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JAMES MILLS, M.A., LL.D.

PRESIDENT ONTARIO AGRICULTURAL COLLEGE, GUELPH.

THE
Canadian Horticulturist

Vol. XVIII.

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PRESIDENT MILLS AND HIS WORK.

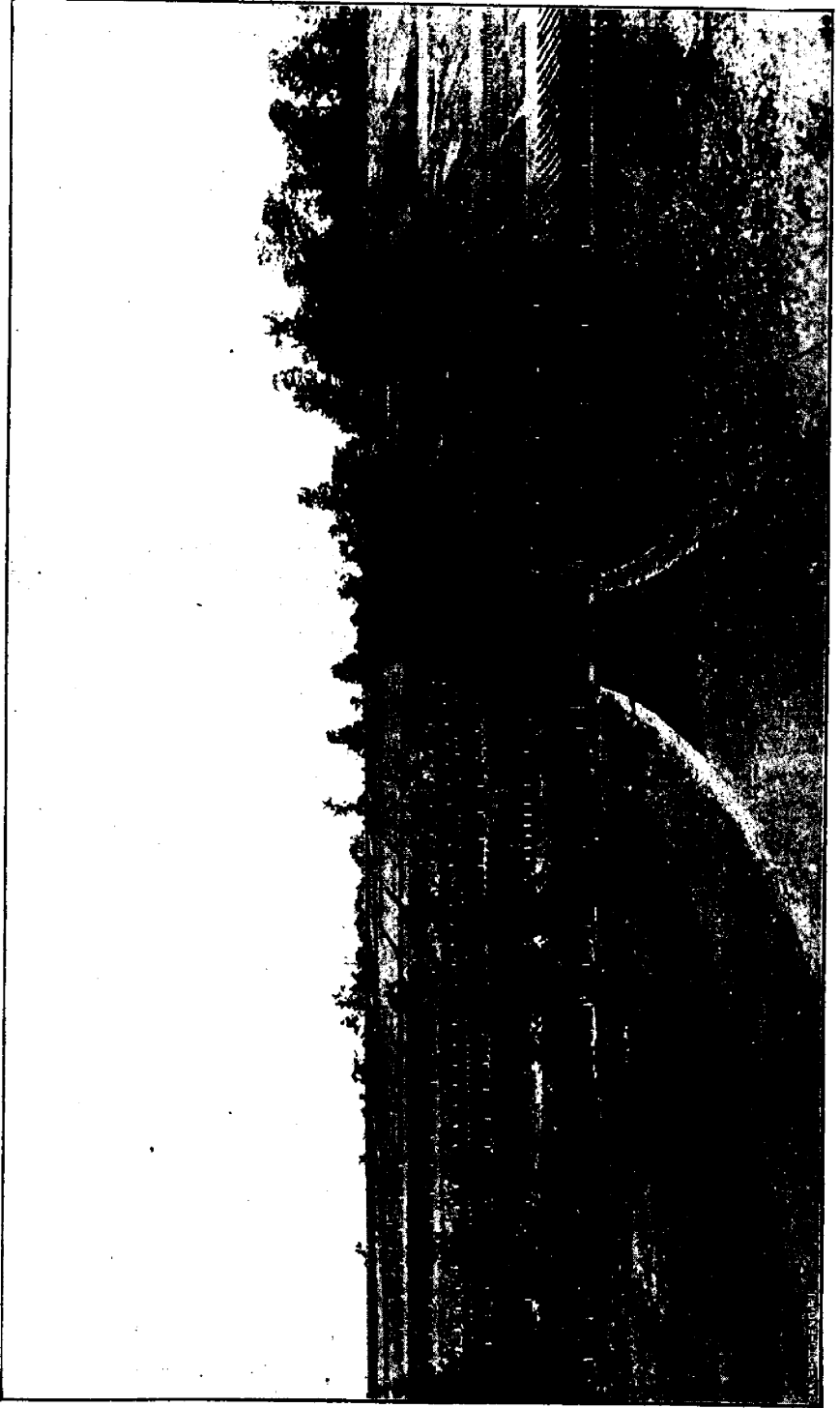


OW that Dr. Mills has become so closely associated with Canadian fruit growers, as President of the Ontario Fruit Experiment Stations, it seems fitting that his face should form the frontispiece of one of the issues of the CANADIAN HORTICULTURIST. His career has been so well sketched by Mr. F. W. Hodson, that we extract a portion of it. James Mills was born of North of Ireland parents, in the County of Simcoe, Ontario, in the year 1840. There, until he reached twenty-one years of age, he received a most thorough training in all the practical details of Canadian farm work, as

the farm upon which he was brought up, and upon which he worked, was one of the best managed and best cultivated of the Province. So far his life had been intensely practical. A serious accident formed the turning point in his career. At twenty-one he lost his right arm in a threshing machine, and, thus handicapped, he stood upon the threshold of his life work with responsibility, and what some would call disaster, staring him in the face. He then entered

the public school, and began his education at the time when the majority of young men have already finished. Hitherto his training had been manual or physical; now he began to develop the mental side of his nature. From the public school to Brantford Grammar school, and thence to Victoria College, Cobourg, he was led in his studies. From Victoria College he graduated as Bachelor of Arts in 1868, taking the gold medal for the year for the highest rank in general proficiency. Thus closed the second period of his life, and seven years of study and preliminary training. After graduation, he taught for a while in the Cobourg Collegiate Institute, from which position he was promoted to the headmastership of the Brantford High School. This institution was then in rank a third or fourth rate school; under Mr. Mills it soon became a collegiate institute, and began to attract attention as one of the most successful for training young men and young women for general work, for teachers, and for University examinations. The growth of his school and its reputation for thoroughness and good discipline, suggested a man for the Agricultural College when the presidency became vacant. The offer came to Mr. Mills from the Government entirely unsolicited, and was accepted in the summer of 1879, when began the fourth period of his life, the work in which he is still engaged. The Ontario Agricultural College had been established in 1874, and for many years had many and great difficulties to contend with. We sometimes hear a great deal about the agricultural colleges of the United States, but they have been forced, in order to maintain an existence, to enlarge the scope of their work by including technical, teachers' and even commercial courses. In many of these colleges the agricultural course has been the least successful. The attempt, therefore, to maintain an Agricultural College on its own merits in this Province has presented peculiar difficulties, and the success achieved is much to the credit of the various officials who have from time to time guided its course. When Mr. Mills became President, the College was still working up hill, fighting its way with little encouragement, and with much opposition. For the past sixteen years he has devoted his unstinted energies to the work. The College is a large institution, and has presented extraordinary problems to solve. It has had a hard struggle to gain the recognition and approval of the very class for which it was established. It has all the perplexities attendant upon a large boarding school. It has had to overcome the prejudice aroused by having had, in its earlier days, a number of students who were not agricultural in their up-bringing or their inclination. The students are now coming from the best farms of the Province, and the institution is becoming more and more every year an Agricultural College for Ontario.

The work of the College has been greatly enlarged during President Mills' *régimé*, by the addition of a third year's course, and affiliation with Toronto University, whereby the degree of Bachelor of Science in Agriculture is conferred upon its students. Travelling dairies have been instituted by the Minister of Agriculture, and the work performed by the dairy department of the College.



VIEW OF THE EXPERIMENTAL GROUNDS, FROM NEAR THE COLLEGE BUILDINGS.

