THE CANADIAN Horticulturist.

Title: The Canadian Horticulturist, Volume 4, Issue 9
Date of first publication: 1881
Author: D. W. (Delos White) Beadle
Date first posted: May 25, 2015
Date last updated: May 25, 2015
Faded Page eBook #20150562

This ebook was produced by: Marcia Brooks, David Edwards, Paulina Chin & the online Distributed Proofreaders Canada team at http://www.pgdpcanada.net

The Canadian Horticulturist.

TABLE OF CONTENTS.

The Canadian Horticulturist.

VOL. IV.] SEPTEMBER, 1881. [NO. 9.

TWO NEW VARIETIES OF HARDY APPLES.

We have received from our President samples of the Grand Sultan and of the Grand Duke Constantine apples, varieties imported by him in the hope of adding something of value to the list of very hardy apples which can be successfully grown in the colder parts of the Province.

The Grand Sultan is a conical fruit, of good size, nearly white, with some faint streaks of red on the exposed side. The flesh is also nearly white, juicy, breaking, pleasantly sub-acid, but not rich. The core is large, reminding one of the core of the Yellow Bellflower. Mr. Dempsey says that it is a heavy cropper. In the climate of Prince Edward County it seems to do well, and to ripen early in August.

The Grand Duke Constantine is also conical in form, of a light straw color, beautifully striped and splashed with bright carmine, dotted with numerous gray specks. The flesh is nearly white, juicy, sprightly sub-acid, agreeable but not high flavored, core small. Mr. Dempsey says of it that it failed when worked on the Paradise stock, but that as a standard it is a good grower. Of its bearing qualities he is not yet able to speak, this being the first year of fruiting. It seems to ripen at the same time as the Grand Sultan.

Mr. Dempsey has taken great pains to procure apples and pears from Europe, in the hope of being able to find some that will be sufficiently hardy to endure the severe climate of northern Canada. In these two varieties he has doubtless found some that will do well where the climate is far bolder than it is in Prince Edward County. We seem now to have a sufficient number of very hardy summer apples, but yet lack in very hardy long keeping sorts.

RASPBERRY NOTES.

The earliest to ripen on the Editor's grounds this season was the

HIGHLAND HARDY.

It is of medium size, bright red in color, too soft to ship well to a distant market, and of poor quality. Yet notwithstanding all these disadvantages, its early period of ripening gives it a great advantage, and when marketed in pint boxes brought this season ten cents per box. The canes are hardy, and in good soil yield very good crops.

CLARKE.

This berry is of good size, the color is bright enough to suit the requirements of the market, and the quality is very good. We have not found the canes to be quite hardy; they suffer sufficiently in severe winters to affect the crop considerably. When not injured by the winter the crop is good. The berry is not as firm as some, but with care in handling it will bear shipment tolerably well.

FRANCONIA.

Could we make this variety perfectly hardy, so that it would endure our changeable winters without injury to the crop, we would not be obliged to seek further to find a very satisfactory market raspberry. When the canes are not injured by the winter they bear a large crop. The berries are large, deep red, firm enough to bear carriage well, and of excellent flavor. At one time this was considered *the* market berry, but of late years we hear but little about it. Our market raspberry growers have been trying other sorts which promise to be more hardy.

PHILADELPHIA.

The peculiar, dark, purplish-red color of this berry so detracts from its appearance that it is not popular in the markets, hence raspberry growers have in a great measure discarded it. But it is one of the most hardy varieties we have, and its crops are simply enormous. The berries are medium in size, not very firm fleshed, juicy and pleasant, but not high flavored.

CAROLINE.

This has been highly praised as the most delicious of all raspberries. It is said to have been raised from a seed of Brinkle's Orange, and from its resemblance to the Yellow Cap, supposed to be a cross with that sort. The fruit (which we had from plants growing on the grounds of Mr. A. M. Smith,) in color and general appearance answered the description given of this variety, but were far from being delicious, on the contrary, they were seriously lacking in flavor.

TURNER.

We have been pleased with this variety so far as we have tested it. The season of ripening is nearly as early as that of Highland Hardy. The berries are medium in size; color bright and attractive; flavor rich and pleasant. The canes are strong, very hardy, and very prolific if the suckers are kept in subjection, but they come up very profusely, and if not treated as weeds will soon cover the ground and choke each other.

CUTHBERT.

