. But in order that these may destroy the leaf hoppers, they should be applied when the insects are young. The gardener should be on the watch for them about the middle of June, this season they were abundant as early as the tenth of June. If allowed to grow they become at each successive moult more tough skinned, and less sensitive to the effects of the tobacco or the whale-oil soap. Poisons do not reach them, inasmuch as they do not feed on the substance of the leaf, but subsist by sucking out the juices, and in this way causing the leaf to turn

of a sickly whitish hue. It is only by the contact of the liquid with their bodies that they can be destroyed, hence it is necessary that it be thrown with a garden syringe upon the underside of the leaves. The late Geo. B. Ellwanger, in his most excellent treatise on the rose, says that he has found syringing the rose plants with pure water, and to wet the *underside* of the leaves, and then dusting on powdered white hellebore, will destroy or disperse them. We are at a loss to understand the reason of this, unless it be that, like some other creatures we wot of, they have a great aversion to pure cold water. The hellebore would not be likely to harm them. In preparing the tobacco-water some care must be used not to make the decoction so strong as to injure the leaves of the rose trees. If applied as soon as the young leaf hoppers appear, it need not be very strong of the tobacco. Senator Plumb, of Niagara, uses a light frame covered with cotton of sufficient size to enclose the rose bed, under which he burns tobacco slowly, so as to smoke out this troublesome leaf hopper and all other pests of every kind that prey upon the leaves.

The Green-fly or *Aphis* is sometimes very troublesome even upon rose bushes in the open air. They have been exceedingly abundant during the present summer. We presume that our readers are all familiar with this little green plant louse, which gives birth to living young lice, which in turn give birth to others, which thus go on multiplying in more than geometrical ratio all through the season. In the autumn

males are produced, and after pairing the females lay eggs, which remain over winter, and on the return of spring hatch only females. The natural enemy of these plant lice are the Lady-birds, which in the larva and imago state feed upon them. But they are not always on hand with sufficient promptitude, hence we are obliged to have recourse to tobacco-water or a solution of whale-oil soap to get rid of them. An occasional sprinkling with either will usually suffice to keep them in check.

The Rose Beetle, fortunately is not very generally diffused over the country. It seldom appears upon plants growing in clay soil, but seems to prefer light sandy soils. When they do appear it is usually in swarms, about the time the roses are in bloom, feeding not only upon the leaves, but also upon the flowers. The name given to this beetle by Entomologists is *Macrolactylus subspinosus*. It is a little more than a third of an inch in length, with long sprawling legs, and the joints of the feet armed with long claws. The general color is a yellowish grey. After they have been feeding about a month the males perish and the females enter the ground, lay their eggs, about thirty in number, which hatch in about three weeks, and feed upon such roots as they can find. Late in the autumn the larvæ descend to a considerable depth, it is supposed to be beyond reach of frost, but return towards the surface in the spring, and forming a little cell pass into the pupa state, from which, in June, the perfect beetle, or imago, emerges into the open air.

The best method of destroying them is that of gathering them by hand in the cool of the morning, at which time they are very sluggish, and putting them to death. Tobacco-water and whale-oil soap are of no avail in this contest, nor even white hellebore. Paris-green will kill them, but there may be danger in the use of this powerful poison in the rose-garden to those whom we would be most unwilling to harm.

These are some of the insect enemies of the rose, the most common in this climate and the most widely diffused. We trust our readers will be able to recognize them by the description given, and be able by the use of the means suggested, greatly to counteract their ravages.

LOUIS VAN HOUTTE ROSE.

We present our readers in this number with a colored illustration of what is considered by experienced Rosarians to be the finest crimson rose yet produced.

It was raised by Lacharme from seed of Charles Lefebvre, and sent out in 1869. It is usually of medium size, semi-globular in form, and highly perfumed. It is a very free bloomer. The plant is not quite as hardy in our climate as we might wish, but well repays the care needed to protect it from the severity of our winters.

EARLY TOMATOES.

Mr. Frank Evans picked the first ripe tomato in his garden, on the 5th July.—*Orillia Packet*.

TORONTO INDUSTRIAL FAIR.

We have received a copy of the Prize List for the next Industrial Fair, to be held at Toronto from the 6th to the 18th September. The book is very tastily gotten up, and contains cuts of different breeds of animals for which prizes are offered, and also views of the City of Toronto and its public buildings. Any of our readers desiring a copy can obtain the same by dropping a post card to Mr. Hill, the Secretary, at Toronto.

QUESTION DRAWER.

BARREN GRAPE VINES.

DEAR SIR,—I have three grape vines come from the seeds in my garden: strong, healthy, in their third year. Two of them threw out some blossoms last year, and this year are quite full, but on each time the blossoms all fall off, leaving no fruit. They break much earlier than any other kind in my garden; and if fruited would, through being earlier and abundant, be very acceptable. The other gives no evidence of fruit. Can you give me any information relative thereto? I would like to hear from you, or from any of the readers of the *Canadian Horticulturist*, whether I may look for grapes from them. The bunches,—that is, in blossom,—shape like the Concord.

Yours truly,

H. M. SWITZER.

Palermo, 21st June, 1886.

REPLY.—It is quite possible that the flowers are only pollen bearing, being without ovary and pistil. In other words, only male organs are present in the flowers, and therefore no fruit will ever form. A neighbor had some seed-

ling grape vines which for several years bloomed most profusely, shewing large and most magnificently formed clusters, but no fruit appeared. Happening to be in his garden one season when they were in bloom, the writer was shewn these beautiful clusters, and asked if he could tell why they failed to set fruit. An examination of the flowers revealed the fact that there were no fruit bearing organs present, that the ovary and pistil were not developed, hence that it was impossible that fruit should ever be borne by these plants.

SLUG SHOT AS AN INSECTICIDE, &c.

DEAR SIR,—(1.) Have you had any experience with slug shot as an insecticide for apples and plums; and is it as harmless as represented, and as effective as Paris green? (2) Will the Muscat Hamburg Grape ripen in a cold graperly? (3) Also please say how toad stools can be exterminated.

R.

Toronto, 23rd June, 1886.

REPLY.—(1.) We recently saw a report from a State Analyst to the effect that its usefulness as an insecticide was due to the arsenic therein. We have never used it. (2) In some seasons, but seldom full flavored. (3) Apply quick lime freely.

THE ROSE LEAF HOPPER.

DEAR SIR,—Have no cure for the little white insect that infests the rose bushes. I have tried everything, but so far without success. Could you refer me to any remedy: my roses are being killed out rapidly by the insects.

I am delighted with your *Canadian Horticulturist*. If, perhaps, had I at-

tended to its contents a little more carefully, I would not now be asking for information to destroy the lice on the rose tree leaf.

Sincerely yours,

J. HAMER GREENWOOD.

Whitby, Ont.

REPLY.—Please see article in this number on some insect enemies of the rose.

THE CABBAGE MAGGOT.

Is there any remedy for the maggot in the roots of cabbage plants early in spring? It does great havoc here. What would a cure be worth?

WM. FLEMING.

Owen Sound, June 30th, 1886.

REPLY.—This maggot is the larva of a fly resembling somewhat the common house fly, and is known to entomologists as *Anthomyia brassicae*. It is often very destructive to young cabbage plants, sometimes ruining the crop. Peter Henderson says that it is never troublesome in soils abounding in shell lime. If that be the case, it may be that a heavy dressing of lime from limestone would prove efficacious. English authorities advise the careful pulling up of all plants affected, and burning them so as to destroy the maggots in the plants, and the free use of quick lime applied to the spot whence they were taken to destroy any that might be in the ground. The writer has planted cabbage on the same piece of ground for several years in succession. In the two first seasons the fly was very troublesome. A dressing of wood ashes, and an abundant supply of stable

manure, have been the only applications made to the soil, and this year there has been no appearance of the fly. The probability is that the natural enemies of this insect have increased in sufficient numbers to keep it in check.