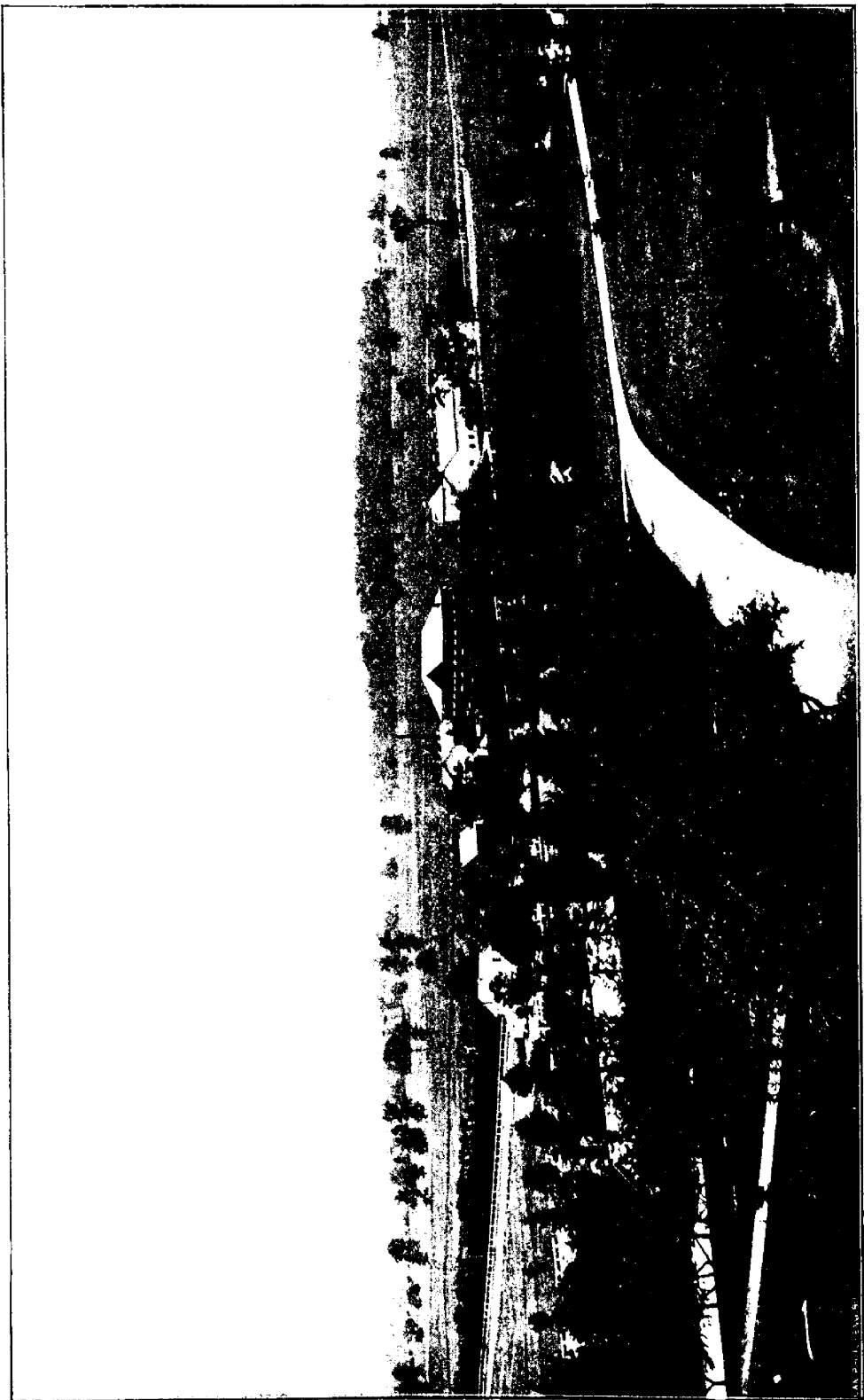
In this work President Mills has taken a very active part, and the labors of his office were thereby greatly increased. The high esteem in which President Mills is held by the farmers of Ontario, and the very high regard in which he is held by the leading agriculturists of the United States, prove that his work has been most successful. Personally President Mills has the best wishes of all ; he is known as a man of energy and thoroughness. He has shown the greatest courtesy to the many thousand farmers with whom his work brings him in contact at Guelph and elsewhere ; he has kept himself free from party politics, and is as acceptable to Conservatives as to Reformers. His administration of affairs is clear and above reproach. He has never been known to seek praise or publicity, to sound his own praises or encourage others to sound them for him, to gain any notoriety by pulling or tickling the ear of the public. He has simply done his duty, and that not always a pleasant or popular one, and has allowed himself to be judged by the public on the merits of work done. His work speaks for him, and the agriculturists and others of this Province know that the Ontario Agricultural College embodies the life work of President Mills and the many energetic workers by whom he has surrounded himself during the past sixteen years. Since Dr. Mills has been given full control of the College, things have become settled into systematic methods, and one can see evident marks of progress in every department.

In our last number we referred briefly to the Horticultural Department, which has only recently been added, but which, under the careful management of Prof. Hutt, coupled with Dr. Mills' wise oversight, promises to be one of the most important and popular departments of study at the College. Another department which has been fostered by Dr. Mills is that of Agricultural Experiments ; and this deserves passing notice from us, even if not connected with fruit growing. The experimental grounds cover an area of about 40 acres, and have been divided into 1,700 plots, and are laid out in ranges about four rods wide. A road about one rod wide runs through each two ranges, and a wider driveway divides the ranges into two equal parts. Our readers will be interested in the accompanying view of these experimental plots, and we may imagine, if possible, the work and care necessary to harvest separately, cut, haul, weigh, thresh and clean the products. The experimenter in charge of all this work is Mr. C. A. Zavitz, a gentleman well fitted to make the best of such excellent opportunities.

Another fine view from the top of the College is that of the Dairy Department, under charge of Prof. Dean, a department well known to our readers through the Travelling Dairy.

Any one of our readers who wishes to know more of the extent of the work now in charge of Dr. Mills, should write to the College for a copy of the last annual report.

ON page 378, for " Gardening," read " American Gardening."



IDENTIFICATION OF VARIETIES OF ORCHARD FRUITS.



IN view of the progress of our experimental work in fruits in the Province of Ontario, and of a large number of varieties—new and old—under test at our Experiment Stations, all of which must be described with reference to their adaptability to Canada, it is important that we duly consider the characteristic points and their proper descriptive terms. Some years ago, Mr. H. E. Van Deman, then U. S. Pomologist, wrote a paper for the American Pomological Society, which we consider of sufficient interest to students of Horticulture in Canada to reproduce in these pages, as follows :

All classification of natural objects may be said to be only approximately correct and strictly arbitrary. The established rules for such classification are frequently found to be unsuitable. The further we proceed with this classification the more complex and difficult it becomes. It is easier to distinguish and separate the natural orders of plants than the genera and species ; and when the subdivisions of species are reached, even the most learned doctors disagree. At this critical place and upon this treacherous ground the pomologist is obliged to make his way.

To be able to recognize every variety of our commonest fruits is utterly impossible, even by the most experienced. However, by carefully studying certain characteristics, and having a vast deal of experience with specimens grown under different conditions of culture, soil, and climate, one may become able to generally determine the names of varieties. To give in a sample way my views of what may be the cardinal points in such identification, is the substance of the hope that inspired the present attempt.

All will agree that certain characteristics of fruits are more constant than others ; these known and we will have gained one point. To my mind, considering all classes, there is no one character so fixed as the form. This will in the main prove true of all kinds, and as well of the immature as the fully developed specimens. Take the apple or pear before fully out of bloom and a difference of varieties may be noticed by their elongated, rounded, or irregular forms.

To some persons all babies are alike, but not so to the nurse or mother. So of the observant pomologist and his fruit. A Chenango the size of a marble is not the shape of a Rambo, nor would a Vicar half so large be taken for a Sheldon. Indeed it would not be hard to tell the difference between such marked varieties even before their petals had expanded. A cluster of the compactly formed Elvira grape could be told from one of Creveling, or even Concord, when only large enough to be observed at all. With growth these peculiar forms enlarge rather than change. Even starvation would not materially alter their shape. Let this then be our main guide in identifying varieties. Of course there are frequent, sometimes radical, variations from the typical forms, occur-

ring from sports of nature, or by accident, such as stings of insects or fungous diseases.

Another step will be to define the several characteristics of varieties, and place them in their relative positions. To do this, we will take up the several species of hardy orchard fruits in detail, comprising what are usually known as the pomes and drupes. First among these is

THE APPLE. Form.—Observed from a point perpendicular to its axis, may be round, flat, conical, oblong, or cylindrical; or from either end it may appear round, elliptical, angular, ribbed or scalloped. These latter forms may be called regular when round or nearly so, and irregular when otherwise. Then there are other peculiar forms, such as inclined, as in the case of the York Imperial, or unequal, like Cooper and Colvert, in fact, like very many apples.

The Basin.—The depression almost always found at the blossom end of the apple, and in which the eye is set, is either wide, narrow, shallow or deep; regular like that of Fall Pippin, waved as we see in Northern Spy, or folded into wrinkles like Yellow Bellflower. In a few apples and some of the Crabs it is wanting.

The cavity is at the opposite or stem end, and is sometime very deep and narrow, or wide and sloping like Rome Beauty. Pryor's Red and Pewaukee have the cavity almost filled. In the case of Swaar, Roman Stem, and a few others, it is marked by a peculiar welt, and said to be lipped.

The core is equally well marked, and usually conforms closely to the exterior shape of the apple. Some varieties have very small, compact, or closed cores, while others, like Ortley, are large and open. If the outline meets at the point of the calyx-tube, it is said to be meeting, if otherwise, it is clasping. I have found this to be quite uniform in those of one variety.

The flesh is perhaps the next character least subject to change. Who does not know the difference in weight between Yellow Newtown and Ben Davis, or the color of the flesh of Fameuse from that of Winesap, or the difference in taste of a rich and spicy Grimes' Golden, a melting Primate, or a coarse and acid Oldenburg? The flesh of an apple may be said to be coarse, fine, tender, or firm; white or yellow; dry or juicy; and in flavor sweet, sub-acid, or sour, rich or insipid. Of course climate and state of maturity have much to do with the flavor, but less as regards color and grain.

The eye, which is composed of the calyx and the small cavity which is hid by it, is another reliable mark. There is a difference in the width and length of the calyx-tube also. If the sepals form a closed or an open eye in one specimen of a variety, it is a good indication that all others of the same variety are similarly formed.

