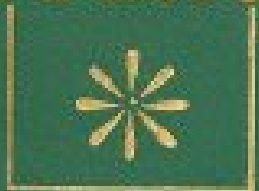


THE  
CANADIAN  
Horticulturist.



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The Empire State is a seedling of the Hartford Prolific, fertilized with the Clinton; bunches large from six to ten inches long, shouldered; berry medium to large, roundish oval, color white with very light tinge of yellow, covered with a thick white bloom; leaf thick, smooth underside; flesh tender, juicy, rich, sweet and sprightly, with a slight trace of native aroma; ripening very early and continuing a long time in use; vine very hardy, vigorous and productive.

THE  
**Canadian Horticulturist.**

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**VOL. VIII.]**

**MAY, 1885.**

**[No. 5.**

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**THE EMPIRE STATE GRAPE.**

We are indebted to the Messrs. Pratt Bros. of Rochester, N. Y. for the handsome chromo of this new grape, which embellishes the present number of our magazine. They succeeded to the business of the late George A. Stone, and completed the engagement which he had made with Mr. James H. Ricketts, the originator, by paying him four thousand dollars in cash for the proprietorship of this new grape. This is the strongest possible evidence that they must have had very great confidence in its merits.

The originator states that it was raised from seed of the Hartford Prolific fertilized by the Clinton, so that it is a cross between two of the families of our native grapes. The vine first bore fruit in 1879, maturing a crop of thirty-eight bunches. As will be seen from the chromo, the bunch is large and handsomely shouldered, and the berries of full medium size, beautifully shaded with light yellow. He also states that the flesh is tender, juicy and sweet; yet sprightly, with a slight trace of native aroma. Never yet having had an opportunity of tasting this grape, we are obliged to give the opinions of others, and merely add that the quality given by Mr. Ricketts is fully borne out by the statements of other gentlemen who have eaten the fruit.

One of the valuable characteristics of this grape is its keeping qualities. Although it ripens before the Concord, the Messrs. Pratt tell us that the fruit hung up in their office on the second of September, was in good condition on the first of December, seeming to improve in quality by being kept instead of deteriorating. In this respect it appears to have inherited one of the valuable peculiarities of its sire, which is one of our best grapes for winter use, growing richer and finer in quality by the lapse of time.

We are also assured that the vine is very vigorous, perfectly healthy, of good constitution, enduring the winter's cold of 30° below zero, having stood the test of the very severe winter just past, entirely unprotected, without the slightest injury, where the Catawba and other kinds have suffered severely; that it has thick leaves, which thus far have not been affected with mildew, and ripens up a heavy crop of fruit perfectly. Indeed, as much might be expected of it from its parentage. On the maternal side it belongs to the Labrusca family, which embraces most of our hardy grapes, such as the Concord, and is found very generally distributed to the eastward of the Alleghanies; while the Riparia family, to which it is related on the paternal side, is found extending from the Province of Quebec to where the mercury freezes in the North-West.

Mr. J. B. Waldo, who has watched this grape for some time, on the grounds of Mr. Ricketts, before it was sold to the present proprietors, says that he has seen many clusters of it larger and

finer than the one represented in our colored plate. Fruit picked on the second of September, 1884, was exhibited at the Ohio State Fair, and carried off the highest premium for the *best new seedling grape*.

We regret that we are unable to speak from personal observation of the qualities of this very handsome fruit and of the behavior of the vine, but from our acquaintance with the Messrs. Pratt, we have every confidence in their statements, and believe that they will be found to be fully substantiated by the grape in the hands of those purchasers who will give it proper treatment.

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**READ THIS  
SPECIAL ANNOUNCEMENT.**

To any one sending me *fifteen* NEW subscribers to the *Canadian Horticulturist*, I will send by express a MAGNIFICENT ART BOOK, entitled the FLORAL KINGDOM. It describes more than 300 of our wild and cultivated plants, a full page being given to each plant; tells the common and scientific name, the natural order or family to which it belongs, the language, &c. It contains over 200 illustrations, and 450 pages. This superb volume is 9 by 11 inches, and weighs nearly five pounds. It is splendidly bound, with full gilt and jet ornaments; is gilt edged, and will make a most beautiful and instructive parlor volume. Cash price, \$5. On receipt of either five dollars in cash or fifteen new subscribers and fifteen dollars, I will deliver it at the express office here to the address of any person ordering this beautiful book.

EDITOR.

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## **EASY LESSONS IN BOTANY.**

**BY H. B. SPOTTON, BARRIE.**

### **INTRODUCTORY.**

The love of flowers is universal. To children especially flowers are a never-failing source of innocent pleasure. At this season, when winter is drawing to its close, there are few who do not look forward with delight to the spring ramble in search of the early Hepatica and Spring Beauty and Dog's-tooth Violet—those impatient and venturesome harbingers which follow so close upon the retreating footsteps of the frost-king. Even while the snow still lurks in hidden hollows, the pale Hepatica emerges from its woolly sheath and sweetens the air with its mild fragrance, and the Spring Beauty erects its cluster of purple bells to relieve the sober brown of the forest's leafy floor. And the interest attending the appearance of these first-comers is not diminished, but rather increased, as spring ripens into summer, and the wealth of our meadows and woods and water-margins is put forth in unceasing variety of odor and color and form.

This universal love of flowers is in itself a desirable thing—a thing to be encouraged for the sake of the refining influence insensibly exerted by it. Hence, even though not intended to be systematically studied, flowers should form a prominent feature in the surroundings of all our schools. But this interest in color and form—this instinctive love of what is beautiful in nature—is deepened into admiration for nature's ways of working, when we look more closely into the structure and uses of the various parts of plants, and see how wonderfully these parts are adapted for the special purposes they have to fulfil in the plant's life-history.

In this closer examination, also, the truth is gradually borne in upon us that the floral world around us, peopled though it is with forms almost endless in variety, is nevertheless not a chaos,

but a well-ordered system, and we come to recognize family likenesses between plants which to the untrained eye do not at first resemble each other in any respect. To the ordinary observer, for instance, there is nothing in common between the locust tree and the clover growing about its base; yet a very moderate botanical training enables one to see that the flowers of these two plants are constructed on precisely the same plan, that a similar plan is manifested in the structure of their leaves, and that even the mode of growth of the stem is the same in both. If our botanical studies are conducted in a proper way, we are led to find out all such facts, and many others, for ourselves by the use of our own eyes; our powers of observation are trained and strengthened, and we are irresistibly led to the exercise of our reasoning faculties in drawing inferences of various kinds from the facts which we observe. *We are taught to think for ourselves.* And no study accomplishes this high aim more effectually than botany, when rightly pursued.

In the following papers it will be the aim of the writer to present only such botanical facts as can be readily observed and comprehended by even very young readers. We shall, from the very outset, study plants themselves, and the writer will be much disappointed if those who attentively follow the lessons do not shortly find themselves qualified to go into the fields and woods and with little difficulty determine the proper name and relationship of any of our common plants. To be sure this is not the highest aim of botany, but the consciousness of the power to do even this is a great source of pleasure to the young; it leads to pleasant summer outings in search of new plants, and to the formation of collections, in which much innocent pride may be taken, and in the making of which habits of neatness and carefulness are necessarily cultivated.

#### LESSON I.

As it is the design of these lessons that you shall learn the simpler facts of botany by actually handling plants themselves, and seeing with your own eyes all those things to which your attention will be drawn, the first thing you must do, always, is to get the plants or parts of plants that will be mentioned at the beginning of each lesson. Sometimes these specimen plants will be wild ones, so that you must go into the fields or woods to get them; but we shall also, when it suits our purpose, take plants from the garden, or weeds which grow by our roadsides and near all our houses. So that, generally, you will not have much, if any, trouble in finding everything you want.

Now, for the first lesson we shall examine roughly the whole of two or three plants, so as to get a general idea of all the parts which go to make up their structure. After that we shall spend some time upon each of the parts separately, comparing together the same parts of different plants, observing any differences of plan that may strike us, and giving, for convenience in speaking about them, special names to special forms. Then, as our observations go on, you will easily discover for yourself that while plants vary so much in one way or another that hardly any two are just alike, still there are a good many points in which even the most unlike plants resemble each other, and that by noticing these points of resemblance we can readily parcel out the plants that grow all about us into groups, and these again into smaller groups, giving them all appropriate names, and, in short, making for ourselves a classification or orderly arrangement of them. If you have commenced the study of English grammar you know that one of the first things you have to do is to observe the peculiar uses of the different kinds of words, and having learned the uses of them to give them special names, so that you discover in time that every word in the language must be classified under some one of the eight parts of speech. Then you find that while all the words in a certain group are equally entitled to be called *nouns*, we will say, yet the large group of nouns may be broken up into smaller groups which we call *common nouns*, *proper nouns*, &c. In short you learn to make a classification of words, and you do not require to be told what an advantage it is to have a clear understanding of this classification. Just so in the study we are now beginning. You will learn how to classify plants, and this we hope you will do by so

using your own eyes as to read in the plants themselves the reasons for their position in the system.