A valuable market variety in the estimation of most planters who have given their experience with it. From our short acquaintance with this berry we are inclined to think favorably of it, and believe that in our climate it will prove to be valuable. The canes are hardy, vigorous and very productive. The berries are large, firm enough to bear carriage well, in

color bright red, and in quality very good. We commend it to the careful attention of all growers of the raspberry, whether for market or home use.

NIAGARA.

This variety was raised by Mr. A. M. Smith, of St. Catharines, and gives promise of being a very valuable addition to the later ripening sorts. The canes, which are very vigorous, have during the past winter proved quite hardy on the writer's grounds, and borne an abundant crop, which continues ripening for some time. The berries are large, dark red, tolerably firm, and of very good flavor. We think it is worthy of very extensive trial.

Of the black-cap varieties, we name three as worthy of attention:

DOOLITTLE'S IMPROVED,

which ripens early,

MAMMOTH CLUSTER,

ripening immediately after, and

GREGG,

ripening last. These are all excellent varieties, and worthy of a place in every garden where it is desired to have a succession of these berries. The canes are hardy and bear profusely.

HORTICULTURAL GOSSIP.—XIV.

BY L. WOOLVERTON, GRIMSBY.

THE FOREST TENT CATERPILLAR, (*Clisiocampa sylvatica*).—A few additional facts about this moth may be interesting, as it is now foraging among our orchards in such abundance. It belongs to a large family of moths, the *Bombycidæ*, which includes the silk worm and many other beautiful species. The moths of *C. sylvatica* appear about July 1st, and lay their eggs in clusters of 300 or 400 on the twigs of trees, coated with a gummy substance for protection. The eggs hatch out simultaneously with the development of the young leaves in spring, and immediately begin work. At intervals the worms congregate in masses and cast their skins, a fortunate thing for the orchardist, who can destroy them wholesale at such times.

May 27th I found on nearly every apple tree vast gatherings upon the trunks. I watched one individual moult. A slit was first noticeable on the back just behind the head. A few struggles, and a new head appeared from within the old one, just like it, but of a lighter shade; a few more struggles, and the whole body was dragged out of its old skin, which had become too narrow to hold its growing occupant. Their instinct is remarkable. If three hundred of them are knocked down upon the ground and fall at some distance from the tree, they at once make for the tree again—not one mistakes the direction, but with one accord they crawl towards the trunk.

Fortunately for us, this caterpillar has several enemies. Besides being subject to disease and frequently to death at moulting times, there are several kinds of parasites of the order *Hymenoptera* which prey upon it. The Ichneumon fly, (*Physsa Pimpla*,) often deposits its eggs beneath the skin of the caterpillar with its long ovipositor. The *Pteromalus Clisiocampæ* is another great enemy, as its name would indicate. It is probably one of these insect friends that is spoken of in the HORTICULTURIST for 1878, p. 19, as saving the orchards in Perth and Middlesex in the year 1877, when the caterpillars were so numerous that fears were entertained that the orchards would be entirely destroyed by them.

In 1872 we read of the *Clisiocampa Sylvatica* visiting the country about Montreal in large numbers and completely stripping many trees of their foliage. Now it is our turn to be favored (?) with a large invasion. We hope the parasites will do their part in the battle, but we need to do our part also if we would be sure of the victory.

CULTURE OF THE AMARYLLIS.

This is a showy and attractive class of bulbous plants, the typical species being *A. belladonna*, a native of the Cape of Good Hope. The main point of excellence in the culture of this plant is in securing a good supply of healthy foliage. The reason for so many failures with plants which produce their flowers at a different time from leaves, is in not paying sufficient attention to maturing and encouraging a good supply of healthy leaves. As soon as the plants have finished flowering, they begin to make a fresh growth of foliage, at which time they should be potted, using for soil good turfy loam and about a third of well-rotted manure. Be sure it is well decomposed, as fresh manure destroys the bulbs when coming directly in contact with them. Mix the whole with a good sprinkling of sharp sand. When the leaves and bulbs are well matured, gradually dry off and store away in some cool, dry place until time for starting them into flower, which may be done at any time desired by placing in a little heat, and supplying water.

The showiest varieties of Amaryllis can be grown by persons having no other facilities than a window for growing them, and by their constant yearly flowering, give as much satisfaction as any bulbous plant in cultivation. By having them make their growth during the summer months, they do not require much attention except to supply water. They may be kept in some sheltered position out-of-doors, and when growth is finished stored away until the winter months, when they can be placed in the window and water supplied. The recompense will be from two to four spikes—according to size of bulb—crowded with from one to four of those well-shaded flowers which have to be seen to be appreciated.