BLACK-KNOT.

1. Can the black-knot on the cherry tree be cured?

2. Are there any varieties not subject to black-knot?

W. T. WHITE.

Eglington.

REPLY.—1. We doubt if black-knot on either cherry or plum trees has been cured. The only remedy at present known is amputation as often as it appears.

2. We do not know whether there are any varieties that are exempt. We have not been troubled with black-knot on cherry trees, hence have not had any opportunity to see whether any varieties escape. Will our readers who have had experience on this point please to answer this question.

CURRANTS.

I send some currant leaves that have insects on them, and are turned red wherever these insects get on the leaves. What is the best remedy to use to destroy them and save the currants?

Yours truly,

W. C. ADAMS.

REPLY.—They are green fly. Give the currant bushes a syringing on the under side of the leaves with tobacco-water twice a week until you get rid of them.

CELERY.

DEAR SIR,—Kindly answer in next issue of *Horticulturist* the following questions:—

1. Do you think it necessary to have celery blanched before being stored for late winter use?

2. Would you describe a cheap root house for storing celery which you think would answer for this cold part of Ontario.

3. Would a root house made something about as follows answer: Ground excavated two feet below surface, then board two feet above, then on a frame six feet high twelve foot boards meet and slant down sides with windows, all of which is banked and covered with manure.

4. Describe the most approved method of keeping cabbage until late in spring, either in root house or outside.

By answering the above questions you will confer a great favor upon

Yours truly,

H. W. CAMPBELL.

Penetanguishene, Ont., June 8th, 1886.

REPLY.—1. It is not necessary that it should be blanched when stored. It will blanch afterwards.

2 & 3. Any house that will exclude frost and admit of ventilation when needed, and in which you can plant the celery close together and get at it as required, will do.

4. The usual method of keeping cabbage over winter outside, is that of a trench wide enough to hold two heads of cabbage abreast, placed in the trench with the roots up, and covered with earth in the form of a ridge. We have not had any experience of storing them in a cellar or root house, but in that case would plant the roots in the earth.

SMALL FRUITS.

Kindly inform me in next issue if convenient:—

1. Should I cut away the old wood from raspberry and blackberry bushes as soon as fruiting is over to enable the young wood to ripen.

2. Is it true that the first plant from strawberry runners will not bear fruit, and that the second must be allowed to grow for that purpose. I wish to grow some potted plants for setting out early, so they may get a good hold before winter.

3. I enclose you a leaf from a black currant bush. I have had a very promising crop of fruit almost totally destroyed by the pests which you will notice on the under side of the leaf, the leaves shrivel up, and then the fruit naturally follows suit. I have used a mixture of hellebore and sulphur, two parts sulphur to one of hellebore in a strong solution, but my bushes seemed to be worse after it. My crop for this year is gone, but can you tell me how to fight them another time. I have been told that a strong solution of soap, with a handful of salt to each gallon of water, is good, but I am afraid the salt may kill the bush. This is my first year in fruit raising, which may account for my ignorance on the above questions.

Yours, &c.,

C. H. DUNNING.

REPLY.—1. It is a good practice to cut out the old canes when the fruit has been all gathered.

2. We have no faith in that statement, but would take the first strong plant. Try it for yourself, and report to the *Canadian Horticulturist* next summer.

3. Your insects are aphides or green flies. Syringe with tobacco-water. The

hellebore will be of no use, they can not eat it.

BLACK APHIS—LADY BIRD.

DEAR SIR,—With this letter I send you, by parcel post, a package containing specimens of insects taken from a cherry tree and a black currant bush. Those from the cherry tree, small brown insects, have but lately appeared and are doing great damage. Would the kerosene emulsion be of any use against them? As for the insects from the black currants, I could not tell whether they were injurious or not, as the bushes had been badly injured by the green flies, before I observed them.

If they are injurious, please tell me of some remedy, and also one for the green fly. If this is too late for the July number of *Horticulturist*, please answer by mail. I have enclosed stamp for answer.

I remain, yours obediently,

JOHN S. WARREN.

Brooklyn, Ont., P.O. Box 5.

NOTE BY THE EDITOR.—The insects on the cherry leaves are the black aphid. They are unusually abundant this season over a very large extent of country. The remedy is an application of tobacco water with a garden syringe upon the underside of the leaves. Steep some tobacco in water until the liquid is of the color of strong coffee, and apply it abundantly every three or four days until the insects are killed. Those insects on the black currant leaves are the larvæ of one of the Lady-birds which feed on the green fly. Do not do them any harm, they are your friends; they are fattening on the green fly that has been so abundant on the leaves of your black currants this season.

CORRESPONDENCE.

GLASS PLUM.

The Glass Seedling Plum which I received from the Association was eaten down to the stump two seasons in succession, and afterwards made a strong growth of about four feet and was the only plum tree which stood the winter of 1880-81 with me out of about 104 of different varieties; it has since made a good growth, but has not yet borne any fruit. The Prentiss Grape and Fay Currant have both made a good growth

London, Ont.

E. RICE.

INSECTICIDES.

DEAR SIR,—I send you a paper containing an article on an insecticide called "Buhach." My reason for sending it is, that I had not before seen any reference to it in any of our horticultural publications. And if there is any better way of getting rid of insect pests than we now know of it would be an advantage to find it out. The insect pests seem to be unusually bad this year. The hellebore is effectual for the currant worm, but seems to have no effect on rose bushes. My neighbor, Mrs. Wade, says the aphid on her rose bushes seem to grow fat on it. The latter are very bad on my rose bushes, as well as the little white insect that lodges on the under side of the leaf. Latterly, I have been trying a weak solution of Paris Green and carbolic acid, but not long enough to know the result.

There is an insect powder sold by the druggists here at 10 cents per ounce (on enquiry, I was told a pound of it would cost me \$1), that is produced from some species of plant that is referred to in the article above mentioned. The druggist showed the description of it in the U. S. Dispensary, where it is called *Pyrethrum anacylis*, grown on

Mediterranean Coast of Europe, &c. That grown in California is called *Pyrethrum cinnerariaefolium*. It would be interesting to us outsiders to have this mentioned and discussed at some of the meetings of the F. G. A. I humbly suggest, and that is all I assume to do in thus bringing the matter to your notice.

I have been spraying my plum trees with Paris Green and carbolic acid. A teaspoonful of former and about two tablepoons of the latter (the carbolic acid is somewhere between the crude and refined), mixed in a pail of water, and sprayed on with a large syringe. I have only, on examination so far as I could reach, been able to find but one plum on each of three trees with the mark of the curculio on it. One of my trees is the Glass Plum, got from the Association some years ago. It is now a fine tree, some fifteen feet or so high, and spreading in proportion. It is loaded with fruit this year. It had not borne any the previous two years, but had a heavy crop in 1883; perhaps I allowed it then to bear too heavily. The fruit was very fine.

The frost nipped the young leaf buds of my Catalpa this spring, but it is now throwing out vigorous shoots. My dewberry, got this spring, is also shooting out nicely. Yours respectfully,

WM. DICKSON.

Parkhill, June 12th, 1886.

NOTE BY THE EDITOR.—The Green fly can be subdued by frequent syringings with tobacco water, say twice a week, until they disappear. White hellebore, buhach, Paris Green, and such like poisons, will have no effect on green fly, in as much as they can not be eaten by them, but the external application of tobacco water will kill them.

THE ABELE OR SILVER POPLAR—
NOT THE SILVER MAPLE.