Dots on the skin are very likely to be uniform in color, size, and shape in one variety, except their being smaller and closer to each other towards the eye. They are numerous or scattering, large or minute, dark or light, round, elon-

gated or star-shaped, and surrounded with light or green bases. Although small, these dots are in no wise to be overlooked.

The seeds may be numerous or rare, large or small, yellowish, like High-top, or grey, brown or black. In shape they vary also, from short and plump, to slender and imperfect, as may be found in King of Tompkins.

The surface is sometimes uneven, lumpy, or pimpled, again it is smooth and glossy, like Wealthy, or waxy to the touch. Lowell is often called "Greasy Pippin" from this cause. All grades may be found, from a surface like polished glass, to the rough and rasping coat of the Russets. Color is a striking feature, but it is so often changed by climate, culture, season, sunshine, or shade, that we are apt to be misled by it.

If reddish stripes are never displayed, but merely a blush, or if no red color appears at all, it is proper to call the variety self-colored. Those that are striped or splashed with red in its different tints and shades, form another distinct class, and also the largest.

That peculiarity which we call russet forms the third class as regards color, and is most puzzling. Roxbury is usually distinct enough, but varies with the conditions of growth and climate. I have seen Pryor sometimes heavily russeted, and again as brightly striped as Ben Davis. There are more or less russet marks on nearly all varieties, and especially about the cavity, which is indeed a very good guide to their identity. In some it gives a sort of bronzed appearance. Another form is a sort of leather-cracked appearance about the basin, peculiar to very few kinds.

One of the most peculiar marks is what might be called pin-scratches, running from stem to eye, notably on Tallman and rarely on Keswick. They never exceed five, and in the Northern climates are much more distinct than in the South and West. Not to be overlooked is what we call bloom. The Russian varieties and the Crabs are almost invariably covered with it; it is a reliable mark of identity. Another characteristic is a grayish-white coating, such as is seen in stripes upon White Pippin and White Winter Pearmain. Sometimes it is suffused with other colors, giving a dull color to otherwise bright skin.

The size of all fruits is so varied that we must not lay too much stress upon this point. We see Lady apples as big as average Maiden's Blush, and Fallawater the same size; then we are forced to depend on shape, or almost any other indication. Apples may be graded as very small, small, medium, large, and very large.

The stem is with some kinds a constant mark, but it often fails to be so. It may be short, medium, or long, and stout or slender. Occasionally there is a pulpy growth upon the stem, which may be denoted as fleshy. The points of resemblance between the pomes are so close that but little deviation is necessary, and a repetition of descriptions will be avoided whenever possible.

LOCATING FRUIT EXPERIMENT STATIONS—II.



EARLY in September we continued our work, this time east of Toronto. At Whitby we visited an applicant, Mr. R. L. Huggard, who has already a fine collection of varieties. Of pears he has 40 varieties; of apples 60 varieties; of plums 50 varieties; of grapes 30 varieties. In all he has eighty-five acres of ground, and of this ten acres is in fruit. Among other interesting varieties of apples he showed us fine samples of the *Minkler* and of the *Boston Star*.

At Newcastle we called upon Mr. E. C. Beman, a gentleman who has 150 varieties of pears under test. He has thirteen acres of pear orchard and in it some very fine trees. One *Flemish Beauty*, sixty years planted, yielded him this year five barrels of fine fruit.

One variety of pear which Mr. Beman grows quite largely is the *Wilmot*, a seedling which he harvests about the 20th of September. It is not a large pear, but being firm, of good quality, and in season until October 1st, it sells well when the *Bartlett* season is over. The tree is very productive. He has 300 large trees of this variety, and one old tree which is about thirty feet high, and about six feet in circumference. Mr. Beman also has a good many trees of the *Duchess Precoce*, a pear much resembling the *Bartlett*, but later, and inferior in quality. He also has seventeen trees, five years top-grafted,

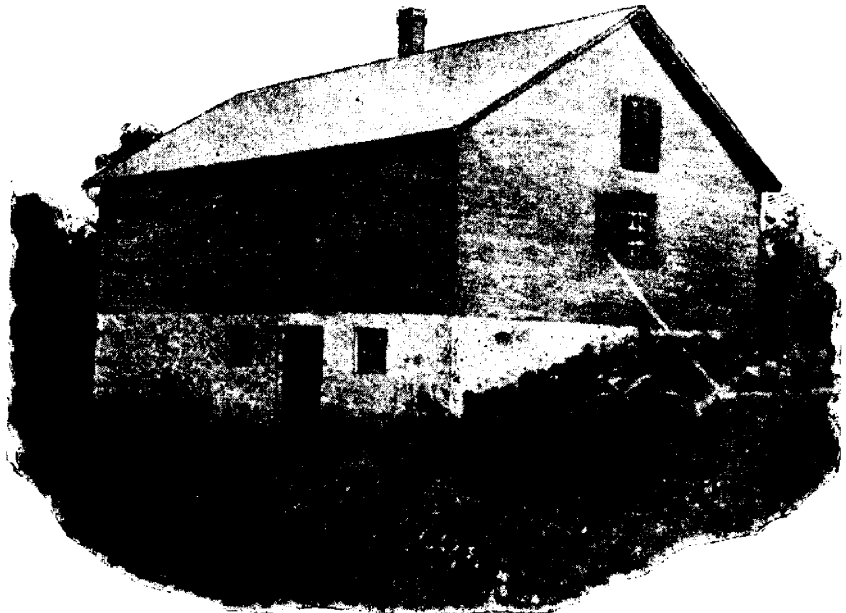


FIG. 836.—MR. DEMPSEY'S APPLE HOUSE.

of the Woolverton, or Princess Louise apple. They are heavily laden, indicating great productiveness of tree. The samples show two distinct varieties in external coloring, while the quality remains the same; one is somewhat striped, the other with a decided red cheek on yellowish ground. Mr. Beman also shows one of the trees of the Ontario received from our Association, now loaded down with choice fruit.

At Trenton we found the orchard of our experimenter, Mr. W. H. Dempsey, in an excellent state of cultivation. He has built an apple store house, which has two dead air spaces all round, and in which his apples keep perfectly. He finds he can almost double the value of choice apples by storing them, and then assorting and shipping it to the British market just when each variety is most wanted. A photogravure of his apple house is here presented. It is not a very expensive building, and a large part of the work has been done by Mr. Dempsey, who is himself of a mechanical turn.

Mr. Dempsey's orchard is very extensive, and has already been described. Walking through it from the packing house toward the mountain, on the slope of which the orchard is situated, we passed through a fine avenue, bordered on



FIG. 837.—ORCHARD OF MR. W. H. DEMPSEY, TRENTON.

either side with heavily laden trees of the Fameuse apple. They were all clean, bright, and large, promising a rich return. Our photogravure gives some idea of this view. The Ben Davis also was heavily laden, as usual, with magnificent fruit.

At Maitland, just below Brockville, we called upon Mr. Harold Jones, whose orchard is delightfully located upon the banks of the St. Lawrence. We found that Mr. Jones has seven hundred acres of land, and quite a large orchard of Fameuse, which indeed is the principal orchard variety of that section. He is an intelligent progressive kind of man, and has kept his orchard of Fameuse clear of scab by faithful spraying. It is his intention to devote himself in future largely to fruit growing. Some delightful views of the St. Lawrence were shown us by Mr. Jones from certain elevations on his farm; and afterward he rowed us out on the sparkling waters of the river, in order that we might have a good view of the river bank and of his orchard. A little snap of this view is here given, showing the house by the side of a lofty poplar, and the orchard on either side.

Mr. Jones counts among his ancestors, Dr. David Jones, who was engaged to the beautiful Jenny McCrae, scalped by the Indians at Fort Edward on the Hudson; and also Mr. Dunham Jones, Capt. of the Canadian troops at the Windmill fight, near Prescott, in 1837.

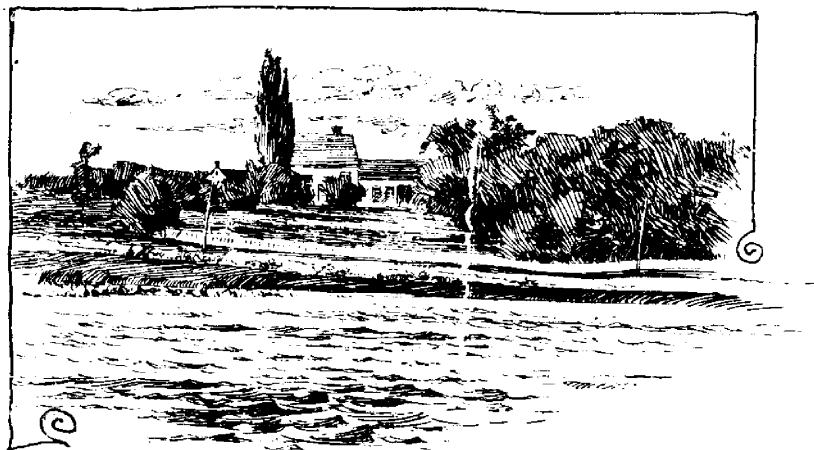
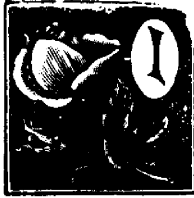


FIG. 838.—VIEW OF MR. JONES' HOUSE.