A. johnsonii.—I class this as the finest for general culture of this genus of plants. It is of the easiest culture; the flowers are of the most gorgeous colors, and produced in greater abundance and with more certainty than any other kind. There are a great many varieties of the species, differing in the brightness of their colors, and having white stripes in the centre of the petals.

A. ackermannii—Another fine species, is of a bright crimson color. Of this species there are some most beautiful varieties, as also some hybrids, between this and *A. johnsonii*, which are very fine.

A. formosissima (*Jacobean lily*).—This is another easily grown kind with scarlet flowers.

A. atamasco is a white kind, free flowering, and easily grown by amateurs, and those not having any greenhouse.

—M. Milton, in *Country Gentleman*.

SWEET POTATO CULTURE AT THE NORTH.

Many suppose that sweet potatoes cannot be grown in New England. I think they are in error; certainly they are as to some parts and soils, for I have known of others growing them; and as the potato bugs are so troublesome to the Irish potato, perhaps some farmer reader would like to know how to do it.

PLANTS.—If only a small patch is to be raised, plants are best obtained of those who grow and advertise them for sale; or they can be grown in the following way: Early in spring, according to latitude and season, put the potatoes in a hot bed; if of large size, split lengthwise, laying the flat sides down close together; cover with about two inches of fine rich mold, the richer the better. When the plants show above ground, add another inch of fine soil. Water with warm water as occasion requires; protect the bed on cold nights, and give air and sunshine to make them hardy. When wanted for setting, uncover the potatoes and pull off the best slips, and recover to let all others improve.

SOIL AND PLANTING.—A warm, sandy soil with a good exposure is best, although heavier soils, if rich and exposed to the sun with protection from the cold will answer well. Mark the rows, which had best run north and south, 3½ feet apart; on these marks spread liberally, good barn manure, and then from each way turn a furrow over the manure to form a ridge eight or ten inches high, the base of which should not be disturbed by the operation, and should be not less than one foot wide; the top, when finished, three or four inches broad on which to set the plants. As soon as danger of frost is past, set the plants 15 or 18 inches apart in rows thus prepared; set the slips down to the first leaf pressing the soil close to them, especially around the roots. Moist weather is best for setting, but set at any time, well watered and shaded, they do nearly as well, sometimes better.

A close, hard bottom to the row induces the tubers to grow "chubby," less long and slim; for this purpose strips of sod are laid in the bottom, where only a few are grown as in the garden. Manure does not injure the sweet potato, as it often does the Irish, but for abundant production it should be used freely. After culture consists in keeping down weeds with hoe or rake, and hauling the soil upward to the plants. Keep the tops in a line on the top of the ridge, and free from taking root, admitting the sun to warm the ground.

GATHERING.—If a few are desired before the crop is ripe, you can run the finger down beside the vine, and when a large tuber is felt, detach it and replace the soil, leaving the rest to grow. A light frost kills the vines. Now is the time for gathering; select the first clear, dry day, and turn them out with the digger, first cutting and removing the vines; a sythe will answer for cutting these. Dig in the forenoon, and allow two or three hours to dry, with full exposure to sun and air; handle very carefully so as not to bruise or otherwise mar them. For preserving for late fall or winter use, provide suitable boxes or barrels, and take them to the field, having sufficient fine cut straw or chaff to pack or fill all interstices and keep them apart. Pack the potatoes in these receptacles as carefully as if they were eggs, using first a layer of chaff or straw, and then of potatoes, finishing the package on top with straw. Remove them to a dry frost-proof room or cellar, where they will not *gather moisture* or *get chilled* in the coldest of weather, as these are the two first essentials to their keeping through the winter, always providing you have well matured, ripe tubers, to store at first.

—W. H. WHITE, in *Country Gentleman*.

THE PEACHES OF 1880.

At a meeting of the Horticultural Society of Western New York, a very interesting paper was read by W. C. Barry, of Rochester, N. Y., giving the results of last year's experience of the ripening of the different varieties. We give the paper in full for the information of our readers:—

The season of 1880 was remarkably favorable for the peach crop in western New York. An experimental orchard—embracing 114 varieties, which we set out three years ago—came into bearing for the first time, and enabled us to test the leading standard sorts, besides many of the older kinds which are little known, as well as several novelties. I give the results of our observations, naming the kinds as nearly as possible in the order of ripening.

THE EARLY SORTS.