DEAR SIR,—As requested, I forward a few leaves of the silver maple grown here. The first I knew planted was in front of the central school, it made enormous growth, a great spreading tree, and on account of the silvery appearance of the under side of the leaves and the glossy surface of the upper side it became a great favourite, but after a few years people found it a great nuisance, because it suckered so much. Those at the school are all destroyed. There was several trees of it also planted on the court house square (so-called), but I see they are trying to get rid of them also. We have the silver poplar as well.

W. HICK.

Goderich, 8th July, 1886.

We are under obligations to Mr. Hick for his kindness in complying with our request that he would send us some leaves of the tree known in his vicinity as the silver maple, but which had the bad habit of throwing up suckers from the roots. It is very much to be regretted that this poplar, for it is one of the varieties of the poplar known as Abele and Silver Poplar, should have come to be called silver maple. It is not a maple at all, of any variety. The silver maple, known to botanists as *Acer dasycarpum*, is a very fast growing tree, much used for road-side planting, the leaves of which are bright green above and silvery white beneath, but not coated with such a thick covering of white, downy material, too heavy to be called pubescence, as is found in this poplar. They are also more deeply cut and sharper pointed than those of the poplar. We were greatly surprised,

on reading Mr. Hick's previous communication, that the silver maple should be accused of throwing up suckers, and felt confident that there must be some mistake. We trust that he will do what he can to correct the impression that seems to have got abroad that this poplar is the silver maple. It is too bad that so useful a tree, one so hardy, so vigorous, so easily transplanted, so free from the fault of suckering, should have been confounded with the silver poplar.

The silver poplar which Mr. Hick mentions above as being also grown in his section, is doubtless another variety of silver poplar, possibly that known to botanists as *P. canescens*.

BEES AS HELPERS IN THE ORCHARD.

I would like to hear or read a discussion on the subject of whether an apiary, kept in the immediate vicinity of an orchard or fruit garden, produced any perceptible difference in the yield of fruit, in comparison to any other orchard or fruit garden not being in close proximity to where honey bees are kept, but having other equal natural advantages.

This question may appear to be ridiculous on the face of it, but I should think that it is important to ascertain.

We have much yet to learn of the secrets of nature, and what we have attained to is like a drop in the bucket, or the first step in the ladder.

The relations of the various kingdoms of nature to each other are but imperfectly understood. Goethe, the German poet, relative to the dawn of light entering into the human mind, illustrates it by the figure of a young man, with open book in hand, exclaims, as he sees the rising sun partially:

obscured by a passing cloud, "Licht mähler licht yets" (Light, more light yet).

This is precisely what we want as horticulturists.

Yours truly,
SIMON ROY.

Berlin, Ont.

[Will some of our readers please give the results of their observations.—
ED. CAN. HORT.]

A SCENTED CLIMBING ROSE.

Perhaps you will think me a critic, but I beg to differ from you in your statement in June Number *Horticulturist*, page 132, where you state that all of the Prairie Roses are scentless. The Baltimore Belle, one of those you named, has a lovely perfume. If I thought it would retain its scent I would send you some of them, as they are now in full bloom and beauty.

W. HICK.

Goderich, Ont.

We have been into the garden and gathered some roses of the Baltimore Belle. There is more perfume than we thought it had, and certainly it can not be called scentless.

FRUIT PROSPECTS NEAR GODERICH.

When I sent you my last I stated that we had a great show of blossom, but we had frost at the time the apple trees were in bloom, and I find the apple crop is very light, caused no doubt by the frost. The small fruits, as strawberries, raspberries, gooseberries and currants, are very plentiful, and a lot of cherries; but, dear me, the cherry birds or waxwing is swarming almost, so that it has been a job to get a few cherries to eat, and the Robins take their share too. From what I see the plums are not suffering so much from

the little turk this season as usual. We have had hot dry weather for some time, so that the land is much in want of rain.

Yours truly,

W. HICK.

Goderich, Ont.

ROSES—TWELVE GOOD VARIETIES, SOIL, INSECT ENEMIES, ETC.

Finding it impossible for me to attend the meeting of the Fruit Growers' Association in Lindsay, I will, here at home, make a few notes on No. 5 in the list of subjects for consideration. The subject given is, "Roses.—Name twelve varieties suitable for general cultivation, kind of soil most suitable, insect enemies, remedies." I presume the term "general cultivation" refers to out-door cultivation. The more experience I have with roses the more careful I become in passing judgment as to which are really the best. Three weeks ago everybody who came into my garden pronounced Baron de Bonstetten and Jean Liabaud to be the most beautiful of any, but the dry heat of the present time has sadly marred the beauty of these rich fleeting flowers, and less pretentious roses (which at the former time no one had a word of praise for), as General Washington, Annie Wood, Countess de Serenye, Francois Michelin, and other good stand-bys are now the noticed and admired ones. And I find that occasionally some of our best roses will not, for some cause or other, come up to their proper standard of excellence throughout a whole season. I would not like, therefore, to say, when such is the case, and when there is so many good roses to choose from, that the selection below is the very best that can be made, but it is a good one, and as good a one as I can think of just now. The list is,—
Louis Van Houtte, Baron de Bonstetten, General Jacqueminot, Alfred Col-

omb, Annie Wood, Anne de Diesbach, Francois Michelin, Paul Neyron, Victor Verdier, La France, Madam Noman, and Coquette des Alps.

Some of these, I know, have faults, and quite serious ones, as Louis Van Houtte, Paul Neyron, Victor Verdier, La France and Madam Noman are all quite tender, and then again Louis Van Houtte and Madam Noman are also very poor growers, and Victor Verdier is scentless, and General Jacqueminot is not full, but all of these roses with the failings I have mentioned, have also other wonderful points of excellence of such a nature that they could hardly be dispensed with in a garden in which only a dozen kinds of roses are grown. These are all old well tried kinds and in the order given pretty well cover the range of colors from very dark to white.

Now, as to soil. In the first place have it so drained, naturally or artificially, that water will not stand for any period of time, at any season, even at the depth of the lowest root, as standing water will invariably kill the roots of roses. I think that the reason so many roses put in such an apparently sickly existence and produce such poor flowers is that the deep roots which are the life of the plant have all been killed in the winter preceding, by standing water. Rose beds are generally so small that it is better to go to the trouble to prepare them properly in the first place. The best way to make a rose bed is (after temporarily removing the surface to afterwards replace it again on the top) to dig out the subsoil, removing it to the depth of eighteen inches or two feet, and then fill up with sods and a little manure. Sod cut on good loamy soil is the best if it can be had. Care should be taken that it does not contain any larva of the May beetle. This can be avoided by cutting the sod before the frost is fully out in the

spring. Although on heavy soils this cutting while the soil is wet (as it must be at that early season), tends somewhat to make the ground hard, I have found that filling with green sod and planting at once produces just as good results, as if the sod is already rotted, if there is sufficient friable soil on top to plant the young plants in.

As to insect enemies, I may say that I have never used anything but whale oil soap-suds and tobacco water applied with a syringe. These are, either of them, sure death to the thrip, and very aggravating if not quite death to the green fly. The thrip must receive its quietus at once when it makes its appearance, or else the plant is weakened and stunted and falls an easy prey to everything else that comes along. This season I have just syringed my bushes twice and now everybody asks, How do you keep your bushes so clear of insects? I reply that I don't do much but do it at the right time.

The rose thrip comes out of the bark of the rose early in spring, and when they make a move (which they do all at once), the rose shoots will look, when they are coming through the bark, as if covered with small white thorns.* At this time and for a week or two following is the time to thoroughly syringe the bushes. Most of the other rose pests deposit their eggs on the leaves about this time and soon after this, and my theory is that operating thoroughly at this time I not only destroy the thrip, but that the distasteful odor of the remedies used, prevent other insects from depositing their eggs in such numbers as they otherwise would.