CIDER FOR EXPORT.—We have received from Mr. H. B. Small, secretary of the Department of Agriculture, Ottawa, the first number of a new journal called "Cider," published at 15 Lincoln's Inn Fields, London, W.C., England. The secretary calls attention to the importance of this article in the English market, and suggests the possibility of an export trade in it. Perhaps some of our Ontario fruit growers, who have been giving attention to cider making would like a trial shipment to Great Britain.

EARLY VARIETIES ON STRAWBERRIES.



It is almost impossible to make a Report this year. The crop was so badly injured by a week's hard frost at blooming time, and that followed by a long season of hot dry weather, that it was impossible for any variety to do its best. This fact must be kept in mind in what follows, especially in the illustrations. These are at

least $\frac{1}{4}$ smaller than they would have been if they had had a good shower during the time they were maturing. The cuts are the exact size of berries that grew on the respective varieties this season of 1895. I shall first present 6 or 8 of the best extra early and early sorts, to be followed by 8 or 10 of the best medium varieties, and, lastly, by the best late kinds. These are selected out of some 140 of the best named kinds that are now before the public, the simple facts as they presented themselves are given, with regard to each kind now offered to the readers of the HORTICULTURIST. The Clyde did best of all; Beder Wood came next. Some of the varieties that had the flower-stems and flowers frozen, sent up a secondary set, notably the Clyde and Beder Wood; some did not. The Haverland, Bubach and Van Deman were among those hurt the worst, and did not recover, only producing a very few berries; what fruit there was was small and ill-shaped, not typical berries, of many of the kinds.

1. Van Deman (S).—One of the earliest, an extra early is the Van Deman. A seedling of Crescent, crossed with Capt. Jack, and comes from Arkansas. The plant is a free grower, making a wide matted row, and when allowed to grow too thick, rusts somewhat; the season is extra early, a few days before Michel's Early. Size: the fruit is large and very beautiful, a box of them fairly compelling you to look at them; the berries look as if varnished and set with golden seeds, they are a grand sight; one of the good things about them is, the quality is as fine as the look, they are first quality and firm, and, lastly, very productive. The best to fertilize Haverland, Warfield, Bubach and other early pistillates. The great danger with the Van Deman is, it is often caught by the frost, it is so early to bloom and fruit. This is the fourth year of fruiting.

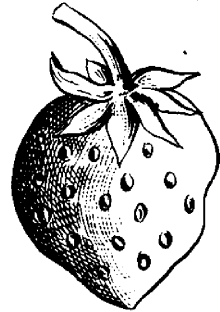


FIG. 8:9.
VAN DEMAN.

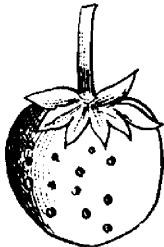


FIG. 840.
MICHEL'S EARLY.

2. Michel's Early (S).—A chance seedling, thought to be from Crescent, by J. T. Michel, of Arkansas. The plant is a wonderfully vigorous grower, making plants by the million. The season is very early, only a few days after Van Deman. The size of fruit is small to medium. The quality is fair and medium in firmness. The great fault with it is, it lacks in productiveness; if you could secure \$1 per box they might pay, and yet in some soils and sections of country, it is said Michel's Early is more than average in productiveness; but where there is one favorable

report, there are more than nineteen unfavorable ; it is not anything like as profitable as Van Deman or Beder Wood. Fourth year of fruiting.

3. Margaret (P).—This is a seedling of the Crawford by Mr. Crawford, the strawberry king of Ohio. The plant is a strong grower, healthy, making runnets freely. The season is very early ; size of fruit is large and fine looking, quality good ; color crimson. Firmness, medium and productiveness, fair. This was the first season it fruited here and as it was one of the most unfavorable seasons, I would like to make further trial before pronouncing on it, but it is very promising. It has not been introduced yet.

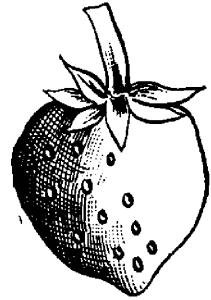


FIG. 841.—MARGARET.

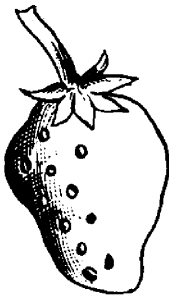


FIG. 842.
STONE'S EARLY.

4. Stone's Early (P).—This is a seedling by Mr. Stone, of Illinois. The frost and hot dry weather succeeding was very hard on the variety. The plant is a healthy one, growing freely ; the season is early. The size of the fruit was small this season, but that may have been owing to the dry spell just as it should have been at its best. The quality is fine ; color scarlet. It was not very productive. This was first season it fruited here, must wait for further trial before deciding as to its merits.

5. Beder Wood (S) or Recaster.—A seedling, by Mr. B. Wood, of Moline, Illinois. The plant is a good grower, making a wide row. It rusts somewhat when too thick. The season is early, among the earliest. The size of berry is medium to large ; one fault it has, some of the berries do not ripen evenly, leaving a white underside. It is very rich in pollen, and so a good fertilizer, the quality is only medium. Firmness, medium ; productiveness very good ; in fact it is one of the most productive ; of all, certainly the most productive early variety. It was among the best this dry year. Fourth year of fruiting.

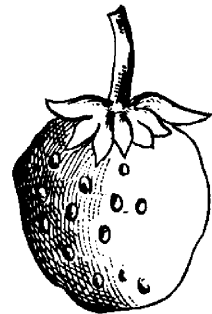


FIG. 843.
EDER WOOD, OR,
RECASTER.

6. Rio (S).—This is a seedling of Sharpless, grown by Mr. Thompson, of Virginia.

The plant is a good healthy grower, making a good wide row. The season is second early here this year. Size of berry is about medium: bright red color. Quality is good. Medium in firmness. It is productive. This is first year of trial. Must give it further trial, but I am very favorably impressed with it, and think it very promising.

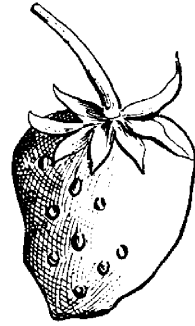


FIG. 844.—RIO.

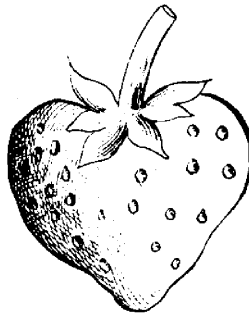
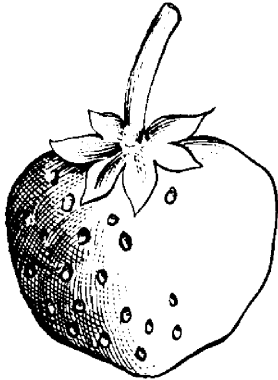


FIG. 845.—CLYDE.

7. Clyde (S).—

This is a seedling of the Cyclone, grown by Dr. Stayman, of Kansas. The plant of the Clyde is perfect in every respect. It is very healthy and vigorous, not a spot of rust or trace of disease on it. It resembles its patent and the Haverland, but is stronger and more vigorous than either of them. The

season is second early, continuing a long time. Size: it is large, no small berries. Quality is good and it is very firm, a bright, dark scarlet in color, and one of the most productive. This season it stood far and away at the head, showing that it is a dry season berry. The strong plant with its roots going down so deeply enables it to stand a dry time better than many others. I consider it one of the best, if not the best, of the general purpose berries now offered. I have fruited it three seasons. I would advise all berry growers to plant some Clyde. The following is Michigan Experiment Station Report of it: "Out of 10 points: productiveness, 9.8; quality, 8.5; firmness, 9.2; one of most promising."

8. Cyclone (S).—This is a seedling of Crescent and Cumberland, grown by Mr. Cruse, of Kansas. The plant is a strong, healthy, vigorous grower. No rust or disease. Season early. Size medium. The quality is good, glossy red, firmness medium, and very productive. A good one to plant with Haverland or Bubach, as it is a very early bloomer and continues a long time in bloom. It does not stand the dry weather as well as the Clyde, nor is the fruit as large, still it is a good one to plant for early.

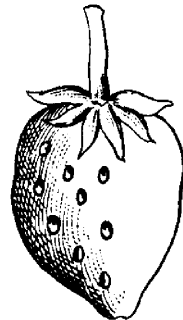


FIG. 846.—CYCLONE.