On the 24th of July we gathered fine specimens of Briggs' Red May. This variety originated in California, and was one of the first of the early sorts brought to notice. It has much the same character as Alexander and Amsden, and is hardly distinct enough to be grown under a separate name. Mr. Myers, a prominent peach grower of Bridgeville, Delaware, says it is less liable to rot than either Alexander or Amsden. He also states that a well known pomologist of Georgia, after having seen Briggs' Red May two years, believes it superior to Alexander or Amsden for shipping.

July 26.—We have before us splendid specimens of Alexander and Amsden. The difference between them is very slight. Alexander, however appears to average larger, and is less liable to decay upon the tree.

July 27.—To-day we received a fine basket of Waterloo peaches, gathered from the original tree. These are fully up to the standard. Next year we hope to have fruit from our own trees, when the opportunities for comparison will be better.

July 29.—This morning we find upon our table a remarkable collection of peaches. Alexander, Amsden, High's Early Canada, and Harper's Early are ripe and beautiful. All these varieties bear a striking resemblance to each other. High's Early parts more freely from the stone than the others, and Harper's Early seems to excel in flavor.

August 2.—We sold Alexander and Amsden to-day, at the rate of $3 per bushel. The specimens were superb, many measuring eight inches in circumference, and weighing 4½ ounces.

August 4.—Early Beatrice is now ripe, but after enjoying such magnificent fruit as we have for the last few days, this small peach fails to give satisfaction, and is of little value here. Mr. Myers writes me that he has marketed thousands of bushels of this peach, and he finds it valuable; though small, it is produced very abundantly; the tree is hardy, and the fruit is exempt from rot.

August 7.—Early Louise, now in perfection, seems to be a profitable market variety. Mr. Myers says that in Delaware the tree is remarkably productive, and when in bloom it is capable of withstanding, without injury, a greater degree of frost than any other peach.

August 10.—That delicious peach, the Early Rivers, is now in fine condition for eating. In this vicinity it is, beyond question, the best variety we have. Mr. Robert Hogg, in his Fruit Manual says: "This peach was sent to me by Mr. Rivers on the 20th of July, 1867, when it was first produced, and I was so struck with its superiority over all other early peaches, and its perfectly distinct character, that I considered it a fitting opportunity to record the name of the raiser by associating it with a fruit which cannot fail to become a universal favorite. In France it succeeds so well that Mr. F. Jamin says it is the finest early peach in France. Its only fault is that it splits at the stone." In one of my reports on peaches, I expressed the opinion that Early Rivers would not be of much value for market, owing to its thin skin and delicate flesh, but Mr. Myers, who for ten years has made a specialty of peach growing for market, informs me that Early Rivers is the most valuable of any of the early peaches for market. It is a great satisfaction to be able to commend so choice a peach for both purposes. In many instances only the coarser fruits can be recommended for market.

August 15.—Early Leopold is too small, and the quality too poor, to render it worthy of a place in the collection.

August 18.—Rivers' Early York is the earliest freestone we have fruited. Fruit of medium size, good quality, and tree yields well. Snow is a beautiful white peach, especially valuable for canning and preserving. It deserves more extensive culture.

August 20.—Large Early Mignonne is of medium size, fine quality, and a freestone. The tree, loaded with fruit, presents a remarkably fine appearance.

August 22.—Hale's Early is ripe.

August 23.—Acton Scott, Early Rose, Early Savoy and Belle Coquette are good peaches, but not large enough to be grown profitably. Belle de Doue, Belle Beauce, Grosse Mignonne and Belle de la Croix have the highest flavor, and can be recommended to all seeking after delicious fruits.

August 25.—Two of the best peaches in our collection are now ripe. I refer to Haine's Early and Large Early York—varieties which are undoubtedly identical. I have no hesitation in placing them at the head of the list, either for garden or orchard. George the IV. is another high flavored peach, resembling the two last named very closely. Cooledge's

Favorite is one of the most valuable varieties. The fruit is not large, but handsome, and of good quality, and the tree is so hardy that this peach will always be a favorite in the northern sections of this country, where many kinds fail owing to the rigorous and changeable climate. Mountain Rose, of recent introduction, promises to be desirable for market. It is not so richly flavored as the above, but large and handsome.

August 31.—Shanghæ, a very large Chinese clingstone peach, is ripe, and is remarkable for its fine flavor and handsome appearance. The tree is exceedingly prolific, and the fruit is so showy that it will take well in market. Most of the specimens measured nine and a half inches in circumference, and weighed eight ounces. It is a variety which merits attention.

THE SEPTEMBER VARIETIES.