For our first examination it makes but little difference what plants we take, but let us choose two or three which will lie within everybody's reach, particularly at the commencement of our Canadian summer. Obtain, then, a specimen of each of the following, *in flower*:—Hepatica, Dandelion, Geranium, Wallflower, Buttercup. The last-named is the best one to begin with, for a reason which will appear presently. In Canada there are a good many kinds of Buttercups, but any one of them will do just now. You will be pretty sure to find one of some sort in the first wet ditch or meadow that you visit. The Hepatica will be in bloom in April and May in every piece of dry woods. You will observe that the flowers appear before the leaves of the season, so that you must gather a few of the old leaves when taking up the plant. The Dandelion is only too common, and the Geranium and Wallflower are to be found in every collection of house plants. You should be careful, when gathering the outdoor specimens, to take up the root as completely as possible. Having shaken off the adhering earth, or, better still, having gently washed it away by dipping the roots in water, we are ready to begin. Look first at the root of the Buttercup. Observe its thread-like or *fibrous* form, and contrast it with the single stout *tap-root* of the Dandelion. (How does it compare with the Hepatica?) Observe the much finer threads that strike out from the surface of all the roots; we shall call these *rootlets*. You see that the color of the roots is not green like the upper part of the plant, but generally pale or brownish; and above all satisfy yourself that there are no *buds* or leaves, or anything like them, on the roots. If you ever find an underground part which seems to have leaves or buds, you may be perfectly sure it is not a root. The Canada Thistle, the Couch-Grass or Quick-Grass, and the Potato all have such underground parts. The root of our plant has a special duty of its own to perform; what that is, and how it is done, we shall find out later on. In the meantime we shall just mention that every part which performs a special duty is called an *organ*, and from this out we shall often use this word in this sense.

Now look at the stem of the Buttercup. Squeeze it between your finger and thumb, and observe how readily it yields to the pressure. Try the Wallflower and Geranium stems in the same way. They are harder, especially the lower part of each. The soft stem is *herbaceous*, the hard ones *woody*. In these three plants the chief use of the stem seems to be to produce and carry the leaves and flowers. It has other uses, to be described hereafter, but for the present you must know that *leaves are produced on stems and branches*. Now look at the Dandelion. Find the stem. You will probably say it has none. But it has leaves, and these must grow on a stem. The leaves of Dandelion are all crowded together, forming a mat or rosette at the surface of the ground, and the stem must therefore be very short indeed. Such plants as this are, in fact, often called *stemless*. Now compare the Dandelion with the Hepatica. The knowledge you have gained from the Dandelion is of great use to you here. You at once pronounce the Hepatica to be *stemless* also, the spaces of the stem between the leaves being reduced almost to nothing.

The leaves themselves next call for examination. Beginning with the Buttercup, we see that the lower leaves are somewhat different from the upper ones. Each of them has a stalk and a spreading flat part, the latter more or less cut up into sections. The upper leaves of all have no stalk. We shall call the stalk of a leaf its *petiole*, and the flat part its *blade*. All the leaves of the Hepatica have blades and petioles. Those of Dandelion and Wallflower simply have their blades narrowed considerably as they approach their insertion on the stem, but can hardly be said to have true petioles. All the Geranium leaves have blades and petioles. Do you see anything else about the Geranium leaves? Of course you notice the two little leaf-like things at the lower end of the petiole, one on each side. These belong to the leaves, and are called *stipules*. Do you find anything like them on the other plants? Always keep a look-out for stipules when inspecting leaves.

Just one other matter and we shall pass on to the flowers. Hold up a leaf of each plant



between you and the light, and notice the network of veins running in all directions through the blade. Of course the leaves are very different in shape, those of *Hepatica* and *Geranium* being a little alike, and also those of *Wallflower* and *Dandelion*, but in the network of veins they show a similar plan. Now all leaves of this sort are said to be *net-veined*, in contrast, for instance, to a leaf of *Indian Corn*, which is *straight-veined*.

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## FRUITS IN NEBRASKA.

The Nebraska State Horticultural Society recommends for general cultivation in that State many of our popular varieties, such as *Astrachan*, *Duchess*, *Snow*, *Wealthy*, *Pewaukee*, *Grimes Golden*, *Ben Davis*, *Northern Spy*, *Walbridge*, *Mann and Whitney*, among apples; *Alexander*, *Amsden*, *Crawford's Early*, *Crawford's Late*, *Smock*, and *Old Mixon*, among Peaches; and of grapes the *Concord*, *Delaware*, *Moore's Early*, *Worden*, *Salem*, *Pocklington* and *Eumelan*. Planting of pears for profit is not recommended, as the trees have almost universally blighted. The safest are thought to be *Flemish Beauty*, *Louise Bonne*, *Vicar*, *Lawrence*, *Clapp's Favorite*, *Bartlett* and *Kiefer*. Only *Morello Cherries* are recommended, and *Plums of the Miner* type.

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### THE MIDSUMMER MEETING

Of the Fruit Growers' Association of Ontario will be held in the Town of *Uxbridge* on Wednesday and Thursday, the 24th and 25th of June, 1885. The *Mansion House*, *Plank House*, *Revere House* and *Bascom House* will entertain members at one dollar a day. The usual arrangement will be made with Railways for reduced fare. Members are requested to send to the Secretary at *St. Catharines* a memorandum of such questions as they desire to have discussed.

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## APPLES IN ENGLAND.

On the 3rd of March No. 1 *Baldwins* brought from 15s. 6d. to 18s. 6d. per brl.; No. 1 *Russets*, from 15s. to 20s.; No. 1 *Vandevere*, from 12s. to 18s. 6d.

On the 7th March, Canadian *Baldwins* sold at 15s. to 18s.; *Spy* at 13s. to 16s.; *Golden Russet* (Canadian) at 14s. to 22s.; *Rox Russets* at 9s. to 13s.; *Greenings* at 10s. to 14s.; *Canada Red* at 17s. to 18s. per brl.

On the 14th March, *Green & Whineray*, *Liverpool*, report Canadian *Baldwins* at 16s. to 18s.; *Golden Russets* at 16s. to 24s.; *Rox Russets*, 10s. to 14s.; and *Greenings*, 12s. to 16s. Arrivals for the week, 14,396 brls. Total to date, 483,039 brls.

On 28th March, *Green & Whineray*, *Liverpool*, report Canadian *Baldwins* 17s. to 19s., and *Golden Russets* 20s. to 26s. Arrivals for the week, 11,555 brls.

*Keeling & Hunt*, *London*, report *Nova Scotian Rox Russets* from 15s. 6d. to 26s., and *Baldwins* from 13s. 6d. to 14s.

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## THE ONTARIO APPLE AND McINTOSH RED.

At the winter meeting of the Maine State Pomological Society held in Gardiner, Maine, Feb., 23rd 1885, Mr. Geo. B. Sawyer, the Secretary of the Society, exhibited some samples of the Ontario apple, raised from scions sent for trial by the Fruit Growers' Association of Ontario. The fruit was thought to be crisp and juicy, but too sharply tart to be popular as a dessert fruit.

We notice that one gentleman reports that the McIntosh Red is proving a prolific bearer, judging from but a limited experience however, but not a late keeper.

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## QUESTION DRAWER.

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DEAR SIR,—I have in my dining-room a glass fernery, with close fitting top of same; but have not been successful in the cultivation of native roots planted last fall. Will you kindly tell me through the columns of your magazine—

1. Whether the top should be left on continually, or removed at intervals?
2. Whether it is necessary to have a faucet for drainage, or if a layer of charcoal in the bottom of tray will answer the purpose?
3. Also, how often the plants require water?

Your reply will much oblige,

Yours respectfully,

MRS. W. D. WATSON.

Ayr, Ont., March 13.

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REPLY.—You will do well to raise the glass, so as to admit air occasionally.

2. A faucet is not necessary, if you do not water so very abundantly as to cause a quantity to remain stagnant.

3. Be careful not to give too much water. Your glass covering prevents rapid evaporation. Use your own good common sense, and water when the soil seems to be getting dry. Let it be moist only, not wet or sodden. No set time for watering can be given.

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## WHAT THE PEOPLE SAY.

We have just closed the Annual Meeting of our Fruit Growers' Association. Had a very successful fruit convention in connection with it. I am much pleased with the *Canadian Horticulturist*. It certainly meets a pressing want as fruit growers need definite information, not hap-hazard conjecture.