SUMMER PEARS.



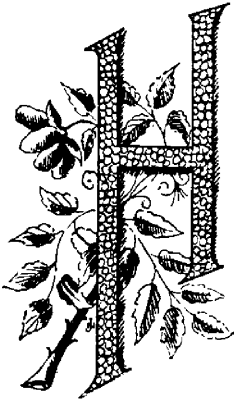
AMONG the early varieties Clapp's Favorite has proved the most profitable, and where a succession of pears is desired, there is no better list than this early variety, followed by Bartletts and Seckels. The first should be nearly harvested before the Bartletts are ready for shipment. The trouble often is with Clapp's Favorite that it is not picked early enough. For market use this pear must be picked before it is ripe, or else it will rot quickly at the core, and prove a failure. One needs some experience with this pear to know just when to pick it. It ripens so quickly after it reaches a good size that one may suddenly find his whole crop over-ripe before half harvested. If for home use the pears can be left on the tree all through August, but when raised for market the whole crop should be gathered early in August. The supply ought to be off the trees before the 20th of the month, and yet I have seen people just starting in to pick them at this time. Generally the pear is ready for harvesting on the first day of August, and I have started in to pick them on the 25th of July.

The crop of Bartletts should not be touched until the Clapp's Favorite are about out of the way. I do not believe in sending half-ripe Bartletts to the early market. The time has gone by when people would buy these early inferior fruits simply because they were the first of the season. The Bartletts are poor fruit unless properly ripened.

I believe that farmers and fruit-growers would realize much more profit from their pears if they had cold storage on the place. Bartlett and Seckel pears would especially pay the growers for their cold storage house. It is all right to ship the Bartletts to market when the prices are good, but as soon as the glut begins (and it comes every summer now) I should advise growers to hold on to their fruit. If the pears are picked before they are ripe, carefully wrapped in paper, and kept at a freezing temperature, they will keep for months. Later, when the season is nearly over, prices go up again and profits are doubled. If we do not adopt the cold storage system the speculators and commission merchants will. When the market is glutted they buy up the fruit by the carload and store them for future use.

What is true of the Bartletts is far more so of the Seckel pears. These naturally have better keeping qualities than the Bartletts, and by putting them into cold storage they can be kept until after Christmas. As we have no winter pear that begins to compare with them in quality, they meet a handsome winter sale. Boston makes a specialty of ice-house Seckels, and they are quoted in the markets until mid-winter. The Lawrence is later than the Seckel, and can be kept longer, but it has no such general demand as the old favorite Seckel.—S. W. CHAMBERS, in Rural Canadian.

SMALL FRUITS IN FALL.



HUNDREDS of acres of land are devoted to small fruits, which are annually cropped with no return to the soil of the elements taken from it. Strong competition has forced strawberry-growers to go to some expense for fertilizers in order to produce large berries, but the raspberries and blackberries receive but little manure or fertilizers. In the fruit-growing sections dairying is given but little attention; hence manure is not plentiful, reliance being placed upon commercial fertilizers. There is only one point regarding raspberries and blackberries, that is the large production of canes every year. This growth of new canes takes from the soil a much larger proportion of plant food than do the berries, and as fields may bear successive crops for ten or more years, the importance of an annual application of fertilizer cannot be too strongly urged. The early spring is usually the period of the year when fertilizers are applied, but there is a heavy growth of canes until late in the fall. In fact, the plants get ready during the summer and fall for next year's crop of berries.

When to Apply Fertilizers.—The spring application of fertilizers will always give excellent results, but they should be very soluble in order that the canes, which grow very rapidly, may be plentifully supplied, but after the crop is picked an application of potash and finely ground bone should then be used. Nitrogen should not be applied very liberally in the fall, as it is liable to be carried away by the excessive rains during the winter, owing to its ready solubility; but mineral matter will assist in the production of larger and healthier canes and aid them in resisting the attacks of insects and diseases. It is claimed that plants possess a "storage capacity"—that is, the ability to hold within themselves the substances from which the fruit is produced the next year—which claim is not fully accepted, however, but it is well known that when plants have been cultivated and liberally supplied with plant food in the summer and fall they respond to the good treatment, and yield more than a sufficiency of fruit to compensate for the expense incurred in pushing the plants forward and enriching the land.

Cultivation Necessary.—Outside of an effort to kill off the largest seeds between the rows, the canes of blackberries and raspberries receive but little cultivation, and in the rows among the plants weeds and grass contend for supremacy. The field is usually given up until spring, except to cut out the old canes during the winter, and the land is compelled to grow two crops—canes and weeds—and the canes are kept down, being unable to resist drought

because much of the plant food and moisture is taken by the weeds. Not only should deep and clean cultivation be given between the rows, but it will be an advantage to give the canes more room, so as to cultivate them under the "check row," system if possible, in order to avoid using the hoe. Canes are allowed to become too thick in the rows, and by giving more room, with clean cultivation, larger and better berries will be secured, with greater yields. By burning the old canes in winter and applying fertilizers at this season, thinning out the canes, keeping the rows clean and allowing no weeds or grass to grow among the canes, the grower will secure a much larger profit from his fruit next year.—Times Bulletin.

HOW TO RAISE ONIONS.



HILE onions grow on all rich soils, one should never attempt to grow them largely without a good market. The other requisites essential to success are plenty of manure, good seed, clean culture and careful handling.

The Soil.—Clay loam or muck, such as is found in most swamps, will do if dry, and some alluvial soils will do equally well. The land should be well manured and ploughed in the fall, and, if necessary, drained, so as to make the ground dry and warm. In the spring, as soon as the frost is out, the ground should be cross-ploughed, but shallower than before, then rolled and harrowed.

Sowing.—For early sowing in mucky or swampy ground, Wethersfield Red and large Yellow Dutch are good varieties. If not early, substitute Early Round Red for the Wethersfield Large Red. If the soil is strong and dry sow two-thirds Danvers Yellow Globe and balance, Early Round Red. Sow only large and new seed. After sowing, the ground should be rolled with a hand-roller, for the seed will come up more regular, and it will also facilitate after cultivation. It is generally found that the early-sown onion—other things being equal—does the best.

Weeding.—As soon as the onions are through the ground the weeding should commence. The oftener the ground is stirred the better for the crop. The ground should usually be hoed about once in two weeks during the earlier part of the season, and the weeding must be governed by number and growth of weeds.

Harvesting.—The onions may be pulled by hand, or by using a stout fine-tooth wooden hand-rake, raking six rows together. They should be turned in a few days in order to cure as soon as possible. When the tops are dry they should be trimmed with a knife or pair of shears, cutting the roots off also, and leaving an inch or so of the top on. Any green ones should not be cut, but left to ripen. They should be stored away in a dry, cool place, away from frost, and spread enough to keep them from heating.

Tiverton, Ont.

A. H. CAMERON.

EFFECTS OF FERTILIZING ON PEARS.



HERE is no fruit that responds so readily to good fertilizing as pears, and where old varieties seem to be running out a new lease of life is given to them by applying ground bone and potash. Without doubt these are the two essential constituents of the soil that the pear trees exhaust, and when they can no longer draw them from their surroundings they refuse to produce salable fruits. After many years of experience, says a recent writer in an exchange, I can safely say that all of the pear trees of an old orchard can be revived almost beyond recognition by the annual application of potash and ground bone. The process I have found the most serviceable is to apply about 400 pounds of muriate of potash with 800 pounds of ground bone per acre each year. One-half of this mixture is applied in the fall and the other half in the spring at plowing time. Crimson clover seed is sown with the fertilizer in order to give the necessary nitrogen. This repeated years in succession brings the orchard up to a condition where excellent crops of pears can be depended upon every season.

Lately many of our standard pears have been degenerating, and even upon good soil they fail to produce the paying crops that they should. The fruits are small, tasteless, and apt to be knotty and poor generally. Our fall fruits are unusually poor and insipid, and if better pears could be produced at this time of the year there would be a better general demand. Our fall and winter pears are susceptible of higher and more delicious flavors if we only give them the right cultivation and fertilization. The comparative difference between the fruits of the same variety of pears taken from the same orchards is sufficient to convince one of the truth of this remark. Not a few are so poor, that one can hardly believe that they came from the same stock as other delicious specimens plucked from trees that have been fertilized for several years. Herein lies the difference.

It is a crying need of the times that orchardists should get out of the old ruts, and educate the public up to a love for better fruits. In this way the consumption will increase. We can only do this by abandoning the idea that apple, pear and other orchard trees will take care of themselves. They will not, and never did, properly. They need cultivation and fertilization just as truly as do the vegetable, grain or other farm products. Fruit growing requires as much scientific study as grain growing or cattle breeding, and the sooner this is generally recognized the better it will be for the industry.

GENTLEMEN OR LADIES interested in forwarding the interests of Canadian horticulture, by extending our membership, will please send postcard for sample copies, circulars, etc., for free distribution.