September 1.—Early Alfred, Crimson Galande, Dagmar and Pucelle de Malines are handsome white-fleshed peaches of medium size; but ripening, as they do, about the same time as Crawford's Early and Surpasse Melocoton, they cannot compete with them, and we shall drop them from the catalogue. Crimson Galande, with its deep purple cheek, is very handsome, and a tree full of fruit is an interesting object to look upon. Crawford's Early, on account of its size and attractive appearance, maintains its reputation as one of the best peaches for market. Foster and Surpasse Melocoton are rivals which are steadily growing in favor, as both are superior to Crawford's in flavor, and they average equally as large, if not larger. We had specimens of Surpasse Melocoton weighing 5¾ oz., and measuring 8-5/8 inches in circumference. Foster weighed 5¼ oz., and measured 8-3/8 inches in circumference. Crawford's Early weighed 5 oz., and measured 8¼ inches in circumference. Richmond (Dr. Sylvester's seedling,) does not prove satisfactory. Conkling is a large, fine yellow peach. Alexandra Noblesse, one of the newer sorts, is an excellent large peach, raised by Mr. Rivers from the old Noblesse. Early Silver, from which the Early Rivers was raised, is a splendid variety, and deserves extensive trial. Magdala, Morning Glory and Atlanta are medium sized, white-fleshed peaches, but not large and attractive enough for market. Atlanta deserves attention from amateurs for its delicate flavor. The Wager peach, with yellow flesh, parting freely from the stone, is said to be valuable for canning.

September 5.—Morris White is still a favorite with orchardists.

September 10.—Jacques' Rareripe, resembling Crawford's Early, may be esteemed in some sections of the country, but it lacks flavor here. Monstrous of Douay, Chevreuse Hative, and Hick's Seedling do not possess sufficient merit to render their cultivation advantageous. Goshawk, raised from Cooledge's Favorite, adds size to the many valuable qualities of its parent. It is certainly very promising.

September 12.—Malta is a desirable peach for the Amateur's garden. The flesh is juicy and melting, and the flavor all that one could desire, but the tree is not productive enough to justify us in commending it for market.

September 15.—Leopold 1st, a Belgian variety, and Prince of Wales, one of Mr. Rivers' seedlings, are deficient in flavor, and we intend to drop them from our list. Cole's Early Red will be treated likewise. Just now Brevoort is the best peach we have. Its flavor is delicious, and on that account it is certainly entitled to a place in every garden. The tree is only a moderate bearer, which would prevent its culture for market. Old Mixon Free is now in first-rate condition for eating, and deserves to be classed (as it is) among the most valuable of peaches for garden or orchard. In addition to its many other good qualities, it has a rich flavor, which will always make it desirable. Stump the World, although a popular market peach, has not flavor enough to commend it to the attention of amateurs.

September 20.—Susquehannah, a large yellow peach, has a rich, vinous flavor. Hill's Chili has been highly recommended, but I do not see why it should be. The fruit is not large, and the flavor is indifferent. Late Morris White is a variety of Morris White, resembling it in every particular, but ripening ten days later. The Nectarine peach is by all odds the best of its season. It is said to have been raised from a stone of a Dutch nectarine, called Grand Noir, and has a peculiarly delicious flavor. White Melocoton is a large, handsome peach, juicy, melting, and of good quality. Carmine has no flavor, and should therefore be rejected. Red Cheek Melocoton and Mammoth Melocoton are fine, yellow-fleshed peaches. Raymacker resembles Crawford's Late, and does not seem to be any improvement upon it.

September 26.—Van Buren's Golden Dwarf is a large, yellow peach, resembling Crawford's Late; it is a clingstone. The tree is of dwarf habit, and very prolific. Princess of Wales, raised by Mr. Rivers from seed of Pavie de Pompone, is a beautiful cream-colored peach, melting, and of good flavor; valuable on account of its lateness. Crawford's Late continues to be valued as a late peach. Poole's Large Yellow, ripe at the same time, is a very large yellow peach. The flesh is finer than that of Crawford's late, and from what I have seen of this variety, I think it deserves a good deal of attention. It seems quite an improvement on Crawford's Late. Of its bearing qualities I am not able to judge.

September 27.—Lord Palmerston, another of Mr. Rivers' fine seedlings raised from the Princess of Wales, is very large, skin creamy white, with a pink cheek; flesh fine, juicy and rich, stained with red at the stone. It deserves careful trial, as it promises to be of great value to succeed Crawford's Late. Ward's Late Free is a desirable white-fleshed variety. Its flavor is excellent. Druid Hill, raised in Baltimore, has an exceedingly pleasant flavor. I should not hesitate to rank it among the best of peaches. It has an additional value in ripening so late, and it surpasses Ward's Late Free in flavor. Walburton Admirable is large, juicy and delicious; a first-class peach in every respect. Heath Free is a choice late peach. McClane's White does not equal it in flavor. Carpenter's White is very good, and merits attention.