Another reason for beginning early is that no one (even if it would destroy the insects as well) wants to be firing soap-suds and tobacco water into his roses when in full bloom. I would just

* NOTE.—This will be quite new to our Entomologists.

say here at the close, to any who would like to have roses and who are deterred from growing them on account of these insect bug-bears, that if you have already fought the Colorado Beetle with any measure of success, and if you will promise to take the same interest in your roses that you have already done in your potatoes you need have no fear of the result. F. MITCHELL.

Innerkip, July 8th.

BIDWELL STRAWBERRY.

DEAR SIR,—I have a Bidwell strawberry in my garden measuring six and one-half inches in circumference. Is that not very good for a Bidwell?

Yours truly, DR. A. HARKNESS.

Lancaster, June 28, 1886.

THE GREGG RASPBERRY AT PETERBOROUGH.

DEAR SIR,—Referring to your note in the July *Horticulturist* in reference to the Gregg black cap, I may say that after I have gathered what little fruit my Gregg's will bear this year, I shall dig them out. Though well sheltered and on well drained land they have winter-killed every season for four years, so as scarcely to yield anything. It is not more than a second quality berry anyway. Yours truly,

G. M. ROGER.

SOME HARDY SHRUBS.

DEAR SIR,—The dewberry is now doing finely and so is the Fay's Prolific Currant plant that I got last year; 1885 being my first year a subscriber to the *Canadian Horticulturist*. I like the *Horticulturist* very well and especially the Annual Report of F. G. A. of O. I have some plants that I think will prove hardy in most parts of Western Ontario. *Daphne Cneorum* comes out in spring completely covered with its sweet scented flowers and gives

a few in right along until the fall when it is again covered with flowers. The Variegated Weigela also does well and holds its colour good. The Double White Deutzia requires a slight protection, but it well repays a little extra care. The Yucca plant stands the cold very good and the *Hydrangea paniculata grandiflora* is quite hardy and a very rapid grower, but the Rose is my favorite. I have not a great many varieties yet; about twenty different varieties and some good seedlings.

J. M. W.

Fernhill, Middlesex Co.

THE PEWAUKEE APPLE.

It is, as I am informed, claimed for this variety of apple that it is a seedling of the Russian apple Duchess of Oldenburg, having its characteristics as to hardihood, being dubbed an iron-clad, and its bearing qualities, with the additional recommendation that it is a winter fruit.

Now, with regard to its two first qualities, I will not dispute, but to the latter I object upon a scientific reason, and that, too, most decidedly, as inconsistent with the laws of nature which are the laws of order and never deviate.

It is well-known by botanists that the Duchess of Oldenburg is a development of the wild crab, a variety indigenous to central Russia and ripens its fruit towards the close of the season in that country and would therefore be in our climate nothing else than a late summer variety, and its succeeding progeny precisely the same; this also being the case with all varieties from that country, and, as a rule, all are summer fruit and cannot possibly be otherwise. To produce a winter variety from any variety of Russian apple would require a special suspension of the laws of nature and this does not often occur in this degenerate age.

Our winter apples have emanated from an entirely distinct variety of *Pyrus Malus* or crab apple, indigenous to Asia Minor, the season in that country being longer would naturally make in our climate a winter fruit and their successive progeny the same. The principal reason why winter apple trees are as yet tender in this country even after centuries of acclimatization they yet hold fast to the original conditions under which they emanated.

Our fall apples have no doubt their origin from the natural wild crab of western Europe, another distinct variety, and subject to the same natural influences and geographical conditions as the preceding, and are better fitted for our climate than the winter. I can easily understand that a late fall apple may emanate from the fertilization of any of the Russian apples with winter varieties as producing a medium or late fall fruit, but not a distinct winter fruit.

I will not go the length in stating that the party who put the Pewaukee under the auspices of the Duchess of Oldenburg as a winter fruit did this knowingly, but he is undoubtedly mistaken.

I am yours truly,
SIMON ROY.

ORCHIDS.

SIR,—I am glad you are giving some attention to that beautiful class of the Orchid family, the *Cypripedium*. I think if florists gave as much attention to these as to some less beautiful foreign plants, they could be made to overcome any difficulty of culture that may at present exist, not that they could be made more beautiful for they are all that could be desired in that direction, its season of bloom might be extended, and if it were possible for you to have a coloured plate prepared of these lovely flowers for the front of the *Horticulturist* it would do much to awaken an interest in that

direction. I give my experience with some of these plants which is encouraging to myself at least, and I hope it may be so to others. I see a reference to these plants under the caption of Moccasin Flower in the June number, page 133. in which they are said to be difficult of culture. I took one from its native bed in a tamarac and cedar swamp, Oakland Township, Brant Co., with a piece of sod adhering to it containing ferns and other plants, this was *Cypripedium spectabile*, the large white and purple lady slipper. I planted it in a shady spot in the garden in rich soil; I stuck a few cedar boughs around it and watered it the first season, allowing the ferns to grow around it as before and kept the ground around well hoed. I kept a look out for them to make their appearance next spring when I discovered a small plant two weeks earlier come out of the clump whose roots had been heretofore unnoticed in the sod, this proved to be *Cypripedium parviflorum*, the fragrant yellow slipper plant. I at once made another search in said swamp and found them in full bloom, this was about the end of May whilst the *Cypripedium spectabile* had only sent up long shoots, it blooms June 22nd. I also found *Cypripedium acaule*, the pink or stemless lady slipper, this on higher land, more shady, black leaf mould, I planted them the same as before and they increased in size and beauty, and drew fourth exclamations of praise from those who saw them for three years, except the pink one, which disappeared and never came up in the spring. Last fall I took up a plant of each and packed them with my Dahlias and other plants and brought them to the State of Delaware, and after being in the case for over two weeks I set them out hurriedly, intending to have them moved to a more suitable location, but they remained and bloomed

nicely nearly a month earlier in the open ground in dry sand without water or shade, they were shorter in the stems and the flowers got a little burnt with the sun. I am trying another of the pink ones, *Cypripedium acaule*, which I found here in the woods. I lost the cardinal flower, which I grew about the same length of time, in moving. I intend giving them a suitable location this fall but they seem to stand as much hardship as most plants taken up when in bloom, but their great beauty amply repays for any little trouble. I have planted a number of the different honeysuckles found here, and the magnolias that have been in bloom for more than a month.

SAMUEL HUNTER.

Hartly, Delaware, U.S., June 22, 1886.

GOLDEN QUEEN RASPBERRY.

Mr. Lovett writes as follows concerning this new raspberry:—

DEAR SIR,—Wish you could come and see Golden Queen Raspberry, now ripening. It goes way ahead of all things raspberry that I have seen. Larger than Shaffer's Colossal; as productive, and almost, or quite, as strong a grower. As beautiful as a May morning, and the flavor simply grand. Think it will keep in good shape for nearly a week yet.

Yours truly,

JNO. T. LOVETT.

This raspberry was found in a twelve acre block of Cuthbert in 1882. Mr. Lovett says that in flavor it rivals the high quality of Brinckle's Orange; that the color is a bright, creamy yellow; in size equal to the Cuthbert, and likewise in vigor of plant and productiveness, and that in hardiness it has no superior. It ripens at the same time as the Cuthbert.

THE PLUM CURCULIO.

BY B. GOTT.