NOTES FOR MAY MONTH, 1895.



THE following notes were suggested by the meteorological peculiarities of the month of May, and by some of the effects thereby produced. The chief peculiarities of the month were the intense heat of the first eleven days, and the high winds, and dry, cold weather of the following two weeks.

Successful fruit growing depends largely upon the stability of the normal range of temperature. Any excess above or below that range, especially during the growing season, often means partial, and sometimes total loss of a valuable crop; and this range was exceeded to an extraordinary extent during May month.

When the following figures are carefully examined and compared there seems good reason for believing that the great injury to the fruit crop this season should be attributed much more to the extraordinary heat of the first eleven days than to the frosts which followed.

The latter part of May is generally much warmer than the early part. The highest temperature for the month having occurred, during the past sixteen years, twelve times after the 20th, and the remaining four times before the 15th. The average of mean temperature for the month for the same period was 53.24° . Now, the mean temperature of the first eleven days of May this year was 64.74° , or a daily temperature of 11.5° above the average for May month for the past sixteen years, and the mean maximum temperature, which was 78.71° for these same eleven days was exceeded in only two June months and four July months for the same period. The cold, as measured by the thermometer during the following two weeks was not excessive. The lowest temperature registered for the month was 27.2° on the 16th. Lower temperatures were registered in each of eight May months during the previous fifteen years.

The first eleven days of May were, therefore, abnormally hot, the mean temperature being 11.5° above the normal range. The re-action then set in and the succeeding eleven days were abnormally cold; the mean temperature being only 42.52° , or 10.72° below the normal range, a decline of mean daily temperature from the first to the second period of 22.22° .

It is not surprising, therefore, that the premature and unnatural development of bud and blossom which took place in the early part of the month should have been severely checked by the cold winds and low temperature of the succeeding eleven days. Indeed, it is a matter of great surprise that more injury was not done. Had the temperature of the first eleven days been about as usual for the season, vegetation would not have been so far advanced and the injury by the frosts which followed would have been but little noticed, as the frosts, as before noted, were not unusually severe.

If this branch of meteorology had been better understood by many of those

who sent reports of injury to the fruit crop, the reports might have been much more accurate, but so long as statements of this nature are based on *personal sensation* or on the *thickness of ice* formed on still water, and not on the careful reading of first-class thermometers properly placed, such reports will be of little value.

The estimates made of the injury to the fruit crop were mostly based on the supposed intensity of the frost on the night of the 12th, but the minimum temperature of that night was only 20° 8', and was not as low as on other nights which followed. On four nights during the second period referred to the temperature was two or three degrees lower than on the night of the 12th, and these were the nights on which the greatest injury occurred, because injury to vegetation is mostly in proportion to the *severity* of the frost without regard to its duration, while the thickness of ice formed on still water is mainly in the proportion to the *length of time* the temperature is below the freezing point.

As a basis for future estimates of damage by spring frosts I would suggest that each of the conductors of our local experiment stations be supplied with a set of meteorological instruments necessary for this purpose, and that such instructions be given the conductors as may enable the Fruit Growers' Association to obtain and publish a more satisfactory report than has hitherto been obtainable.

The meteorological service of Canada will, I believe, supply the necessary instruments, forms, etc., gratis, on certain easily-fulfilled conditions.

The temperatures given in the foregoing paper are correct for this locality only, but the same principles apply in all directions.

Lindsay.

THOS. BEALL.

The alliums, grape hyacinths and jonquils look the best when grown with from three to six bulbs in a pot, their delicate flowers looking the best when grown in masses. The hyacinths and narcissus can be grown singly, or a couple can be planted together in a five or six-inch pot. If brought up from the cellar at intervals of two weeks, ten or a dozen pots will keep a window bright all winter with bloom, as a pot will average to remain a beauty nearly a month in a moderately heated room.—American Agriculturist.

A Home-made Potato Sorter.—The sketch herewith shows a home-

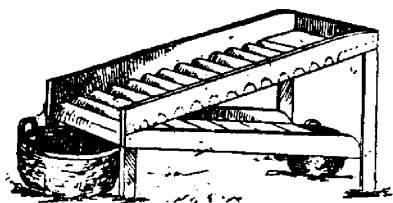


FIG.—848.

made device for rapidly and easily sorting potatoes as they are taken from the rows. The upper incline has crosswise, rounded strips, with spaces between as a flooring. As the potatoes pass down the incline the small ones fall into the lower incline, the large tubers falling into one basket and the smaller ones into the other.

The rounded strips do not bruise the potatoes as they gently pass down from one end to the other.—Amer. Agr.

SET SMALL FRUITS IN AUTUMN.

Those desiring to start a small-fruit plantation will find fall setting preferable to waiting until next spring. Other duties are more pressing then, and this

work is apt to be delayed. Plants set out in the fall are ready to start with other vegetation at the first appearance of favorable weather. Young roots and new buds will have started before the ground is in good condition for spring planting. Breaking these will stunt growth and produce a lack of vitality. Fall setting gives time for the callousing of wounded rootlets. In setting,

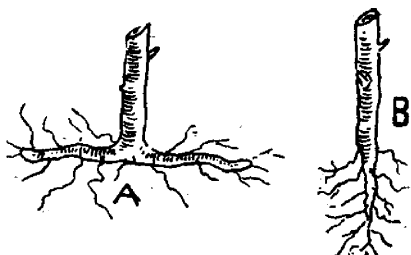


FIG. 848.

see that the earth is closely packed about the roots, leaving no air spaces. Select good, sound plants. The illustrations represent two types. The one at *a* is a root cutting; *b* is what is called a sucker. Use only the first kind. Many failures come from planting suckers. The essentials for good results are good location, well-drained, thoroughly pulverized rich soil, and good, sound roots, set in their natural position. Blackberries, raspberries, currants, gooseberries and grapes can all be planted this fall before a general freeze-up.—Amer. Agr.

For Drying Fruit.—Sun-dried fruit possesses a flavor that is wanting in fruit dried by artificial means, but one may well be willing to dispense with some of this sun-kissed flavor if it is accompanied by the dirt that is so common an accompaniment of fruit that has been exposed out of doors to the attacks of flies and the presence of flying dust. The illustration shows a fruit drier for outdoor use, that can be easily made, and that will perfectly protect whatever is placed within it. A light frame, with a hinged cover frame, is made of inch-by-inch stuff, or of stouter wood if the frame is to be of large size, and covered upon the top, bottom, sides and ends with wire mosquito netting. If the drier is of considerable length, cross supports will have to be placed across the bottom. If somewhat soft berries are to be dried, it will be well to place at first a few sheets of paper over the bottom, on which to spread the berries. Light stakes driven into the ground, with crosspieces, make suitable supports for such a fruit drier.—American Agriculturist.

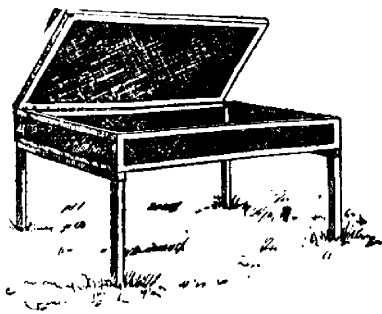


FIG. 849.



✧ The Garden and Lawn. ✧

THE BANANA.

Musa Ensete.



THE majestic Abyssinian Banana is one of the best species for greenhouse cultivation or outdoor decoration, its rich, broad foliage being tougher than other varieties, enduring our high winds to better advantage.

It is easily raised from seed when sown in a greenhouse, development being simply a matter of root room, water, and rich potting material.

Small plants may be grown in any window until too bulky, when, if bedded in the open ground, they will give grand results, if liberally supplied with manure and water. Being so easily grown, it hardly pays to winter them, which may be done, however, in a light, warm cellar. To do so, after the first frost cut off the foliage three or four feet from the ground, lifting with all the root possible into a box or barrel, water only sufficient to keep the roots from withering, bedding as at first.

The subject of this photo reached over three feet in height the first season in a large pot, transferred to a half-barrel it grew to eight the second, after which it was planted out about the end of May in a rich compost of well-rotted manure, loam and mold. The outdoor growth was more robust, and when cut down by the frost it was upwards of twelve feet high, with the stalk measuring over four feet in circumference at the ground.

This grand specimen stands in the centre of a bed of some one thousand plants of the New Hybrid Everblooming Cannas, with a border of *Caladium Esculentum*.

As outside of Canada we are looked upon as a land of toboggan slides and ice palaces, this view may at least take the chill off that impression.

It is only fair to add that this is the first crop ever grown on this ground, which is a piece of partly drained cedar swamp with springy bottom, broken for the first time in the summer of 1894. The bed is also situated on the north side of a six-foot terrace, the row of large oaks at the right cutting off the afternoon sun. The view faces the north.

Simcoe, Ont.

H. H. GROFF.



FIG. 870. --A CANADIAN-GROWN BANANA PLANT.