October 2.—Lady Palmerston will be valuable further south, but it is too late for this locality. This remark applies

equally well to Smock Free, Salway, Sample White, De Graw's White, Delaney Heath Cling, Jersey, Comet, and Jones' Seedling. Some of these in such exceptional seasons as 1880, ripen here pretty well.

A few trees did not produce fruit. This will account for the absence of some kinds from the list.

Several varieties of the very early peaches show a disposition to decay, and their value is greatly lessened by this defect. Another year's trial will establish to a certainty the advantages which some sorts possess over others in this respect. As will be seen from these notes, several old peaches which have been neglected of late have been found to possess qualities which will merit attention. We expect next year to fruit the following:—Saunders, Wilder, Musser, Conkling, Mrs. Brett, Bradley, Honeywell, Gov. Garland, etc. Mr. Myers says that Saunders is not quite so large as the Alexander, but has fine color, and is entirely free from rot. The tree is very productive, and ripens its fruit a few days after Alexander. Downing ripens with Alexander and Amsden, and is of medium size and free from rot. Wilder, of the same season as Alexander and Amsden, decays like these varieties.

This collection of peaches has been the most interesting that I have had the pleasure of examining. I hope that other fruit growers will favor us with the results of their experiments, so that we may assist each other in determining which kinds to keep and which to reject.

—W. C. Barry, *Rochester, N. Y.*

CAUSE OF BLACK KNOT.

BY N. HENDRICKZ.

There seems to have been and still to be an opinion that the outgrowth on the plum and cherry trees, commonly called black knot, is of a fungus nature. Let me ask, before proceeding farther, what is the cause of the knot found on oak trees, or wild roses, or blackberry shrubs, or vine leaves, or linden tree leaves, or oak leaves, and in Europe also on beech tree leaves, which afterwards turn out when dry like beads for necklaces, or for other ornaments? All these have insects inside. Having all due respect for persons and their opinions, I dare say there are many who read a great deal, and judge by what they read, so they form their knowledge upon the authority of others; but to study the facts of nature by themselves, and watch the result of an indefatigable investigation into matters of nature is not given to everybody, in fact cannot be done by the most of men, and so we must be very forbearing with their opinions.

When about fifteen years of age I liked to read about insects and study their habits, so what I say is formed by my own experience rather than what I have gleaned from authors, though at that time I happened to get a book of "God and His Providence in His Insects," describing how wonderfully God has given to every insect the means of progeneration, even with the odds of man's destructive inventions against them, and also other natural enemies, such as birds and insects. Unfortunately the name of the writer has passed out of my memory. I know it is a Belgian writer. He explains many facts in ways which seem plausible, among others this of the black knot. I had already remarked this, and as well as the author came to the conclusion that the cause of it is an insect which instils through a sting an acid into the bark of the tree. This causes the sap to become poisoned, and makes it swell and become of a spongious nature, thus enabling the egg which is laid into the cavity (made by the proboscis of the insect) to hatch out by the heat of the sun. Then it grows and works through the soft spongious matter until it becomes alive, remaining then until it becomes a reddish worm about half an inch long. It ordinarily drops out towards the end of July, digs into the ground and turns into a chrysalis; some come out and some remain, like the potato slugs. The birds kill a good many off. It prefers the plum tree which exudes the gummy matter, thus the cherry tree as well.

You will not find a worm in every outgrowth, because not every egg happens to hatch out, or to remain in the cavity the insect makes. It begins its devastating work early in the spring, many remaining and hiding in the crevices of trees or elsewhere. If the spongious matter be cut off the worm dies, and though we do not burn it, the insects cannot live any longer. As long as there be any of the acid left in the bark it will run up, but if well pared off, the bark will partly grow over it.