Your fellow worker,

J. R. HART.

Bridgetown, Nova Scotia.

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We take eleven papers and there is not one that I welcome with so much pleasure as the

Relessy, Ont.

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## CORRESPONDENCE.

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### TOMATOES.

DEAR SIR,—For the last two years I have tried the experiment of training Tomatoes on the trellis system, and have found it to answer admirably, at least on a small scale. I have a woodshed which faces south-east, and has just frontage enough to allow me to plant five good strong plants two feet apart. These cover the unsightliness of the shed, and give my family as many Tomatoes as they can eat in the ripe, uncooked state, and as many as they require for sweet pickles, &c. I planted the “General Grant,” which bore and ripened, from the bottom to the top, and which grew to the height of eleven feet six inches. I set the plants fifteen inches from the bottom of the shed, which gave them a good slope. I use good strong uprights, and put the cross-pieces a foot above each other. Trim out weak shoots and tie up strong ones.

R. C.

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### GROWING STRAWBERRIES FOR PROFIT.

To make strawberries give the greatest net returns, there are many things to be taken into consideration. You must get the greatest number of quarts of good fruit, with the least possible outlay in labor, manure, etc.

The plan I have adopted, and which I believe to be the best for those who have land enough to do so, is to plant out a new plantation every spring, as it takes much less labor to plant out and care for a new plantation than to clean out the old one; and you always get the best fruit from a new plantation.

The soil should be prepared the season before you want to plant, either by summer-fallowing or ploughing under a good crop of clover and thoroughly working; and for a clay loam, which is best, if not already under-drained, by all means have it under-drained before planting; plough up the last time in fall, before the land gets very wet. If your soil is a dry, sandy loam, it may be ploughed in spring; but if clay loam, it should not, as it will dry out more easily, and will not work up so fine and mellow. In early spring, soon as the land will work up fine and mellow, cultivate deep with a two-horse cultivator, harrow down level and fine, then mark off with corn marker in rows four feet apart, and plant from one to one and one-half feet apart in the row.

The greatest care should be taken not to let the plants dry any while planting; do not take too many at once in your pail; sprinkle a little fine earth over them to prevent drying, then take out but one plant at a time, make the hole deep enough with trowel or dibble to allow the roots to go

straight down, spread them out fan-shaped, and press the soil among the roots very firm, so that by giving a quick jerk on a leaf it will break off before moving the plant; do not cover the crown of the plant or they will die. With a little practice the work can be done very rapidly.

Plant about six to eight varieties, as you can thus have the crop to extend over a much longer season, and the more you lengthen it at either end the greater will be your returns, as the earliest and latest fruit always bring the best prices.

I plant none extensively except varieties that do well in the matted row system. I also prefer those that bloom rather late in the spring. There is also a great difference in varieties withstanding frost while yet in bud.

I made a thorough examination of the blossoms and buds last spring, after the frost of May 29th (we had four degrees of frost.) On referring to notes taken at that time, I find that Jersey Queen had not yet opened any bloom, but more than one-half of the buds were killed. Primo and Mrs. Garfield were just beginning to open with a very large percentage of the unopened buds killed, while Daniel Boone, James Vick and Manchester, growing by the side of them were uninjured. Crescent Seedling and Captain Jack are also safe ones to plant.

Pistillate varieties usually produce the largest crops, but should have every fifth or sixth row planted with a perfect flowering sort.

I find none better to fertilize the Crescent than Wilson: it begins to bloom several days earlier than Crescent, although it does not ripen its fruit so early.

Some people claim that the variety used to fertilize with has a great influence on size, form, and quality of the fruit thus fertilized! I have had Crescent fertilized with Wilson, Captain Jack, Kentucky, Sharpless, New Dominion, Duncan, Cumberland Triumph, James Vick, Warren, and many others on different soils, and have watched them very closely for several years, and find that wherever I plant Crescent I always get Crescent fruit, no matter what they have been fertilized with. The seasons, wet and dry; soils, manner of cultivation, etc., have a great influence on size, quality and firmness of the fruit. I have also tested many other pistillate varieties on a more limited scale and find the above to hold good with all of them.

The best varieties for both sand and clay loam, so far as I have tested them, are Crescent Seedling, Daniel Boone, Manchester, James Vick, and Wilson, with Captain Jack and Mt. Vernon added for clay loam. Early Canada is very profitable when it escapes the spring frost; it blooms first of any, hence more apt to be injured, but is healthy, hardy, and productive, and is the earliest of all; requires strong soil.

I always make the most out of late sorts by planting such kinds as Manchester, Captain Jack, Mt. Vernon, and James Vick on a moist clay loam, and mulch well with straw. The most of the crop comes into market when prices begin to come up and good fruit getting scarce, hence have no trouble finding good markets.

Cornelia is a new variety that gives promise of being one of the most profitable late market sorts, but has not been sufficiently tested to be sure that it is such.

W. W. HILBORN.

Arkona, March 7th, 1885.

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## MEETING OF WINONA AND STONEY CREEK GRAPE GROWERS' CLUB.

*(From Our Own Correspondent.)*

Another meeting of the above Club was held in the Literary Hall, March 13th, attendance over one hundred, chiefly large fruit growers. Meeting was called to order at 10 o'clock a. m., and the ball opened by a paper on "Plum Culture," by G. W. Cline, of Winona. Mr. Cline has had fine crops of plums every year, and attributes his success to jarring the trees and spraying them with Paris green. Having adopted both of these methods to destroy the curculio, Mr. Cline feels confident that spraying will destroy the little Turk; sprays the trees just as the blossoms are falling, and again in a week or ten days, then a third time after a similar interval. Had found Wild Goose and Weaver varieties worthless. Would recommend the following varieties in order of ripening:—Imperial Gage, Bradshaw, Lombard, Columbia, Pond's Seedling, German Prune and French Prune. After considerable discussion, the next subject, "The Collection and Management of Fruit for Exhibition," was introduced by Murray Pettit. Many members expressed their disapproval of the exhibition of fruit by private parties who did not grow it—who perhaps grew none of it—but procured it from their neighbors. The meeting adjourned at 12.30 to partake of lunch furnished by the Society, and served up by willing hands. After the wants of the inner man were satisfied, the Secretary read a letter from the Niagara Grape Co. stating that Mr. E. Ashley Smith would not be able to attend, and read a paper on "Grapes," as he had not yet returned from New Orleans. In his absence the subject was introduced by Mr. J. H. Biggar, the veteran grape grower of Winona. Mr. Biggar thought no other grape could compare with the Niagara in the qualities that go to make up a perfect grape. He thought that Niagaras would pay better than Concords at the same price, being heavier yielders. E. D. Smith thought if white grapes were as plentiful as black they would not sell as well. Mr. Seusse did not believe in the Kniffen system. Had pruned on many different systems in Switzerland, on the Lake Erie Islands and here, and had found best results invariably from a system of pruning that kept the bearing wood close to ground and frequently renewed. This is impracticable in the Kniffen system. Mr. Murray Pettit, whose large experience makes him considered an authority upon grapes in this district, would recommend the following varieties for profit:—Delaware, Concord, Niagara, Champion, Moore's Early, Worden, Rogers' 4, 9, 15 and 44, Salem, Duchess and Noah. Mr. Woolverton had Pocklingtons that produced double of any other variety of same age, and sold for 20 cents per pound. R. R. Smith thought Mr. Pettit's list good, but would shorten it by striking out Rogers' 4, Salem, Noah and Duchess, also Champion except on early ground. Mr. Sporn had good success with Pocklington and Diana. A discussion followed on the damage done to fruit growers by honey bees and robins, which resulted in the adoption of the following resolution:—"That in the opinion of this meeting it is advisable that every grower of cherries, berries and grapes shall kill all robins and destroy all nests and eggs possible from their first appearance in the spring until the grape crop is gathered, at the same time sincerely regretting that the old friend of our early youth has become one of our most formidable enemies." The danger of overstocking the grape market was argued in the affirmative by Wm. Orr, E. D. Smith and Murray Pettit; and in the negative by Mr. Montgomery, Mr. Morden, Mr. Wilson and others. A long and animated discussion on the probable effect upon grape culture if the Scott Act is generally adopted next ensued, but no conclusion was arrived at; in fact most of the speakers argued a different question, namely, Is wine-drinking productive of temperance or intemperance? one party contending that in countries where wine is a common beverage no drunkards are seen, and the others contending that it is simply putting the alcohol in a more seductive form to conceal it in the wine glass.