The following item will serve to show the character of much of the teaching given by superficial experimenters:—

"There is no use in trying to poison the curculio by spraying plum trees with water containing Paris green or London purple. The little pest, which makes its crescent-shaped incisions in the plum, does not do it by eating in, but only *stings* the fruit. As it never eats in its perfect form, no poison can affect it. But if sheets are spread under the trees and the latter jarred, the curculio will drop off and can be easily caught and destroyed."

It may be true that there can be but very little urged against the practice of jarring the trees to capture the plum curculio, save that people, as a general thing, will not do it so as to be successful. In the first place they do not understand the time to jar, and so much of the mischief is done before they are aware that anything is the matter with their plums. Again, they will not practice jarring sufficiently frequent to save their plums. They may perhaps try this jarring once or twice sometime during the early stages of the fruit, and when the last plum has fallen off they are taken with a sudden fit of wonder at the mysterious providence that has not left them a tasting sample, notwithstanding their great effort to save them. Jarring, to be really serviceable, must be commenced as early as the fruit is set, and be closely followed up every day, or even twice a day, for at least three or four weeks, or as long as another curculio can be captured. This involves work, but nothing less than this is the price of plums.

To say that there is no use in spraying the trees with Paris green is not, according to my experience this summer, strictly true. I concluded to try it to find out how it would work. The

curculios, just after the blossoms were nicely off, were busily working in great numbers, and with a doggish perseverance. We got our spraying pump, and in a pail of water placed about a small tablespoonful of Paris green, and by rapid motion with a stick mixed the powder completely into the water, and proceeded to force the mixture on to the leaves and the fruit in liberal quantities, until the trees were pretty well besprinkled and bedewed in every part. The result was the insects were at once deterred in their work of biting the plums and laying their eggs in them. It seemed to stop them almost immediately. The philosophy of this may be apparent from the following considerations:—First, it is clear that the curculios do eat or bite the plums, and so may get some of the poisons applied into their systems while at work providing positions for egg-laying under the lip formed by their mandibles or pinchers. But secondly, it may be possible, and quite probable, that that indescribable something which we call instinct in insects, and which sufficiently guides them to the selection of those positions which will be safe and supporting to their young, and which also leads them to avoid those positions or influences which might be dangerous or deathly to their young, operated upon them at that moment and caused them either to leave the place at once or to stop their work of egg-laying in that position for the present. To make the thing comparatively sure we again applied another dose in about two weeks from the first, and the result is, we think we have the crop safe, and the great majority of the plums are now growing nicely and appearing very promising. The danger of poisoning from the use of plums so treated is entirely obviated by the frequent rains between the season of treatment and the time of using.

Arkona, Ont.

REPORTS ON PLANTS RECEIVED.

DEAR SIR,—You will think perhaps that it is for want of interest in the Fruit Growers' Association that I have not acknowledged receipt of premiums, &c., but such is not the case, I value too highly your publication not to appreciate it, and I am too fond of fruit growing and horticulture not to appreciate your endeavours to place in the members' hands the newest and most reliable species of fruit and the choicest of shrubs and flowers. But to my report.

The Fay's Prolific I received last season made a magnificent growth and this year has a good sample of fruit and I am greatly pleased with it, and think it is the finest red currant I have ever fruited. The Lucretia Dewberry has not yet shown life, but the one which I got from an agent has thrown a few sprouts and I think it is all right, as also the Leib cherry and Schuyler Gage plum which have both shown good signs of vigor.

I have two shrubs in my front garden which I purchased years ago and had them flower successfully in Elora and on my removal to this place about five years ago I brought them with me and one, the Deutzia Crenata, had one spike of flowers last season and although it has more on this season it does not seem to be vigorous. The other, Wigela rosea, has never bloomed yet although it appears healthy, of course they suffer more or less from frost, and the climate of this country is not suitable, and as I have never seen it reported on from this section I would like information on the subject as it is a desirable shrub. I wish to ask also if the Hydrangea paniculata grandiflora is hardy enough for this locality, if so, give particulars as to time to set out, &c., and oblige.

Now that I have made a start I will try and have a talk with you more frequently to help promote the interests

of the *Horticulturist* and the society of which I feel proud of being a member. Wishing you every success.

I am yours truly,

J. GORDON.

Flesherton, Co. Grey, June 8, 1886.

NOTE.—We believe that *Hydrangea paniculata grandiflora* is hardy enough to endure your climate. Plant it in the spring.

Although I have been a member of the F. G. A. for some six or seven years, I have not yet sent my experience of plants received; partly because owing to removals I have lost track of some of the plants. The Wealthy apple and Moore's grape, I believe, have done well. The Worden and Prentiss vines are both dead, owing, I think, partly to insufficient protection, and partly because the place I am living on was new, unbroken ground, and the soil was not in fit condition. The Fay's Prolific currant, received last year, was broken when I got it; it rallied for a time, but is now dead. The Yellow Transparent apple, received this year, is doing well. I put out a few more Fay's Prolific last year, at the same time, and side by side with the premium one. They are all doing well, and some of them bearing. I am very pleased with the size of the currants; they are very large, and fine bunches. I also set out a few Ruby Castle; these are also doing well, but the fruit is not so large as Fay's. At the same time, I planted a few Houghton Seedling gooseberries; they are growing well, and bearing good sized fruit. Two of the Large Golden Prolific, the new wild gooseberry which has been puffed so, and for which I paid one dollar a bush, are nowhere as yet; they are alive, but keep very stunted, and bore a few poor miserable berries, which nearly all dropped off; one Houghton is worth

half-a-dozen of them. I planted six or seven *Catalpa speciosa* two years ago; they are doing pretty well, but the first winter the young wood was killed to the snow, and last winter some of them were, but not all. Your correspondent, "R. L.", on page 76, April number, complains of the present system of conducting the *Horticulturist*, the columns being open to all to give their experience in the various branches of horticulture. I must say I cannot agree with him. I think this feature is one of the most valuable in connection with the Association. I believe I can gather more useful information regarding what to plant, from correspondents living in Simcoe county or Muskoka, than you, sir, could give me from St. Catharines. With best wishes for the future success of the Association,

Yours truly,

J. J. R.

Penetanguishene, Simcoe Co.

PROCEEDINGS OF THE FRUIT AND VEGETABLE GROWERS ASSOCIATION OF THE UNITED STATES.

The Fruit and Vegetable Growers Association of the United States met at the Neil House, Columbus, Ohio, June 17, 1886. The meeting was one of unusual interest. The various papers read all embodied deep thought and research. The most interesting discussions were on the value and use of fruits, and regarding the best methods of preparing fruit for market and preserving it for family use. The opinion seemed prevalent that evaporated fruit was bound to obtain and hold the highest position in public favor. Not only is evaporated fruit superior in appearance, in flavor, in healthfulness and in keeping properties, but it commands a much higher price; ordinary dried apples are worth from two to two and a half cents per pound, evaporated apples from eight to ten cents. Com-

mon dried peaches are worth from three to five cents, evaporated from eighteen to twenty-two cents. Ezra Arnold, the Illinois fruit grower, presented drawings and specifications of a cheap evaporator made and used by himself with which he has had better success than with the more expensive dry houses and evaporators. He evaporated apples in two hours, strawberries in three hours, peaches in two hours, cherries in two hours, corn in two hours, and all kinds of fruits proportionately quick. The evaporator is a marvel of simplicity and excellence, and can be made by any one at a very trifling cost. By its use millions of dollars can be saved the producer and consumer each year. There are thousands of families that dry large quantities of fruit annually in the old fashioned slow way, and sell it at the old fashioned low price, when they could with but little expense make an evaporator and evaporate five times as much fruit and sell it for five times as much per pound. There are thousands of families in the cities that can at times, when the market is glutted, buy fruit for less than the cost of production, and with an evaporator can prepare in a few days sufficient fruit for a year's consumption, and at one tenth the usual expenditure. Mr. Arnold said he did not intend to make or sell evaporators, and would consign to the Association his right and title to his evaporators, provided the Association would procure cuts to illustrate the different parts and distribute gratuitously among the farmers, fruit raisers and consumers of the United States complete illustrated directions for making and using this evaporator. On motion Mr. Arnold's proposition was accepted, and the following resolution adopted:

Resolved, That the Secretary of the Fruit and Vegetable Growers Association be authorized to inform the people through the leading newspapers in each

State, that illustrated directions for making and using Arnold's fruit evaporator can be obtained by addressing our Secretary, W. Orlando Smith, P.O. Box 104, Alliance, Ohio; enclosing stamps for return postage, and that the Secretary draw on the Treasurer for the necessary amount to defray expense of wood cuts, printing, etc. On motion a vote of thanks was tendered Mr. Arnold for his valuable gift to the Association. —W. ORLANDO SMITH, *Secretary*.