There is besides a plum borer, having the same shape as the apple borer, big headed, which runs under the bark into the tree and causes it to die. We have all these pests to contend with. Until an effort be made by disinterested and generous persons, single-handed work will not do, for in a short time cherry and plum trees will have to go. In this neighborhood none care to cut down their trees, or to pare off the evil, so that there is an ample chance for them to multiply. They will afterwards attack the pear and peach trees, and even apple trees. With all our laws it remains where it is, as the thistle law, without sanction. The fire will not destroy all these enemies if man has no will to work to combat them, and he will have to do so to enjoy the fruits of his labor. Besides, this insect is clannish. If you have a tree infested separated from others by a great distance, it seems to remain there until it has completely destroyed this. If you cut this one down, and have not previously destroyed the insects before they hatched out, they will fly until they find other trees; and the year after you have cut down the infected one all the other trees will be more or less stung. I found the insect to be very much like the curculio, but instead of having black ashy wings, they were brown, and of a hard shelly texture.

NOTE BY THE EDITOR.—Will Mr. Hendrickz favor the readers of the HORTICULTURIST with the name of this insect which he believes to be the cause of the black knot, or give a careful description so that it can be identified.

NOTES ON THE POTATO BEETLE.

BY PROF. E. N. CLAYPOLE, YELLOW SPRINGS, OHIO.

The present season has been one of unusual extremes here, surpassing all that "the oldest inhabitant" can recall. The thermometer, a better authority than "the oldest inhabitant," confirms the statement. In November it marked 24 deg. below zero; for three successive nights in the Christmas week (Dec. 29, 30, 31,) it reached 18 deg. below zero, and the highest point reached at noon on the 29th was 7. These may not be unusual figures for Canada, yet for southern Ohio they are unexampled. On July 8th the thermometer reached 101, 9th 102, 10th 102, 11th 101, 12th 103 degrees. At 1 p.m. on Aug. 6th it marked 92; at 1.30 68—a fall of 26 degrees in 30 minutes. The rainfall or want of rainfall has been of the same phenomenal nature. A long hot drought in May, another in July, during the hot spell, and another at the beginning of August, which still continues. Few crops can possibly reach an average here this year. Potatoes have been dried up. On my own land the most exposed parts have about one root in three or four, parts less exposed to the sun have all the roots, but the growth is suspended in the late kinds, while the early kinds (Early Ohio especially) have been stimulated by the heat and moisture into a second growth after the rain. The yield is from one-third to one-half what it should be.

The dry weather makes it much easier to deal with the potato beetle, though they are more abundant in dry than in wet seasons; the poison is not washed off by the rain, and consequently it is far more effective.

After numerous experiments on this head I have adopted the following plan. Most of my neighbors either knock off the beetles, or pick them off, or sprinkle the plants with poisoned water. The first two modes are objectionable on account of the number of times they have to be repeated. If you pick your plants clean to-day you must go over them again next week, for others will be hatched. Moreover, the repeated tramping hardens the ground, and makes the labour of raising the potatoes, either with plough, fork or hook, very much greater. The third mode involves the carrying of too much water. I always now use the London purple. It is very much cheaper than Paris green, and being lighter, there is more in a pound. Mixing it with 60 or 80 parts of ashes or fine road dust, by passing it two or three times through a sieve of wire gauze containing about ten meshes in an inch, I can carry enough in a large bucket to poison half an acre of potatoes. I fit a handle to an old pint tin and fill it with the poison; then walking along a row I sprinkle the plant by jarring the handle with a light stick. In this way I can go over an acre in a day. I have grown this year about two acres. The dust should be put on when the air is perfectly still, so that the lighter parts of the mixture which contain most purple shall fall on the leaves. Dew or no dew is of no consequence; when once dusted the leaf will retain the poison until it is washed off by rain. A little flour is said to be effectual in preventing this, but my experience has not confirmed it, and I see little or no use in adding it to the mixture. In the early spring, when the plants are just coming up, it is a good plan to poison slices of potatoes and lay them among the rows. It helps to save the very young plants when they are so small that it is difficult effectually to poison them. Later on, as soon as the young plants appear, I choose a time when the barometer and the sky indicate dry weather for at least a few days, and get the plants thoroughly dusted. This is easy if the potatoes were cut small, because there is only one head. If this is well done, and no rain follows for forty-eight hours, the whole ground will be clear of grubs, and hundreds of beetles will be also found lying about with their legs spread out—a sure sign that they are dead as door nails, not "playing possum." The crop is now safe until the second crop of beetles appears, which will be nearly a month. The second crop consists of those few that escaped the first poisoning, and others which are contributed by neighbours who do not poison. They are much yellower than the spring brood; these lay their eggs, which hatch in a few days, and the second brood is come. (I have observed, by the way, that when the plants are well poisoned, by far the greater portion of the eggs is laid not on the potato but on weeds and even on the ground. Many of these probably come to nothing, the young grub finding no food close by.) I watch until these are beginning their work in the heart of the plant, and then go over and poison a second time, choosing as before a dry spell. This operation requires rather more time and material than the former, because the plants have tillered out and have several heads. It is economy of time and labor, however, to dust them all, and the labor may be lessened by using a larger dusting tin. It is cheering to go over a patch forty-eight hours afterwards and see it almost cleared of the "thieves;" only a solitary one here and there surviving. This is enough for most potatoes. Only the very late kinds require a third dressing, while for the very early ones a single dressing is sometimes sufficient. This is by far the easiest method of protecting the potato that I have been able to hear of or devise, and it is not expensive, two or three pounds of London purple being enough for an acre of ground. The price of this substance varies greatly in different localities, from 25c. per pound down to 10c., or even less, being asked.