Mr. A. M. Smith's paper on "Small Fruits," a synopsis of which appeared in the March number of the *Horticulturist*, was next read by the Secretary. Mr. Morden, of Drummondville, then addressed the meeting on the small fruit question. Mr. Morden evidently understands small fruit growing, and can also tell his hearers in a very clear and practical way how it is done successfully. Mr. Morden would approve of Mr. Smith's list of black caps, but would only recommend one red raspberry, and that the Cuthbert. Also thinks the Wilson strawberry most

profitable for general culture. Where Kittatiny blackberries are too tender would grow Taylor's Prolific. Had found Ruby Castle the best red currant. Black raspberries and blackberries should be watched in June for rust, and any affected plants dug out and burned at once. The larva of the raspberry saw-fly should also be watched and treated to a shower bath of hellibore or Paris green in solution.

A vote of thanks was tendered Mr. Morden, of Drummondville, and Mr. A. M. Smith, of St. Catharines. This is a brief outline of the most important and interesting meeting of fruit growers ever held in Saltfleet.

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## STOCKS FOR FRUIT TREES.

There is wide scope for the consideration of stocks for our fruits. The influence is great in many ways, and is not well understood by fruit growers themselves—and it concerns them the most. Fruit growing cannot be learned in half a dozen years, and the idea entertained at the end of that time may be reversed at the termination of the next six years. Then the opinions of the old and experienced in such matters are those to be depended on, for experiments with fruit trees cannot be proved in a short time to give a correct opinion; but I cannot see in any way that trees are made hardier by any particular stock. It only enables us to adapt our choice fruit trees to various kinds of soils, or to dwarf or bring into early bearing, as we grow the pear on the quince to dwarf and bring it into early bearing. But the quince will not do well on all soils—not on a dry sandy one. The quince is raised by cuttings for this purpose. More long-lived standard pears are wanted, the pear stock is the one, and best raised from seed; and also for the standard orchard apples, apple stocks. Then there is a marked difference in the seedling stocks—some robust, others of weakly growth—all having some influence on the graft. Pears can be grown on other stocks, as thorns and the mountain ash. The mountain ash may overcome the difficulty of growing pears on damp wet soils; what influence it may have on the fruit I cannot say. Some pears will not grow on any foreign stock, not even the quince. In that case, where it is desirable, resort must be had to double grafting. The varieties most likely to do on those foreign stocks are Maria Louise, Passe Colmar and Josephine de Malines. Plums can be grafted on cherries, and *vice versa*—even the wild native cherry that grows all over the Province; but here it is too far north to be very successful with plums and cherries. Those in the warmer parts may benefit by it, and I believe the peach would do well on it. Let those in more favorable parts of the Province try it and give their reports in this journal.

T. A. H.

Medora, Muskoka.

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## REPORT ON PLANTS RECEIVED.

I feel sure that your patience has been well tried and must be nearly exhausted with the way in which members of the Association have withheld the information they are expected to give respecting the reports of the plants, shrubs, trees, bushes, vines, &c., which they received from the Association. It may be some have not sent one line to let you know how they have done. We understand that each one shall report on the success or otherwise, as the case may be, to the

Secretary of the Association for the information of the Society and the country at large. We read these reports with great interest, and expect that others do the same. It is of importance to the fruit growers to know how they succeed in the various parts of the Province. We are in hope that the time is not far distant when you will be well rewarded for your patience. We say that the F. G. Association of Ontario is doing a noble work for the future as well as the present. The past of the Society has been comparatively small to what it must be in the future. There are many who do not understand the value or appreciate the information which they should receive and would receive were they to unite their efforts in so noble and philanthropic an undertaking as spreading abroad useful information for the present and future generations throughout the length and breadth of our beautiful Province, as well as the world at large. I hope that some one favorable may be induced to throw in their mite and help forward so good a work.

I wrote you several years ago giving you a brief account of some of the trees and vines received from the Association. I now give you a brief account from the beginning, as I do not know where I reported to:—

I became a member of the Association in

1872—Received the Report.

1873—Received Grimes' Golden Pippin, which was late in coming, and about or quite dead.

1874—Received Downing's Gooseberry and the Salem Grape, which have done fairly well, the first mentioned bearing some good gooseberries. The grapes were slow in bearing, but now we have some very fair grapes. We do not think it needful to describe the fruit, as it is well known.

1875—Received Flemish Beauty Pear. It has borne some nice pears. The tree is thrifty and doing well; very hardy; moderately productive.

1876—Received the Glass Seedling Plum. The tree has done well; began to bear in three years after planting out; have propagated by grafting; plums sell well in market; fruit large, medium in quality, good for market.

1877—Received Saunders' Hybrid Raspberry. Killed the next winter with frost.

1878—Received Burnet Grape. Came in good order; is now bearing; the fruit was small at first, but is doing better now; rather late in ripening; think it will do better after a time when it gets a stronger vine.

1879—Received the Ontario Apple tree from Mr. Charles Arnold, of Paris. The tree was injured in carriage; think it had been frozen; cut it well back; grafted the cuttings; one grew and is now bearing some good fruit—a handsome striped apple, good size, large to medium; good winter apple for market.

1880—Received the Hybrid Raspberry Black Cap (Saunders'). It has done well, bearing some fine crops of large berries; productive.

1881—Received the Brighton Grape in good condition; rather slow in growing; commenced to bear this last summer; bunches small, fruit sweet; rather late in ripening.

1882—Moore's Early received in good order; grows slow; not fruited yet.

1883—Received the Worden Grape; was killed with the frost. The Jessica, received at the same time, stood the frost much better than the Worden; last summer the Jessica made a very fair growth; I think it will stand better another year.

1884—Received Prentiss Grape in good condition; made a medium length of vine; think it will do well.

Yours truly,

CHARLES HICKLING.

Barrie, March, 1885.

# METHODS OF STRAWBERRY CULTURE.

BY T. C. ROBINSON, OWEN SOUND.  
(For the *Canadian Horticulturist*.)

There are two "systems" in common practice of growing this delicious small fruit. The "*Matted Row*" is the one by which most strawberries are grown that are offered for sale in the fruit stores of our cities and towns. The plants are set out about a foot apart in rows three to four feet apart and allowed to make runners freely the first year; the second year the old and young plants fruit promiscuously, and all are ploughed down after the crop is gathered—or, perhaps, if weeds are not too numerous and strong, the plantation is allowed to remain a year longer to bear a second crop. The advantages of this plan are easily seen and easily obtained—almost no care is needed after planting, except to keep the cultivator running (always in the same direction, so as to throw the runners all the same way) in the fast-narrowing spaces between the rows: the young plants with interlacing roots protect one another on most soils from heaving in winter; and if the white grub attacks the roots its ravages are not much noticed among so many plants.

Certain modifications of the Matted Row are practised by more careful growers. One man keeps the first runners off the young plants, thereby inducing stronger after-runners, and more of them. Another observant horticulturist sets the plants with the main *old* runner of each pointing towards the same side in order that the new runners to form plants may all start out on the other side of the row—it being the fact that young plants always send out runners in the opposite direction from the parent plant. A third grower carefully "layers" the first runners at uniform distances to keep his beds from becoming crowded in spots. But the one feature of letting the runners grow and form more plants is characteristic of this system however modified.

But the disadvantages are equally marked—the plants, crowded together, as they are sure to be on good soil in a fair season, demand far more moisture for proper growth of foliage and development of fruit than is contained by any soil in an ordinary season: then the rows invariably contain a large number of plants formed too late in the fall to form fruit buds—and therefore unproductive, and as useless as weeds; lastly, the ever-watchful weed-pests soon find safe refuge among the rooting runner tips out of reach of the cultivator, so that unless the soil is very "clean" each row becomes about berry time a regular Weeds' Paradise, which no large grower can afford to greatly meddle with. The net result of these three drawbacks is found in a crop which ripens up all within a few days, and consists at the last of an immense number of berries prematurely ripened and exceedingly small from lack of moisture; hence the market is suddenly glutted, and the price reduced for good fruit, and the later run of small berries rendered almost unsalable at any price.

"*The Hill System*" is almost unknown in some localities, though practised in other places for a long time. According to it the plants are set from a foot to 18 inches distant, in rows two to three feet apart, and all runners cut off before they take root and the whole surface mulched; no "hilling-up," please—the only "Hill" is a hill of growing leaves and fruit. The three drawbacks to this system are strongly insisted on by large planters:—

- 1st. So much trouble to keep runners off.
- 2nd. Danger from plants heaving out in winter.
- 3rd. White grub, if present, makes such noticeable blanks in the rows.

The advantages, however, are claimed, by all who appear to have fairly tried both plans, to greatly counterbalance the drawbacks. They are:—

- 1st. Large berries.
- 2nd. Large crop.
- 3rd. Long season of ripening.