Since receiving the foregoing we learn from the *Country Gentleman* that the whole affair is a swindle. This is what the *Country Gentleman* says:—

A CURIOUS PLAN OF SWINDLING.—Some little time ago we received, in common we suppose with most of our contemporaries, the following note, under the letter head of the "Fruit and Vegetable Growers' Association of the United States," bearing a long list of officers and directors:

ALLIANCE, OHIO, June 19, 1886.

MR. EDITOR.—I enclose a notice of the proceedings of the Fruit and Vegetable Growers' Association of the United States at Columbus, Ohio, June 17, 1886. Please publish it, and make such comments as you may deem proper to impress the importance of this subject on the minds of the people. Truly yours,

W. ORLANDO SMITH, *Secretary*.

Knowing of no such association, and observing the suspicious character of the so-called proceedings, we gave the subject no further attention. But one of the editors of the *Evening Times* of this city had the curiosity to apply for further information, and we give below his statement of the result in slightly condensed form:

Enclosed was a fac simile newspaper proof, purporting to be a report of a meeting of the above named association at the above time and place. The whole "proceedings" consisted of evaporated apples. "Ezra Arnold, the Illinois fruit-grower," presented a drawing and specifications "of a cheap evaporator made and used by himself, with which he has had better success than with the most expensive dry-house and evaporators," &c., &c. He generously "assigned his right and title" in the evaporator to the association,

"provided that they would distribute gratuitously among the farmers and fruit-raisers of the United States, complete illustrated directions for making the evaporator." The "valuable gift" was accepted with thanks, and it was resolved that the public be informed through the newspapers, that for enclosed stamps the above W. Orlando would send the before-mentioned plans and specifications, free-for-nothing. We wrote to W. Orlando and enclosed a stamp. In return, we received a small printed circular containing "specifications and diagrams of the Arnold evaporator," which the circular said "will enable you to intelligently make and use it: and the probable cost will be from \$12 to \$15 for a machine of 40 pounds capacity." The specifications, on the principle of *similia similibus curantur*, would work miracles in the Utica asylum. But fortunately there was a way out indicated by the "nigger in de meal." This was another circular by W. Orlando, saying:

"Since our meeting and publication of the specifications and diagram of the Arnold evaporator, there has been laid before our committee an evaporator made at Newark, O., made by the Common Sense Evaporator Co., which we find upon thorough examination, far superior to the Arnold, because it will evaporate quicker, do it better, and only costs \$7 delivered to your nearest R. R. station, all expenses paid, which is only about half the cost to make the Arnold."

Thank you Mr Orlando, we think we will not invest to-day. We will stick to the old-fashioned dried apples until December, when if we happen to be at the Southern Hotel in St. Louis, at ten o'clock in the morning, we will look in and see if there are any greenhorns there who have tried the "Common Sense." Meanwhile we commend Mr. W. Orlando to the attention of the Post-Office Department.

PEARS AND BLOSSOMS AT THE SAME TIME.

Mr. F. Kean's garden contains a natural curiosity, in the shape of a pear tree on which can be seen at the present time, on one side pears fully formed larger than eggs, and on the other side blossoms still in full bloom. It is not a graft, either.—*Orillia Packet*.

[This is not a very uncommon proceeding on the part of some pear trees, nor

are we aware that the fact that it is or is not a graft has anything to do with the performance.—ED. CAN. HORT.]

THE CODLIN MOTH AND BARK LOUSE.

CODLIN MOTH (*Carpocapsa pomonella*, Linn.)—This insect, though so well known as a larva—the "apple worm"—is not familiar even to our wisest fruit growers in its mature or moth state.

In May, about two weeks after the blossoms appear, the female moth commences to lay eggs in the calyx of the blossoms. These soon hatch, when the minute larva eats into the apple and feeds upon the pulp about the core, filling the space with its fecal filth.

Some good observers argue that a single larva feeds in several apples. While it is hard to prove that this may not be true, I am sure that it is not always the case, and from my observations and experiments I have been led to believe that it was exceptional if ever true. One wormy apple placed with several others in a box has always remained the only one injured.

This spring moths continued to come from cellar or apple house till July. I have taken such moths July 4th on the screen of my cellar window. The whitish larvæ attain their full growth in about four weeks. This period will be lengthened by cold and shortened by heat. When mature the larva leaves the apple, which may have fallen to the ground, and seeks a secluded place in which to spin its cocoon and pupate. The pupa or chrysalis is much like those of other moths. The pupæ of the June and July larvæ are found in the cocoons soon after the latter are formed, while those of the autumn larvæ do not pupate till spring, but pass the winter as larvæ in the cocoons. The eggs of the second brood are laid in July, August and September. The

larvæ feed in autumn and often till mid-winter, while as just stated they do not pupate till spring.

REMEDIES.

As this is by far the most injurious pest of the apple, it should be widely known that we have a satisfactory remedy.

The old method of bandaging failed signally, as it required careful attention right in the busy season, at intervals of from ten to fifteen days. This was neglected and so the method was a failure. A better method was that of pasturing hogs in the orchard, which would eat the wormy apples, as soon as they fell, and thus save the fruit, and kill the insects. This remedy was imperfect, as many larvæ left the apples before they fell from the tree, and so of course escaped. To render this practice effectual, the orchardist must fell the wormy apples to the ground, before the worms leave them. As the mound of filth at the calyx end—which as the apple grows will hang down—shows which apples are wormy, it is not very difficult, with a forked stick, to remove all wormy fruit. This not only makes the hog remedy quite perfect, but also thins the fruit, which insures much finer apples.

Another so-called remedy which finds space in the papers each year, is to attract these moths to liquids, either sour or sweet, which are placed in vessels suspended in the fruit trees. It is said that sour milk and sweetened water will lure scores of these moths and drown them. This remedy, like that of attracting these moths by fires in which they will be burned, is entirely worthless. *I have tried both repeatedly, and with not a shadow of success.*

SPRAYING WITH THE ARSENITES.

By far the best remedy for this codlin moth, is to use either London Purple or Paris Green. The remedy is not only very efficient, but is also easy of

application, and not expensive. I have now tried this thoroughly for six years, and in each and every case have been more than pleased with its excellence. Enterprising fruit growers of New York, Michigan, and other States have also tried it and are as loud in its praise as I am. Indeed, I know of no one who has tried it in vain.

I have found London Purple just as effective as Paris Green, and as it is cheaper, and rather easier to mix in the water, is to be preferred. White arsenic will serve as well, but from its color it is apt to be mistaken for some other substance, and may thus in the hands of the careless do great harm, and perhaps even destroy human life.