GROWING HYACINTHS IN WATER.



To be successful in the cultivation of hyacinths in glasses during the winter season, it is necessary to commence operations early in October, so as to give the bulbs an opportunity to properly develop their roots before they start into growth; and in order to obtain a continuous succession of bloom it is absolutely necessary to make successive plantings until the desired quality is secured. When the bulbs are procured they should be spread out in a dark cool situation, and examined occasionally, so that as soon as they begin to throw out roots they can be placed in the glasses. By selecting them in this manner a continued succession of bloom may be enjoyed from January until May. In cultivating hyacinths in glasses the single varieties are mostly used, as they do better than the double varieties.

In purchasing glasses those known as Tyes' pattern and those of a dark color are to be preferred. The bulbs should be placed therein as soon as they begin to form roots. In the bottom of each glass put a small piece of charcoal, then fill with rain water so that it will barely touch the bottom of the bulb when placed on the top. Then remove to a dark, root cellar—no other place will answer as well—for two or three months, after which they should be gradually brought to the light until they are placed in the lightest situation to be had, and given as much fresh air as possible. When the plants are growing it is advisable to turn them occasionally, and what water is lost by evaporation must be supplied.

The flowers will remain in perfection a long time if the plants are kept free from dust and placed in a cool temperature. As soon as the flowers begin to fade let the whole plant be thrown away, as bulbs that have been grown and flowered in water are altogether useless for further growth. The twelve best single hyacinths for cultivation in glasses are Mimosa, Grand Gilas, Porcelain, Sceptre, Robert Steiger, Sultan's Favorite, Madame Hodgson, Norma, Madame Talleyrand, Themtocles, Alba Superbissima and Anna Caroline. The best double for the purpose are A la Mode, Bouquet Tendre, Blocksburg, Frederick the Great, Grand Sultan and Marie Louise.—American Agriculturist.

Cabbage Worm, to Destroy It.—Get some fine salt, dry it perfectly dry on the stove or in the oven, then take it out with you into the garden. In the evening, when the dew is on the plants, take a small pinch of this dry powdered salt and dust it on each head; the dew will dissolve it and a slight rain will carry it in among the leaves of the cabbage or cauliflower, and it kills every caterpillar it touches and doesn't hurt the plants any. Do this about once a week. It is quick, simple, and effectual.—Gardening.

CHRYSANTHEMUM CULTURE.



THESE beautiful flowers from the land of "Japs" are among the easiest to grow, if even ordinary skill is exercised. Here is the manner in which they are grown in England, as reported by Illustrated Gardening. About November select stout shoots that have not been drawn up weakly through the plants being too much crowded. Put them singly in small pots, or several together in a larger ones, three parts filled with fine loam, sand and a little leaf-mould, with a layer of sand on the top. Stand the cuttings on a moist bottom in a cool house or pit that can be kept at a greenhouse temperature, cover with a propagating glass, and keep moist. Here they will root in the course of six weeks without the tops being at all drawn in the way that is unavoidable when they are subjected to heat. As soon as the cuttings are well-rooted remove the glasses, and put them singly in three-inch pots, using soil similar to that in which they were struck, but with less sand in it. When top growth fairly begins pinch out the points of the shoots and treat generally, in the matter of air and water, as required for the soft-wooded greenhouse plants. About the end of March move them into six-inch pots, well drained, using soil well enriched with rotten manure. In April put them in cold frame or pit, where they can be kept close to the glass and have plenty of air, which means to just keep out the frost on the sharp nights that often come about that time. At the beginning of May inure them to the open air by taking off the lights in the daytime; a little later on stop the shoots, and stand the plants out in full sun, with the pots plunged in ashes, not too close together. In June, before they get at all pot-bound, move the plants into their blooming pots, which may be from ten to twelve inches in diameter, according to the size they are intended to be grown to. Use plenty of drainage material and do not make the soil too fine; put more rotten manure in than most plants would bear, and a good sprinkling of sand. Tie the shoots well up to sticks so as to keep the centers of the plants open, and plunge the pots in ashes, standing them far enough apart to prevent their being in any way drawn. Syringe overhead every afternoon in dry weather; see that



FIG. 851.—ANEMONE-FLOWERED CHRYSANTHEMUM.

the soil never gets dry so as to cause the leaves to flag in the least, and in six weeks after potting begin to give manure-water each alternate time they require watering, using it somewhat weak at first and stronger as the season advances. See that the shoots are kept well supported with sticks strong enough to prevent their being broken by the wind. In autumn, as soon as the buds are large enough to admit of thinning, this must be attended to, or the flowers will be small. It is not well to take the plants indoors sooner than necessary, but do not let them remain out to get frozen. When housed they must not be stood too close, and should have plenty of air day and night, with a little heat turned on if the weather is frosty. If very big flowers of the large varieties are required, the plants should be confined to from three to five shoots each with all buds removed, except one to each shoot. If miniature plants in small pots are wanted, it is best to plant some out in the open ground early in summer, and when the flowers are set bend the shoots down and layer them in the soil; in a month or five weeks they will have made enough roots to allow of their being cut from the old plants and put in six-inch pots, and if well supplied with manure-water they will bloom well.—American Agriculturist.

The planting of spring-flowering bulbs is in order. All varieties of hyacinths, tulips, crocuses and snowdrops that do well in the house or greenhouse in the spring do equally well planted out of doors. More than that, many varieties that are hardly good enough for pot culture grow and blossom beautifully when planted out in the garden. If you want to fill your flower beds with hyacinths or tulips in set fashion, each variety all of a size and the plants exactly so far apart, then you must get good quality bulbs to insure evenness in size and opening; but if it is a gay ribbon, a brilliant and prolonged display you want, then plant common mixed bulbs, the hyacinths by themselves, the tulips by themselves, thickly and in six or eight inch wide belt, and you are apt to have a fine display of gorgeous color from early till late, and it looks well. The polyanthus narcissus are not hardy on Long Island, but the single and double daffodils, jonquils and orange and sulphur phoenix sorts and their allies are, and everyone of them is both beautiful and desirable.

Pruning Roses.—A pleasant writer in a foreign journal supplies food for thought for those who would like to know how to prune roses: Pruning, too, is quite a woman's work, provided her heart is hard. A well-pruned rose garden looks such a wilderness in March, as wheelbarrow after wheelbarrow of rose wood goes away. No rule can be laid down for this work, practical observation is the only recipe, and knowledge of the habit of the variety. Amateurs usually fail by doing too little, and leaving too much badly ripened wood and weak growths crowded together. A friend unused to rose growing prayed her husband just to spare her one bed so that she might have a few early blooms. He was a silent man; smiled, and did her bidding. She got her early blooms, but oh! such frost-injured, insect-mangled specimens that she could not bear to look at them. Next year she used a sharp knife fearlessly, and then had "glorious roses."

CACTI.

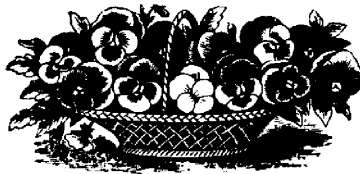


Y best success with fresh cacti received in summer was as follows: I had a common frame with sash hinged and raised at all times except in damp or cool weather. On the hard dirt bottom six inches of sand were placed. After the roots were all cut off the plants were placed on the surface of the sand and showered occasionally, so that the surface of sand was dry soon after, but the bottom was rather moist. In two months they made masses of roots equal to the size of the plants; in fact, roots as good as you could want on a strawberry plant; these could be lifted with sand attached and potted in rich soil. To illustrate, take a small fresh plant, say of the echinocactus family, and suspend it an inch over a glass of water—watch the result.

In a bed as described, three feet square, planted close with *Echinocactus caespitosus*, I had from fifteen to twenty-five flowers open every day for over six weeks, hundreds of beautiful pink and magenta blossoms, three inches across and sweet-scented, open to the glare of the sun for days. *E. Simpsoni* produces its rosy flowers as profusely, as many as eight being on a plant the size of a hen's egg.

Amateurs should not be discouraged. Investigation may perhaps show that too much water at times and not enough at others may be the cause of failure, but in most cases it is poor drainage. To the beginner I would say, put a four-inch board on a pair of ten cent brackets in a south-facing window and set thereon twelve saucers, then twelve small pots in them and a plant in each pot. For soil I take one-half sharp sand and the balance of rich loam with some lime or old plaster, fill the pots one-third with charcoal for drainage. Let the plant rest immediately on sand or small pebbles, and water once, no more, until growth begins.

Cuttings should be placed in the sun for three or four days before planting them and kept about dry until rooted. They root best in clear sand. The safest rule is to err on the side of dryness.—Gardening.



CANADIAN FRUIT IN SCOTLAND.