4th. Certainty of crop in dry seasons.

5th. Twice as many paying crops of fruit from the same plantation—the net result claimed being a much larger margin of profit than by the other system.

Naturally the advantages and drawbacks in each system vary relatively on different soils, with different varieties, and especially in different seasons.

On light sandy soils, where weeds sprout and runners root with great facility, and where drouth soonest shows itself, the evils of the Matted Row, and the advantages of the Hill system are relatively greatest. On my land of this nature I find, with lurking wire-grass and sprouting thistle-roots, I can only hope for about a fourth to a third as much crop in the Matted Row as what I may confidently count on if the runners are kept off. We cut them off with a well-sharpened Dutch or “push” hoe, which we also use to cut the weeds close around the plants, and we think the increase in crop pays us five times over for the increase in labor and for the mulching. But on heavier soils, where weeds and runners do not root so readily, where moisture is more abundant, and where single plants that happen to lack mulching are certain to be heaved out to their destruction, the “Matted Row” will not be left so far behind.

With some varieties only the “Hill System” will succeed at all. The Sharpless, for instance, *may* be profitable with some men in “Matted Rows,” but I would like to see the men, and the rows too! So also the Jersey Queen, and indeed most of the large varieties must have the runners kept off to yield a profit. But Manchester, Crescent, the brave old Wilson, and a few others, are so persistent that they will not refuse a lot of berries, in spite of grass and weeds, in worse than “Matted Rows.” In very moist seasons the Common System may seem fully as profitable as the plan of keeping runners off. But when the rainfall corks up a week or two before the berries color, and *holds up* till the crop is done, then the difference is felt with a vengeance. Then the price running up and the berries running down make a vexatious fix for the man of “Matted Rows”—vexation not lessened by the quickness to run out of even his little berries. Last summer made a case in point: how many growers would have exchanged their matted rows for my Bidwell hills, yielding over two hundred bushels per acre—on light land, in a four weeks’ drouth—with the price fifty per cent. over ordinary figures, and buyers anxious?

But this question is one not lightly to be settled in one article or by one man. My experience warrants me in claiming the “Hill System” the best for all ordinary soils and varieties. Now let the gentlemen of “Matted Row” leanings speak up for their system that *Horticulturist* readers may come to an intelligent conclusion before the planting season is upon us.

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## CULTIVATION OF GRAPES.

As location, aspect and soil are of the first importance, and as they are questions that stand foremost on the intending planter’s mind, demanding solution, I will endeavor to put a few stray thoughts together bearing upon the above important subject, hoping that they may prove a benefit to some. Nearly any soil will grow grapes, at least for home consumption, and some varieties are so thrifty, and have such a strong constitution, that they can be grown almost anywhere, but with grapes on a large scale, either for market or wine, or both, good and paying results can only be reached in the best locations. (And I would say right here that I do not approve of the manufacture of grapes, or anything else into fermented wine, to be used as a beverage, as it is one of the branches and a feeder of one of the greatest evils in Christendom, intemperance.) The most suitable location for a vineyard in this beautiful northern land of ours is a situation near some of the larger lakes, and elevated at least 40 or 50 feet above them, or smaller bodies of water, for if

near the level of bodies of water, especially small bodies in this latitude the situation will very likely be subject to early and late frosts. Large bodies of water are not so injurious as small, as they absorb heat in great quantities during the summer and give it off slowly in the fall; this affects the surrounding country very materially by preventing early frosts. In the spring, the water being cold, it keeps the atmosphere cool for a considerable distance from the shore, and consequently prevents vegetation starting so early as it otherwise would. My vineyard is located about four miles north of Lake Ontario, and fully 500 feet above it, at Baltimore, on the south-eastern slope of Elcho Height; it is more exempt from early frosts than some other parts of the province thought to be more highly favored by nature. The very destructive frost that visited the larger portion of this continent on the 10th of last September, left the tenderest vegetables here almost uninjured, a part of my Concord, Delaware, Brighton, and all of Lindley, Hartford, Champion, Creveling, and other early ripening varieties matured before the heavy frosts injured them. I would not recommend the planting of any variety, in this district, ripening much later than Concord. In selecting a situation for a vineyard all the surroundings should be closely observed and taken into account. If the land has no protection from the north and north-west, see what the facilities are for supplying one by a belt of trees; Norway spruce is the best. Would recommend the declivities of hills and mountains inclining to the south as the best exposure for a vineyard; and the next in order are the south-east, east, south-west by south, but never a north or a full western exposure. Virgil said, "nor let thy vineyard bend towards the sun when setting," and these words are as applicable now as they were thousands of years ago. A location protected from the cold north winds, so as to insure sufficient heat to mature the fruit, is also desirable in a cold climate, but in a hot one the heat may be so great as to exhaust the strength of the vine by too rapid evaporation from its leaves, and it generally fails to live. A full southern exposure is no doubt to be preferred in Canada, and if the land descends to the south so much the better; but if very steep will cost more to prepare and keep in order; the land will also wash badly. A deep sandy loam with porous subsoil, thickly interveined with small debris of limestone, is preferable to clay or muck. Although a sandy soil may not naturally produce the most luxuriant growth, it is certain that it produces fruit of the richest quality. Such soils are moderately favorable to the growth of the vine, are easily worked, and do not retain an excess of moisture as they are thoroughly under-drained by nature. And it is a point that always ought to be borne in mind that the vine, like humanity, thrives very poorly with wet feet. Therefore, tenacious sub-soils, so-called hardpans, should be avoided. A moderately loose and friable soil, whether it be loam, sand, gravel, or the debris of rocky hillsides, will grow good grapes, other things being equal. Any soil rich enough to produce a good crop of corn will be rich enough, and if the soil is thickly strewn with small stones, so much the better, as they become warmed by the sun, and the heat is thrown back directly upon the vines and fruit, hastening the fruit in ripening. Retaining the heat for a longer period than the ordinary soil, and radiating it slowly by night, the temperature of the vineyard throughout the growing season is higher than it would otherwise be. The subjects of pruning, training, planting etc., I have not mentioned as, doubtless, my article has been spun out too long already. I expect to explain my methods of training, pruning, etc., in the near future. Closing I remain yours in the work.

T. A. CHAPMAN.

Elcho Heights, Baltimore, Ont.

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**STRAWBERRY NOTES.—Continued.**

To my mind, and I ought to know a little of the world and its ways (now in my seventieth year), there is no occupation young or old can engage in that will give more *pleasure* and profit than the growing of small fruit.

Practical men grow fruit to make money. Men of means grow for the pleasure of having this noble and luscious fruit fresh from their own garden and for their table.

But to those commencing and with limited means, I would mention a few out of the seventy-five or more varieties I grow at present.

I am at present testing sixteen new varieties. Some of them I have fruited four, three and two years. Of these the *Cornelia* is offered for sale by several Canadian fruit-men for the spring planting. The other two are Crawford's also, his Nos. 6 & 20. These I consider fully equal to, if not better, than the *Daniel Boone*. I have no axe to grind in mentioning these.

To those who have not grown these I am about to mention, I can truly recommend them.

1. *The Crescent*. It is by all odds the earliest and best bearer of any of the early varieties. Quality not the best, but if well grown, would pass for the *Wilson* any day.

2. *Captain Jack*, if grown in narrow rows and land as it should be for the strawberry, will please the grower every time. If the grower has no other staminate variety that blossoms earlier than the *Captain Jack*, it will do to plant beside the *Crescent*.

3. *Windsor Chief*. It is a good bearer and good color, and well flavored.

4. *James Vick* will do to plant beside the *Chief*. Immense bearer. The plant will take care of itself.

5. *Manchester*, a pistilate, and if well fertilized, will astonish the grower with the size of berry and amount of fruit.

6. *Phipps* will do to fertilize the *Manchester*. Wants plenty of room; it makes large stools, often a dozen or more fruit-stems.

7. *Glendale*, late, plenty of fruit. Plant will care for itself.

8. *Cumberland Triumph*. No better shipper than the *Manchester*, yet I admire it. It is such a noble berry, and perfect shape and plenty of them. This will be the fifth year in the same bed with me, and if the spring frost does not take the blossoms, I expect a bountiful crop.

9. *Sucker State*. Good grower and bearer. One of the safest to plant.

These ought to be in every collection. I can recommend them with all confidence to be what all "catalogues" say of them.

There are many more I may write about again if spared.

JOHN LITTLE.

Fish Creek, Feb. 17.

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## APPLE TREE BORER.