I mix the powder one pound to fifty gallons of water. It is best to wet the powder thoroughly and make a paste before putting it into the vessel of water, that it may all mix, and not form lumps. For a few trees we may use a pail, and Whiteman's Fountain Pump, always keeping the liquid well stirred. One common pail of the liquid will suffice for the largest tree. *A teaspoonful of the poison is enough for a pailful of water.* For a large orchard, common barrels should be used, and drawn in waggon. I prefer to have the barrels stand on end, with a close movable float, with two holes through it, one for the pipe or hose from the pump and the other for a stirrer. If very large orchards are to be treated a good force pump should be fastened to the barrel. In western New York the handle of the pump is attached to the waggon wheel, so that no hand power is required other than to drive the team and manage the pipe which carries the spray. The spray may be caused by a fine perforated nozzle or a cyclone nozzle. The finer it is the less liquid will be required. *The important thing is to scatter the spray on all the fruit, and get just as little on as possible.* The

larva is killed by eating the poison, and we find that the faintest trace suffices for the purpose. Again, the poison should be applied early, by the time the fruit is the size of a small pea. I have found one such application to work wonders. There is no doubt but that the first application, followed by one or two others at intervals of two or three weeks, would be more thorough, yet I have found one application, made early, so effective, that I have wondered whether it is best or necessary to make more than one application. I do think, however, that it must be early. In May and June the calyx of the apple is up, and so the poison is retained sufficiently long to kill most all of the insects.

One more count in favor of this treatment, is the further good we receive by killing the several phytophagous larvæ that attack the foliage of the apple at this early period when defoliation is so harmful. Thus the terrible canker-worm, the several destructive leaf rollers which even eat out the very buds, and that old pest, the tent caterpillar, are all made to bite the sod. Very likely, too, the plum gonger which so deforms the apple in Wisconsin may also find in this remedy its death warrant.

The danger from this practice I have proved to be nothing at all. The microscope and chemical analysis have both shown that all the poison has been removed long before we wish to eat the fruit. The wind no less than the rain helps to effect this removal, as I have shown by putting the poison on plants sheltered from all rains. Of course we should not turn stock into an orchard till a heavy rain has washed the poison from all herbage under the trees.

I am entirely positive that a knowledge and practice of this remedy throughout our country will save hundreds of thousands of dollars to our

fruit growers. It will serve to give us the fair, perfect apples known to our fathers, but which have become lamentably scarce in our modern orchards.

THE APPLE TREE BARK OR SCALE LOUSE.

In many parts of our State the Apple Scale or bark louse is very common and destructive. This is often called the Oyster Shell Bark Louse and is known in science as *Mytilaspis pomorum*, *Bouché*.

Under the scales, from late summer till the following June, will be found scores of small white eggs, which resemble white powder, unless magnified. Early in June these eggs hatch, and the minute yellowish lice will be seen scattered about the trunk and branches of the tree. Soon they insert their beaks into the bark, sometimes into the skin of the fruit, and commence to suck the sap or juice. They now grow rapidly, and secrete a waxy, fibrous substance, which forms the growing scale, which will be fully developed by August, when the many white eggs will again be laid under the protecting scale, where, unless eaten by some parasite or mite, etc., will remain in safety till the coming June.

It seems strange that these small, almost microscopic, insects can do so much injury, as they often entirely destroy large, vigorous trees. Yet when we consider their numbers—almost millions, which almost cover the bark of the tree, it does not seem so strange. The scales of the male lice are rarely seen. They are found on both sides of the leaves, and are more symmetrical than the female scales. The males have two wings.

REMEDIES.

Parasites, Mites, and Lady Beetles all prey upon these fell destroyers, but though efficient aids, they are not always enough to exterminate the lice, and then the trees fall victims to these

ruthless suckers. I have seen trees in all parts of our State thus enfeebled or destroyed.

The old remedy, soft soap, or a strong solution of the same, will surely vanquish this enemy if it is applied in early June, and again three weeks later. I have proved the efficacy of this treatment over and over again. The trees at once put on new vigor, and in a short time only dead lice could be found. To apply this specific I know of no better way than to use a cloth and scrub by hand. To be sure we can, if dainty, use a brush like a shoe brush, but I like to go at it with a good cloth, when, with sleeves rolled up, I make pretty sure that no louse escapes.

For the past few years I have changed the substance by adding crude carbolic acid, which I think improves it, especially if but one application is to be made; and we know that at this busy season the second application is apt to be neglected.

I heat to the boiling point one quart of soft soap to two gallons of water, and while still hot thoroughly stir in one pint of crude carbolic acid. This may be applied as before. This carbolic acid mixture retains its virtue, I think, longer than does the soap alone, and so is especially desirable when but one application is to be made, as described above.

Like the arsenites, so this carbolic acid and soap mixture is of triple value. Not only does it kill the dreaded lice but it also keeps off the borers, which are also serious pests in the orchards. I have demonstrated beyond question that these enemies are surely kept away by the same treatment, applied at the same time for which we use it to ward off the scale lice. No wonder, then, that our trees put on such new life and vigor after this annual scrubbing.

In each of these remedies, then, not simply two but several birds are killed

by the self same stone. It is to be hoped that many of our fruit growers will throw it, and thus secure fairer fruit.—A. J. COOK: *Bulletin of the Entomological Department, Agricultural College, Michigan, U.S.A.*

NOTES ON LATTER-DAY STRAW-BERRIES.

PRINCE OF BERRIES does not ripen evenly, and, though of good quality, will not be the berry for the million. Parry, its child, is earlier, larger, ripens more evenly, and is more prolific, though not so good in quality. Parker Earle, though the foliage is variegated, bears large berries and many of them. It is firm and of good quality. Lida offered this Spring at the modest price of \$1 each plant, is a rich, dark crimson in color, of fine shape, ovate-conical, generally pointed at the tip. It is of fair quality. It is a berry of some promise, if we may judge from spring-set plants. Jewell, what shall we say of this? In size of berry, in evenness of ripening, in keeping up the size during the season, in shape, in productiveness, in vigor of plant it is all that could be desired. Could we add to its quality and a trifle to its firmness, it would be perfect. May King disappoints us as to earliness. But the plants are vigorous and productive, the berry of good quality, shapely and firm. It resembles the Crescent, but is larger. The Henderson is at the Rural Grounds, a disappointment. The plants are variable, some being quite strong, others feeble. They are not, at all events productive as grown with us. The berries mature as if protesting against ill-treatment, being variable in size and shape. But the quality is superb—in fact it is the best berry for one of its size that we know of. Were we to grow seedlings with the view of producing a *perfect* berry, we should strike for the quality

of the Henderson combined with the other merits of the Jewell.

Bonanza is unique. Of all harlequin-shaped berries, this takes the prize. The plants are marvels of vigor, the berries often of remarkable size, but no two alike, except as to a swan-like neck, a characteristic of all. The berries are furrowed, coxcombed, winged, upside-down, wrinkled, round, square, parallelogrammatic, rhomboidal, and every other shape we have ever seen in a strawberry, except a regular heart shape. The plants are quite fruitful, the berries of good quality but generally hollow and mushy in the middle. Iron-clad is this year the earliest berry we have. The plants are thrifty and healthy. The berries are of medium size, about the shape of Crescent, firm and of good quality. We know of no better berry that is as early. Amateur is a variety with pronounced virtues and pronounced failings. The quality is better than that of Jewell. It is almost as productive, but the berries average smaller and softer. The plants are as vigorous as need be, but the leaves so o'ertop the berries, borne on slender peduncles, that the berries ripen, as it were, in a dense shade. The foliage of Connecticut Queen burns—the berries shrivel. Vineland Seedling is of little promise. Wonderful is of fair quality, medium-early, bright red, quite firm, variable in shape and size. Plants vigorous, but not remarkably productive. Queen of the Peninsula bears rather small berries, and is not worthy of introduction. Dimondale, also, had better be confined to the originator's grounds. Gardener's Colossal seems worthy of future trial. The berries are of fine shape, firm and good. Bubach No. 5 is promising. The berries average very large, bright red in color, variable in shape, firm and of fair quality. Iroquois we must not speak of yet. Bomba resembles Lida, but is not so prolific. Later in the sea-

son we shall again refer to the above berries, and to many others being tried this season for the first. Illustrations will accompany the best of them.—*Rural New-Yorker*.