The contrast between my plants and those of my neighbors who try to sprinkle with water, but find it too laborious, is ample testimony to the efficacy of the method I have described. The only point to which I wish to call attention as very important, is the choice of the time for dusting the plants. Choose a dry spell if possible, but always choose the time when the eggs are beginning to hatch, otherwise much of the labor may be thrown away, either by a rain which will wash off the poison, or by the new growth of the plant, which will supply the grubs with food in the earlier stages, and enable them to pass safely the "dangers of infancy."

The apple crop this year is light, and our readers would do well to exercise caution in disposing of their surplus

stock of winter fruit.

CORRESPONDENCE.

REPORT ON PLANTS RECEIVED FROM THE F. G. A.

A few of the fruit trees, &c., received by me from the Association in its early history perished during transit. Two or three others met with accidents. Clapp's Favorite is a vigorous grower. Set fruit last two years, but it disappeared before maturity. Beurre d'Anjou pear seems less vigorous than the preceding, but has had less care. It has not fruited yet. Grime's Golden Pippin is a strong, vigorous grower, and has fruited two years. The fruit is of fair appearance, and the quality first-rate. I consider it a fine amateur variety. Glass' Seedling plum—vigorous; fruit sets badly; other varieties on all sides bear well. It has a very warm, northeasterly aspect, well protected from cold winds; perhaps its position is too warm. Has anyone else had a like experience? I have not obtained a ripe plum yet. The Downing gooseberry is the best I have of this class. Arnold's Diadem raspberry is a rampant grower, hardy, productive, and delicious. The grains of the berry separate greatly, and the berry crumbles, which is against it for market purposes. But as a garden sort it is first-rate, for with proper care of the canes one can have this excellent berry from the beginning of the raspberry season until the frost kills the foliage. Mr. Arnold's strawberry is also good, but as it has not had full justice at my hands I cannot compare its merits with those of other varieties. The Saunders raspberry received last spring has made a marvellous growth. The question of its vigor on my grounds is settled. I have said nothing of the hardiness of the varieties named, for the reason that ours is a locality yet within the precincts of the Ontario fruit belt, and therefore too genial to test any save those varieties already known to be tender.

—L. P. Morse, *Lowville, Nelson*.

I am glad to notice the praise-worthy efforts of the Directors to please, in the list of plants proposed for choice in the annual gift to the members. I cannot help but think that if the practice is continued of giving some plant annually, that the list may be extended, for it is noticeable in your meetings how much stress is laid on the quality of the soil, the climate, and locality. It is therefore certain that the value of a plant must vary amazingly in different localities. I was much interested in a late number of your serial, especially for the valuable information afforded on grapes. In the February number there is an article giving an account of the failure of the Burnet grape, in spite of the care of a well-known practical grower. My case last summer was identical. In July last I left on a holiday trip to England, the Burnet then thriving as well as one could desire. On my return in the latter part of August my first visit in my garden was to that vine, and I was grieved to find every bunch mildewed and shrivelled, and nearly every leaf excessively scalded. A Salem vine adjoining was also affected, but not much, and I thought perhaps an early frost had caused the mischief. At all events, not seeing the beginning or progress of the mischief, I concluded to say nothing about my Burnet.

—Richard Baigent, *Toronto*.

TRANSCRIBER'S NOTES

A table of contents has been added for convenience.
Please note the following changes:

"symultaneously" to "simultaneously" on p. 130 and
"Coquete" to "Coquette" on p. 134.

Other obvious printer errors have been silently corrected. Otherwise, most inconsistencies, variations and possible errors in spelling and punctuation have been preserved.

[The end of *The Canadian Horticulturist, Volume 4, Issue 9*, edited by D. W. Beadle.]