MR. EDITOR,—In the *Horticulturist* of February, H. asks how to keep the borer from apple trees. Last midsummer one of my best bearing crab trees suddenly withered and died. On examination I found the borer had completely girdled it, and commenced work on four others. In the spring I had driven the caterpillar from my currant and gooseberry bushes and saved a good crop by mixing about two tablespoonsfull of Paris green in a pail of air-slacked lime and shaking the mixture twice over the bushes before the fruit had fully formed. The Paris green could not be applied in this way on the trees; the best thing I could think of on hand was a bar of common yellow soap; dipping the end of this in the Paris green, and rubbing it on the trees attacked, I

think I stopped operations of the enemy as no new holes were bored up to the end of the season.

Yours truly, F. F.

Cape Elizabeth, Lake Rosseau,  
Muskoka, Mar. 13, '85.

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## MISTAKES OF FRUIT GROWERS.

(By Peter Pruning Knife.)

There is probably no branch of husbandry in which there are greater mistakes made from want of knowledge and experience than in fruit growing: and I think I may assert without fear of contradiction that fifty per cent. of all the fruit trees and plants ever planted in this Province have never produced fruit enough to pay for themselves, let alone the cost of planting, use of the ground, cultivation, &c., and this percentage would be largely increased if confined to the northern portions of the country. This may seem like an extravagant statement by those living in fruit sections, but experienced fruit growers even there will bear me out in this assertion by their own experience. I propose to point out a few causes of this great loss to farmers and fruit growers (for it is a loss which, if correctly estimated, would aggregate millions of dollars), and also to suggest some remedies.

The 1st mistake of planters is in selection of soil and location. Farmers in planting an orchard are generally anxious to get it near the house, and in doing this generally put it in some corner near by without stopping to consider that the land may be too low or wet, or perhaps too high and exposed for tender varieties of fruit. Trees will not thrive, as it is sometimes expressed, "with wet feet," nor will tender varieties thrive when exposed to severe cold winds.

*Remedy.*—Seek good, dry, sheltered locations for fruit trees and protect the small fruits by mulching in winter.

Mistake No. 2 is in the preparation of the soil. No farmer would expect a crop of grain or roots of any kind without first preparing the ground for it; but thousands of them seem to think this wholly unnecessary in planting trees, and they dig post holes in the sod, or among wheat, or almost anywhere, and stick them in and then perhaps find fault with the nurseryman or weather or something else because they don't grow.

*Remedy.*—Thoroughly drain, enrich and pulverize the soil, and dig holes large enough to straighten out all the roots in their natural position.

Mistake No. 3 is in selecting and ordering trees and plants. Ordering trees and plants from agents whom they know nothing about, and varieties that are not adapted to the climate and soil, simply because the agent recommends them and shows some high-colored beautiful picture of the fruit, has been one of the greatest mistakes of planters, and one that has cost them dearly. One-half or more of the fruits that have been thus recommended and planted in the northern parts of this country have proved worse than useless; they have not only failed, but they have discouraged planters in putting out others that are adapted to the climate, and thus crippled one of the best industries of the country.

*Remedy.*—Become a member of the Fruit Growers' Association, read their Reports and the

*Canadian Horticulturist*, and post yourself on the varieties that do succeed in your locality, and then order direct from some responsible nurseryman, and don't accept any variety you don't want because somebody recommends it who has trees to sell.

Mistake No. 4 is in time of planting. Many have made the mistake of planting tender varieties of trees and plants in the fall in exposed situations, and they have been killed by frosts before they have had a chance to grow. Hardy varieties may be planted in the fall in protected localities, or where they will be covered with snow or some artificial covering; but as a rule spring planting is preferable. Some plant in some particular time in the moon, and often wait till dry weather comes in the spring, and lose many of them in so doing.

*Remedy.*—Plant as early as possible in the spring, and plant in the *earth*, not in the moon or any other planet.

Mistake No. 5 is in not properly cultivating and caring for trees and plants after they are planted. Who would expect to have a hill of corn or potatoes grow after they were planted without hoeing or cultivating, or much less if they sowed oats or other grain between the rows? Yet this is the way thousands of young trees are treated. What gardener would look for a crop of cabbage or celery by setting out the plants and then leaving them to struggle with the weeds? Yet this is often the fate of small fruits. Who would be silly enough to think of pasturing a corn field and look for a crop of corn? Yet thousands of young trees are broken down annually by horses and cattle.

*Remedy.*—Cultivate your trees as thoroughly as you would corn or potatoes, particularly when first planted. Don't attempt to grow grain amongst them. Take as much pains with a strawberry as you would a celery plant, cultivate a currant or gooseberry bush as much as you would with a hill of beans; keep your horses and cattle in the pasture or stable where they belong, and don't use them for pruning purposes.

February, 1885.

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## THE NEW VARIETIES OF GRAPES IN PROVINCE OF QUEBEC.

August and September of last year saved the grape crop from utter failure predicted during the unfavorable early part of the season. The exhibition of the Montreal Horticultural Society and Fruit Growers' Association of Quebec was too early in September for a tolerably fair display of outdoor grapes, but the Abbotsford Fruit Growers' Association, held this year at Rougemont, Rouville County, on the 25th of September, had the finest display ever held in this Province. In outdoor grapes, Mr. Chas. Gibb had on exhibition thirty-four varieties, my own of sixty-five varieties, and several very creditable smaller collections. Mr. Gibb has infused a wide spread interest in the cultivation of fruit in general, and his long labors are yearly showing beneficial results. Well deserved praise is bestowed upon him from all quarters.

### ON WHITE GRAPES.

*Lady*, after the vine becomes established, proves productive and generally very satisfactory.

*Grein's Golden* ripened for the first. It has a fair sized bunch and berry, skin quite thin, is distinct in flavor from other white varieties, partaking somewhat of the plum. It is healthy in foliage, a good bearer and good home variety.

*Belinda*, *Antoinette* and *Carlotta*, Miner's seedlings, ripening in order named, are likely to all succeed here. *Antoinette* is preferable, as the best grower, and better in flavor than *Belinda*.

A Concord hybrid, No. 5, of Mr. G. W. Campbell, of Ohio, gave a very good impression. Resembles the Concord in some respects, but earlier and better.

*Prentiss* was more satisfactory this season, ripened earlier and was loaded, and a good portion of the bunches had to be cut out, which practice is very necessary here to ensure earliness in ripening. It may yet succeed for this Province generally.

*Faith* bore as heavily as it did last year. It has a small berry, and long, loose bunch, remarkably strong grower. In all notices I see of it south, is classed as an early variety. It does not ripen here before Delaware, unless about half the fruit is cut out.

*Duchess* did better than last year. It is still much smaller in berry than southern specimens sent us. Fruit in quality quite good.

*Lady Washington*, unfortunately too late by a good deal. Regret this, as the bunch and berry are admirable. Have given it close attention without corresponding results.

*Pocklington*. "The Golden," is also too late for this Province, though it was inclined to bear somewhat earlier this season, and improved in size; the color claimed for it is a wild exaggeration.

*Empire State* and *Mason's Seedling* I look forward to with no little interest. The former is well endorsed by Mr. Ricketts, and the latter by Mr. Bush, of Missouri, a very careful and reliable authority.

#### ON BLACK GRAPES.

*Early Victor*, after three years fruiting, sustains its reputation. If one-third to one-half the bunches are cut out, it is vastly improved in size and earliness.

*Dempsey's No. 25* (which I have noticed in Ontario Report as a white variety) has fruited here for four years, quite as large in berry as any of Rogers' blacks, and in bunch compares with *Barry*. Has proved earlier than any of the Rogers' of its color, and quite as good in quality. Now know sufficient of it to recommend it highly.

*Waverley* grafted from scion sent me by Mr. Ricketts in 1882; in foliage is not as strong, or in bunch as showy, but the fruit is delicious, and is all claimed for it by its originator.

*Burnet* is still highly prized, though late for our Province generally. I have seen unfavorable criticisms from correspondents in *Horticulturist*, and felt inclined to reply to them. If the cultivators would remove a reasonable portion of the clusters when fairly formed, the treatment would sustain my estimate of this fine grape.

*Early Dawn* has proved here utterly contemptible.

*Linden* not much better.

*Belvidere* in bunch and quality a trifle better than *Champion*, though some later.

*Worden* still pleasing and satisfactory, and preferred, all things considered, to Moore's *Early*.

#### ON RED GRAPES.

Here I can note some advancement.

*Poughkeepsie Red* gives a very favorable impression. It is in fruit larger and quite as good as Delaware, a better grower and stronger foliage.

*Challenge*, a New Jersey grape, in some respects reminds us of Northern Muscadine, quite as early, larger in bunch, less foxy, and does not drop its berry.

*Mary* (Stone and Wellington) impresses us favorably, has a good deal of Salem character, but

the foliage less liable to mildew. Inclined to consider it an improvement.