BONES DISSOLVED WITH ASHES.

In dissolving bones with ashes, there are several things to be considered to prove successful. The ashes must be good; those of oak and hickory I find the best. Some say that wood grown on low land will not make soap, consequently will not dissolve bones. As I have always burned wood from off ridge land, I cannot answer for this. The ashes must be kept moist, just so they will not drain. They should be kept from freezing. If suffered to freeze, the process ceases. The smaller the bones, the quicker they will dissolve.

This is the way I have managed my bones for the last two years. As fast as ashes can be had, they are put in barrels, the bottom is covered with about six inches deep in ashes, then a layer of bones, then a layer of ashes, then a layer of bones, and so on, until nearly full, and then finished with a layer of ashes. I use two-thirds ashes to one of bone. The ashes are kept wet all the time with soap-suds or chamber lye. When one vessel is filled, I then put in another until I have all the bones used. If I still have ashes, they are barrelled away until near spring, then they are put in a hopper as if used in making soap. When I wish to use the bones, and I find them not sufficiently dissolved, I put ashes and bones in a large kettle; the ashes in the hopper are leached and the lye put on the bones and ashes, and the whole mass boiled until the bones are entirely consumed. The mass is now in a doughy state; this is mixed with loam enough to make it dry as wanted. It is now ready for use.

When lye is not to be had, this mass is boiled with water, but it is not so good and takes longer to dissolve the bones.

I have heard it said that caustic lime would dissolve bones as well as wood-ashes, but I have not tried it, and cannot speak from experience.—*Farm and Garden.*

THE ROBINSON PLUM.

The Robinson plum is one of the most promising of the new varieties. It was first introduced to public notice six years ago, when Dr. J. H. Robinson, in a paper read before the Putnam County Horticultural Society, described the variety, highly praising its merits. It was named after Dr. Robinson by this society. . . J. W. Ragan, in his report to Indiana Horticultural Society, 1881, says: "The Robinson bore one-third crop of good smooth plums, 12 trees yielding more than 25 bushels. Fruit slightly oblong, nearly round, with an indistinct suture; color, a pretty marbled red on a yellowish ground; flesh, when fairly ripe, very fine, almost sweet; juicy; when cooked it is one of the best (having almost no trace of that bitter astringency of some of the Chickasaw varieties), and very rich. This is from experience. A fine canning plum; seed very small. . . On the 19th of August, 1884, we went to Putnam county to see this plum in bearing, and there, on a Mr. Johnson's place, saw two hundred trees, which he planted two years ago, now six to eight feet high, and loaded with the finest fruit. Mr. Coleman, of same place, planted eleven small trees four years ago, now about two inches in diameter, eight feet high, and the limbs weighted to the ground and breaking with their load of fruit. Never saw such loads of fruit on small trees before; average more than one bushel to the tree. One tree which Mr. Coleman failed to prop

and tie up was completely ruined (broken to pieces). On single limbs one foot in length twenty-eight plums were counted, and where there were spurs the number was largely increased. The tree is a good grower and is perfectly hardy."—*Prairie Farmer.*

A SMALL OUT-DOOR FERNERY.

There are but very few small gardens in the cities or in the rural districts where an opportunity does not exist for the making of a pretty hardy fernery. The north end of the dwelling house or barn may be turned to good account. If the surroundings prevent the use of such locations, a space behind the bushes, between them and the boundary fence will be found useful. Send a tiny, winding walk by one of the larger bushes into one of these neglected spots, and let the walk emerge at another convenient point. In selecting the position protection must be afforded from cold, blustering wind, and shade sufficient to break the direct burning rays of the sun. The free growing and larger species of Ferns will grow in any fresh turfy soil, with an admixture of sandstone grit and small stones. All silly or elaborate attempts at rockery making are unnecessary; all that is required is a rich sandy loam well mixed with the materials mentioned above. When they commence to grow after planting, daily sprinklings with tepid water are beneficial, adding, as they do, considerably to the freshness, health and beauty of the young fronds.—*Vick's Magazine.*

EXPERIMENTAL FRUIT GROWING.

The Abbotsford Fruit Growers' Association has lately made a distribution of 13 trees to each of its members to test their value on different soils. There were 315 apple trees of 52 varieties, including several long keeping Russian

apples, and 12 German late winter apples. Some were received from the Iowa State Agriculture College, others from Germany; also varieties imported from the United States Department of Agriculture, and odd varieties not obtained before.

Of pears, 63 trees of nine varieties, half of which were of the celebrated Bessemianka pear. Plums, 18 trees of three varieties. Cherries, 116 trees of 18 varieties, mostly dwarf forms of the Griotte or purple-fleshed Morello type. Some of these trees or bushes, not over three feet high, bore last year, and their blossom promises another crop soon.

This is not the first work of the kind done by the Abbotsford Association. Promising fruits are obtained and placed in the hands of the members as soon as possible. There are now growing at Abbotsford 97 varieties of the newer Russian and German apples; 59 varieties of Russian, Polish and German pears. A few Russian and many German plums, and promising North-West native plums, and 39 varieties of German and Russian cherries.

Such work must tell in time.

RASPBERRIES.

I have for several years been testing as to the hardiness and productiveness of raspberries. I would place them in the following order: Tyler, Doolittle, Ohio, and Gregg. The Tyler is very hardy and productive. The Ohio follows in good time, somewhat later, and it is a large yielder. The Gregg, the latest of all, and liable to be winter-killed, is only profitable on good upland and in protected situations. Of the red, the Philadelphia and Turner are perfectly hardy and yield a crop every year. The Cuthbert froze back to within two feet of the ground. It is a fine berry, but not as hardy as I would like. The

Marlboro' wintered better. Shaffer's for six years has proved very hardy and productive. I have not lost a bush from any cause. Insects and blight, that affect black raspberries, do not trouble it. This is enough like a black-cap to be classed as such and to take their place, as it is gradually doing with those who know its worth. Were I to confine myself to one berry it would be this. There are no suckers which with many varieties of the reds, are as troublesome as weeds.—*Rural New-Yorker*.

PROLONGING THE SEASON OF THE WINTER NELIS.

AN IMPORTANT SUGGESTION.

In '82 I put cions of Winter Nelis into four pear trees that had been in bearing about 10 years. Three were Flemish Beauties, the fourth a Bloodgood. Last October I gathered about three pecks of fine Winter Nelis pears from the Bloodgood, and about a barrel from the Flemish Beauties. There was no perceptible difference in size or fairness, but those gathered from the Bloodgood were green, while the others were yellow-brown. The two sorts were kept separate. The Flemish Beauty Winter Nelis all ripened before the end of December. The Bloodgood Winter Nelis kept through January. In other words, the season of this delicious pear was prolonged a full month. In the grafting about one-third of each tree was changed. I had previously noticed that in a list of 25 varieties, the Flemish Beauty was the first to stop growth and drop its leaves, while the Bloodgood continues growing and holds its leaves very late. My experience, unless exceptional, points to an easy way of prolonging the seasons of choice late pears, and possibly of earlier ones.—A. D. MORSE, in *Rural New-Yorker*.