*Ulster Prolific* bore its first fruit; a favorable introduction: is a strong grower and abundant bearer, undoubtedly requiring much thinning out as vine gets strength.

*Owasso*, a beautiful dark amber of good size and pleasant flavor, is gaining after three years fruiting.

*Vergennes* seems disappointing on all sides as to its claims for earliness. Fruit should be well thinned out.

*Gaertner*, Rogers' No. 14, am inclined to think has been somewhat overlooked, and should be more cultivated. It is quite early here, a little after Massasoit. Good sized berry and bunch, and agreeable in flavor.

The sum total of our success here, where a few years since the culture of outdoor grapes was very limited, and when attempted, the treatment, if any at all, was at best slovenly, is in ample space in planting, judicious thinning out of clusters, proportioning fruit left to strength of foliage and habit of vine, careful systematic fall pruning, and laying down and covering with earth, simply, just before the ground freezes up for the winter.

WM. MEAD PATTISON.

Clarenceville, Quebec.

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## THE ROSE.

The three most useful families or orders in the vegetable kingdom to man are Graminæ, Leguminosæ and Rosaceæ. The two first contributing to his actual necessities, and the last to his tastes, in the shape of wholesome fruits and pleasing ornamentation, and I am not aware of a single specimen of the fruit, or the family, that is poisonous. The kernel may contain prussic acid, but in such small proportion that no fear need be apprehended. It is a geological fact that no organic remains of this family even in the diluvial deposits (the latest) of the earth's crust occur, evidently demonstrating the fact that it has appeared simultaneously with man, for the purpose of developing his mental and moral faculties.

Man stands at the head of creation in the animal kingdom, the Rosaceæ family at the head of the vegetable, each being adapted for the other, and to keep pace in the development of progress.

The Rose proper from which this important family takes its name, is indigenous only to the northern hemisphere, and generally distributed through Europe, Asia and North America. The Dog Rose (*Rosa Caninæ*) to central Europe, the Provence and Manetti being only sub-varieties; the Sweet Briar, the eglantine of poets, is indigenous to both northern hemispheres. *Rosa Gallica*, I presume, to France, *Rosa spinosissima* to Scotland; *Lutea* to Austria and Persia; *Boursault* to the Alps; *Damask (Damascena)* to the Levant; *Cinnamon (Cinnamomeæ)* to the Pacific slopes of North America; *Bourbon (Bourboniana)* to the Isle of Bourbon; the *Banksia* from China; *Rosa Indica Odorata*, the Tea Rose, to the same place; the climbing Ayrshire Rose (*Arvensis*) to Britain, and the *Rubifolia*, another climber, to the prairies of North America. All have a distinct characteristic from each other, and from these sources emanate Roses now in cultivation.

Really the Rose in its primitive condition cannot vie in appearance with some of the lower orders, for example, some of the Malvaceæ and Lilaceæ families, but the essential elements for development in the Rose are more abundant. The first step is to change the original condition of things by cultivation; this will evidently produce more petals than the five in the original, no doubt at the expense of the stamens, and when the blossom becomes thoroughly double all the fructifying organs are changed into petals, and its natural powers of reproduction are gone. I

think, upon examination, that it will be found that the number of stamens changed will correspond with the additional number of petals. The Roses now in general cultivation are mostly hybrids, and by a combination of the different elements have produced results which have developed in the Rose of the present day, the varieties being *ad infinitum*. To suppose that the Rose has now arrived at the acme of its gorgeousness is a fallacy. Progress does not admit of a climax. The Roses of the future will to a certainty far surpass those that are now in cultivation. The cultivation of the Rose is very simple, only requiring the same treatment as in a currant bush, namely, cutting out superfluous wood and spurring the branches.

The Rose to be grown to produce great effect is budded on the Dog Rose (*Rosa Caninae*) at standard heights, say from three to five feet, and planted terrace fashion, which I have seen and manipulated when a lad working in a gentleman's garden in the lowlands of Scotland; but, after all, when grown in this manner for a few years they soon decay and become unmanageable, consequently require to be replaced. I think all Roses do best when worked on the Manetti, which is very vigorous, and will produce better blooms and more vigor of growth, than when grown on their own bottoms. Example, what would a Giant of Battles be on its own bottom, a poor, puny thing, and many other like it. Roses grown on their own bottoms are just as troublesome to keep in order as those worked on the Manetti, particularly hybrid Chinas. When accustomed to know the difference between the stock and the variety worked on it, the suckers are easily removed.

Giving protection to the Rose in the country is absolutely necessary, which is easily effected by bending the canes and pegging down close to the ground, and covering with almost any kind of haulm. I have found pea straw, when it could be procured, the best. Care should always be taken not to put on too thick a covering. On the approach of spring remove it, tie the bushes to stakes if desired. The next trouble to contend with is the slug and thrip, which may be very easily kept under control by white hellebore or tobacco water. Although Rose culture is somewhat troublesome, you are amply remunerated for your pains. The Rose is a Rose, and it is not every shrub that is a Rose; and even when grown under adverse circumstances, it is yet a thing of beauty.

SIMON ROY.

Berlin, 17th Feb., 1885.

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## THE WILLOW.

P. E. BUCKE, OTTAWA, ONT.

In putting in a plea for growing the willow as a valuable and profitable addition to the industries of Ontario or the North-west, I feel that I am laying myself open to the censure of many individuals who perhaps have only partially looked into the subject. Any man who has a low lying swail of a few acres covered by a thick willow growth, which he has undertaken to clear up, will realize in this plant the fact that "it has come to stay," as our American neighbors term it.

The *Salix* family is one of the largest, if not the largest, of any of the vegetable kingdom. Loudon gives 282 species, 51 of these are credited to North America. The willow is found in every conceivable climate, extending from the tropics as far north as the Arctic Circle; it grows on all kinds of soil, from the banks of low stagnant pools to the highest elevations. The plants range from the tiniest osier to the majestic forest tree of six feet through. It would be rather a blot on creation if so large a portion of its wealth had been bestowed on such a widely-distributed product should it prove to be a useless article.



Many people do not plant trees because of the length of time it takes them to grow. This complaint cannot be brought against the *Salix alba*, white willow of Huntingdon. Its growth, though not so rapid as the mushroom, or the historic gourd, which grew up in a night, is yet of sufficient rapidity to satisfy the most fastidious. In ten years from the cutting it will make a tree from nine to thirteen inches through, and from twenty-eight to thirty-five feet high. On the Western American prairies, where it is extensively grown, it is claimed to be the best tree for the early settlers. It is also claimed that it will reproduce itself with great rapidity from the stump, no matter how old the tree was when cut down. The wood is light, tough and elastic, easily worked, and makes valuable lasting timber; it splits freely, makes good sawn lumber when of sufficient size, and grows with a straight, tall stem when closely planted. It is used for tool handles, hoops, cooper work, &c.; the bark is employed for tanning and medicinal purposes, taking the place of Peruvian bark for intermittent fevers, the active principle being salicin. This tree should be largely cultivated in our North-west; being hardy and of rapid growth, it would prove very beneficial there both for timber and windbreaks. I would recommend it for planting between more durable and slower growing forest trees, or in plantations to take their place whilst they are coming forward.

The *Salix caprea* grows to a large size; the wood takes a fine polish; it is stated to be worth as much in the market as birch. Its bark is also used for tanning purposes.

*Salix fragilis*, or red wood willow, also attains to a good big tree; its timber is used for many purposes, and is valuable.

The willow chiefly employed for basket purposes in Europe is *Salix viminalis*. This variety is cultivated on low, level, moist soils. The planting should be made from cuttings, which should be cut square across at the lower ends, so that the roots may come out evenly all round. The cuttings should be made from one-year old wood from nine to twelve inches long; these should be set firmly in the soil a good three-quarters of their length, in rows four feet apart, the cuttings one foot apart in the row. The plants should be allowed to grow two years without being cut, after which they may be cut close to the stump every autumn after the leaves have fallen. The cuttings are tied in bundles, and stood in water during winter, and are peeled when the sap rises in the spring. They are sometimes steamed and peeled in winter; but steaming spoils their color and injures their market value. Sap-peeled willows are always in first demand. By cutting the willows in the fall, the spring growth does not appear to be injured as it would if the shoots were removed during that season. These willow shoots are principally used for making baskets and chairs; for the frame work of the latter a coarser wild willow is used. Under favorable circumstances from three to four tons are grown to the acre. Three tons of green will produce one ton of the peeled cured article. The price varies with the demand; but in New York buyers only offer 5½ cents per pound, delivered at the cost of the shipper, who would also have to pay 10 per cent. duty. They are on occasions, however, as high as 7 to 11 cents. At 6 cents per pound, \$120 per acre would be realized. This would give a clear profit per acre of \$80 or \$90, after paying freight, duty, and other expenses for labor; but if manufactured in the country and sold as baskets, a much larger profit could be made. I am indebted to Mr. Thos. Truss, of the Brantford Asylum for the Blind, who has kindly furnished some of the foregoing information respecting the basket willow. He calls his willow the Welsh variety; whether it is *S. viminalis* or not I have not been able to ascertain; it is certainly a very fine variety for baskets and all sorts of wicker ware. Cuttings may be had from Mr. Truss at the rate of \$2 per thousand. Basket matting is nice light employment for either boys or women, and could be carried on during the stormy days of winter. There are large tracts of land which are overflowed every spring along the Ottawa, and in many places in Canada, that would be suitable for willow culture; and I see no reason why the basket industry should not be more largely added to the other manufactures of this country. Of course the necessary machines for peeling and splitting would be required, especially if the business were

gone into on a large scale. The splitting knives and other articles are by no means expensive.

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## AMARYLLIS.

There is perhaps no plant cultivated by the amateur florist that is more easily grown when properly treated than the Amaryllis, and doubtless very few, if any, that more amply repay him for the time and labor spent upon them.

In cultivating any plant or shrub successfully we should know the conditions under which it flourished at its original place of growth.

These bulbs are natives of the Cape of Good Hope and South Africa. There they are subjected to a period of continual wet followed by a corresponding period of dryness. The heat of the climate is most intense during their period of dryness, consequently when growing they demand an abundant supply of nourishment and moisture, but during the season of rest a greater supply of heat and a lesser supply of moisture. If the following rules be followed as nearly as possible there will be no difficulty in growing satisfactorily this very desirable plant:—

1. When you obtain your bulb secure for its reception a pot with a diameter about three times that of the diameter of your bulb. It may be even smaller than this, but see that in no case it exceeds it in size. Over-potting is perhaps the greatest error amateurs are likely to make in growing any plant, and unfortunately the Amaryllis is no exception to the general rule. This bulb will even flower better for being somewhat cramped so long as the drainage is good. Now fill the bottom of your pot to the depth of two inches with charcoal to secure perfect drainage, and fill in the remainder with good rich soil.

2. In planting be sure that one-half your bulb at least is above the surface of the soil. Please read this again before you proceed further, as there is perhaps no other point so necessary of observation as this.

Bear in mind that all the nourishment is taken in by the roots, and as these are located at the bottom of the bulb only, no nourishment can enter at the side.

3. Avoid pouring water over the bulb, for if it be allowed to enter at the neck the moisture may result in centre-rot, or if by chance it be absorbed into the bulb it may not entirely cause the death of the plant, but it is certain to materially weaken it, and will almost invariably destroy the tiny flower scape already formed between the scales at its base. Water should, therefore, invariably be given from beneath.

4. After the bulb has flowered a short season of vigorous growth should be given in order to provide for future bloom, for it is now that those little flower scapes are formed which, after a season of rest, come forth in all their vigor and beauty to amply repay us for our time and trouble.

5. The necessary growth after blooming having been given, it should next invariably be given a season of rest. For this purpose you should not take it out of the pot, as it robs the bulb of much of its strength, and not unfrequently injures the flower scape so that it is entirely lost. When at rest give it only a very small amount of moisture, although it should not be allowed to entirely dry off, as in such a case you will be very apt to lose it altogether. It should not be hurried at this particular stage; it will make known its wants in due course by starting a new growth, after which water may be applied more freely. Take off the leaves only as they turn yellow, for removing green healthy ones only weakens the plant. By following carefully the natural requirements of growth and rest you have the surest way to secure perfect bloom.

The Amaryllis possesses this advantage over most other house plants, that it may be set away at any season under almost any conditions, and yet retain its vitality for months. Of the several

varieties I shall say nothing, as the grower can choose those that are most agreeable to his or her own taste.

A. A. WRIGHT.

Renfrew, March 11th, 1885.

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PRUNUS PISSARDII.—You who are fond of the rare and beautiful, buy a plant of *Prunus Pissardii* next spring. Its foliage is purple, which color is held more decidedly during the season than that of any other colored-foliage plant; and the leaves remain unharmed until after frosts. *The Rural* in this, as in all such matters, speaks from experience. It confidently advises its readers to try this plum, though the fruit itself is not worth much.—*Rural New-Yorker*.

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## MONTH OF MAY.

*(Written for the Canadian Horticulturist.)*

The blackthorn bloom falls on the spray,  
The daisies deck the hill,  
And May, the lovely maiden, May,  
With joy each blossom fills;  
Sweet May! the lark doth hail thee here,  
The linnet on the tree,  
With thee the summer birds appear,  
The lambs call after thee.

Weary with toil, I wander. May,  
Within thy peaceful bower,  
Thou cheer'st me with thy merry lay,  
And strew'st my path with flowers,  
The meadows with their diadem  
Of cowslips; shall I say,  
That every floweret is a gem,  
To deck the Month of May!

With blossoms on thy brow, dear May,  
The primrose at thy feet,  
And in thy hand the hawthorn spray,  
So fragrant and so sweet,  
Thou bring'st the lilac to the bower,  
The lily to the pot,  
And to the bank that bonnie flower,  
The sweet forget-me-not.

How beautiful thou art, fair May,  
In robes of gold and green,  
How happy is it round about,  
Thy face, May, how serene,  
And on thy cheek the virgin blush,  
So beautiful to see,  
And in the grove the sweet song thrush,  
Is carolling to thee.

A thousand birds their joy betray,  
To burst each bud to life,  
And when thou smil'st, fair maiden, May,  
Earth teems with love and life.  
So softly breathing, sweetest May,  
How balmy is the air:  
I see thee tripping o'er the way,  
A vision bright and fair.

Mrs. W. H. W.

St. Mary's.

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## HYACINTHS.

(Addressed to a bed of Hyacinths blooming in a prison yard.)

O fair and beautiful! Why bloom ye here?  
Your pure and wax-like forms strangely contrast  
With ironed doors and windows iron-barred,  
Where massive walls rise gloomily, shutting  
Out light and heat, with only one hour's sun  
(When in meridian altitude) to warm  
Your earthy bed; but flowers have their own use—  
Their teachings, fraught with gentleness and love  
And truth, which fall on the beholder  
Like the "dew upon the tender herb,"  
Refreshing all with its kind, gentle power.

Music like flowers, and flowers  
Like music, charm and calm the passions  
Of the human breast; may this be *here* your  
Ministry, where man degraded from his  
Maker's image, lower and lower falls  
Until he merits these dark, gloomy and  
Incarcerating walls.

Flowers are indeed God's messengers  
To bless and cheer a dying world, and point  
With smiling face to the best hope of the  
"First Resurrection morn."

M. W. M.

Owen Sound.

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## SOME NATIVE ORCHIDS.

Perhaps in these days, when the Orchid mania is raging, and the uttermost parts of the earth are "investigated" to discover new species of this wonderful flower wherewith to adorn the Orchid houses of wealthy amateurs, a few remarks about our native varieties may interest those who, not having an abundance of this world's goods, are fain to content themselves with such specimens of the genus as inhabit the fields and groves of our native land.

The various kinds of *Cypripedium* are among the most showy of Orchidaceous plants in this section, and the beauty of their blossoms rivals that of some of their more favored sisters occupying conspicuous places in the greenhouse. The *Cypripedium acaule*, with its large, purple flower, nodding on the slender, graceful scape, is a veritable floral gem, and the more common *Cypripedium pubescens*, or Indian Moccasin Flower, with its golden blossom, so like a gigantic *Calceolaria*, is a plant which no one who loves the wild beauties of the forest would pass unheeded. The loveliness of both the preceding species pales, however, beside that of the *Cypripedium spectabile*, or Tall Lady's Slipper, a denizen of swamps in this part of the world.

There is something marvellous in the appearance of these great, white flowers, which have markings on the inner surface, delicate as if the tiny flecks of color were laid on with a brush held by a fairy's hand. The large sepals of these blossoms are white, or nearly so, which adds greatly to their beauty. Indeed, when looking at a cluster from a little distance one would not find it very difficult to imagine that the angel of the flowers had appeared to mortal vision.—Mrs. H. R. L., *Hoosac*, N. Y., in February number *Vick's Magazine*.



## TRANSCRIBER NOTES

Misspelled words and printer errors have been corrected. Where multiple spellings occur, majority use has been employed.

Punctuation has been maintained except where obvious printer errors occur.

Some illustrations were moved to facilitate page layout.

A Table of Contents was created with links to the articles for easier use.

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