EDITOR CANADIAN HORTICULTURIST :

Sir,—Yours of 24th Aug. is just received by me. I note about the trial of cold storage for the tender fruit, and by the papers I see it did not prove quite a success ; but I think it must in the end if the storage is good, and the time taken to come over not too long. Yesterday, when in Glasgow, I called on Messrs. Simons, Jacobs & Co., large fruit dealers. On Tuesday they had sold a large lot of American apples at a price that they told me would net \$1.25 to the shipper clear. There are three lots more to arrive and will be sold to-morrow. They are the largest dealers in Britain ; they tell me Mr. Simons has met you. He tells me Scotland is a better market for American fruit than England, and just now there is a large demand for American fruit. One thing we must be careful of, that there is no false packing. The papers here and the agriculturist are always ready to take up that cry, and do their utmost to make the public think nothing is good that comes from America. You would be surprised at the amount of opposition there is to the coming into this market of American produce. They don't put a duty on it but they try to injure the trade in every way possible. See how they began to speak of our cheese. The same thing is true in the ham and bacon line. The trade in fruit here ought to be good. I paid in Glasgow, yesterday, 10d. a lb. for tomatoes ; 2/ a lb. for grapes ; 8d. a lb. for pears. I don't see how the people can afford to buy fruit at these prices. Mr. Simons told me they always did better in Glasgow with American fruit than in England, and they felt the need of a faster line of steamers coming into Glasgow. I think this would be a good point to try a small lot at shipping them to Simons, Jacobs & Co., Glasgow, as a trial, and the sooner the better ; if I knew they were coming I would tell him about them. I am now going to London, but as your letter has been so long in reaching me there is little chance of my being there when any fruit you might ship after this reaches you, would arrive. The best way, I think, is to make up a small shipment of choice fruit, packed as I suggested, of good keeping apples, and ship them to Glasgow to this firm, write them full particulars by mail, and let us see what the result will be. I will join you and any others in shipment, say, of not more than 50 bbls. I leave it all in your hands, as you know far better about this than what I do ; only I am very desirous to see all the trade done with this country possible. If plums and pears could be got in also ; the grapes they say will not sell, as our grapes lose their flavor in the trip. I can't see how this is, and the attempt now being made must be continued ; it will be a success. I may remain over here all the winter, staying in the South of France, coming home in the spring ; so if there is anything I can help you on in any way I shall be happy to do so. Write me to my London address, that will always find me.

Yours truly,

JOHN PENMAN.

Bridge of Allan, Oct. 10th, 1895.

PROGRESS OF THE NAPANEE HORTICULTURAL SOCIETY.



It may interest some of your readers to learn what this—a first year Society has done, and what we think of ourselves as a Society. The Board of Directors are interested in the welfare of the organization, and includes our two leading florists. This, combined with the fact of possessing at our head an energetic President of large experience in flower cultivation, makes the success of the Society assured.

We have not during this first season's operations, branched out as far, perhaps, as was anticipated by a few members, but have considered it wiser to go slowly at first, gaining some experience and husbanding our funds to some degree, until we know better our business. Our spring distribution consisted of canna and gladioli bulbs, and sweet pea seed; while our fall distribution has been an importation from Holland of tulip, crocus and hyacinth bulbs, a chrysanthemum and a primula plant. Also, as an inducement to early renewals of membership for 1896, and for new members paying by November 1st, we offer as a premium a subscription to "Mayflower," carrying a grant of 12 bulbs to each, and up to date a large number have availed themselves of this liberal offer. We should be glad to learn through the columns of your valuable magazine, the best course to pursue in the way of giving exhibitions or flower shows. We had none this first year, but propose having one annually hereafter. A very successful work, and one, we believe, much appreciated, was the distribution of flowers on a certain Sunday to all the churches, for the purpose of decoration. This will be another annual event. The thanks of the Society are due Mr. Beale, of Lindsay, for much valuable instructions during the period of organization; to Mr. James, Deputy Minister of Agriculture for information relating to departmental requirements; and to Mr. Herrington, one of the Society's Directors, for his active assistance in furthering the work of the Society.

Napanee.

J. E. HERRING,
Sec.-Treas. Napanee Horticultural Society.





SUBSCRIPTION PRICE, \$1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

REMITTANCES by Registered Letter are at our risk. Receipts will be acknowledged upon the address label.

✠ Notes and Comments. ✠

APPLES FOR LIVERPOOL.—In order to be in a better position to compare markets, the writer has made up 100 cases of fancy apples, packed in the same manner as those for Sidney, and shipped them by the Allan Line to Mr. P. Byrne, Ontario Government Agent, Liverpool. These are entirely a private venture, but they will serve to enable the Secretary to give the public a more satisfactory report, after comparing the returns from Sidney with those from Liverpool.

CANADIAN APPLES IN ENGLAND.—As will be seen in the market reports our apples are now in great demand in the English markets. The very hot weather prevailing in England during the latter part of the summer, has so ripened the English apples that they were practically out of the market by the middle of October, when, suddenly, Canadian apples almost doubled in value. Greenings which had only brought from 7/ to 9/, were sold at 14/6 to 15/9, and Baldwins at 17/ to 18/. Those growers who have not sold their apples too soon, will now reap an advantage.

APPLES FOR AUSTRALIA.—At the suggestion of our Board of Control, the Secretary has collected a trial shipment of choice Canadian apples for Sidney, N. S. W. The price there is good at this season, and apples are forwarded to that port from California. It would seem, therefore, possible that a market may open up for Ontario apples in that direction, for our stock will open out much firmer than the Californian. The varieties sent were chiefly Cranberry Pippins and Baldwins. All were selected with the greatest care, according to our Dominion grade No. 1, and wrapped in tissue paper. They were packed in

apple boxes, containing between fifty and sixty pounds each. They were addressed to Mr. J. S. Larke, Commercial Agent for the Dominion in Sidney, who will place them to the very best advantage.

THIS YEAR'S FRUIT CROP has been quite satisfactory to those growers whose location was favorable, and sheltered from the late spring frosts. All fruit has been of superior quality, and the prices have ruled unusually high. Concord grapes have averaged $2\frac{1}{2}$ c. to 3c. a pound, and fancy varieties 4c., and so with all fruits; the price has been good, and the expenses comparatively light.

Apples in Ontario are better in quality than they have been for years, so little spot, large and high colored; while the trees, where they are bearing at all, show indications of a return to their normal condition of fruitfulness, such as prevailed eight or ten years ago.

DEATH OF MR. E. W. BULL.—All fruit growers will regret to learn of the decease, on the 27th of Sept. last, of the originator of the Concord grape. This variety leads all varieties for productiveness and profit, and this year holds its place alongside of Rogers and Niagara for price.

Mr. Bull was born in 1806, and so he was ninety years old when he died. The original Concord vine was found by him, a hedge row, and removed to his garden; the fruit was first exhibited in Boston in 1895.

The Concord is the parent of the following:—*Black*, Campbell's Early, Cottage, Moore's Early, Worden, etc; *White*, Golden Concord, Martha, Niagara, Pocklington, Lady; *Red*, Woodruff and Jefferson; besides many others.

A HINT TO OUR LOCAL HORTICULTURAL SOCIETIES—A good plan of collecting the members' fees has been adopted by the Lindsay Horticultural Society by which all trouble of visiting members and asking for the fee is being avoided. The following is a copy of a notice which is printed on a post card and sent to each member:—

"The Board of Directors of the Lindsay Horticultural Society beg to inform you: That the membership fee of \$1 for 1896, if paid before the 1st of October, secures to each member, in addition to membership in this Society,

"1st. A certificate of membership in the Fruit Growers' Association of Ontario for 1896, which entitles the holder to the CANADIAN HORTICULTURIST for that year, and a bound copy of their annual report, and also a share in the annual distribution of plants of that Association, and

"2nd. To the following bulbs, which will be ready for delivery about the 1st of October, viz., (a) Hyacinths—two bulbs each of Red, Yellow, White, Blue, and Rose, and six White Roman—sixteen bulbs.

"(b) Tulips—five each of Parrot, Bizarre, Bybloom, and Scarlet Gesmeriana—twenty bulbs.

"All the bulbs will be of the best quality obtainable, and imported especially from Holland. The foregoing lot of bulbs is only guaranteed to the first one hundred members who pay their fees before the 1st of October next.

"J. C., President. F. F., Secretary. Lindsay, August 16, 1895."

THE ENGLISH APPLE MARKET.

Our readers may be interested in reading a few of the reports of the English apple market which come to hand during the past month.

Frank Rand, of Spitalfields Market, London, says on the 5th October:—We beg to advise that since we last communicated with you we have experienced a considerable improvement in the apple trade. At our sale of Nova Scotian apples yesterday, good colored Gravensteins realized from 11/6 to 13/6, and Ribstons and Kings up to 16/ per barrel. If you have any really choice Canadian apples, such as Kings, Ribstons, Twenty Ounce Pippins, etc., we think there would be no trouble in realizing these prices; but as only best fruit is wanted we cannot advise shipments of green or small apples.

Messrs. Woodall & Co., Liverpool, write under date October 12th:—Of the 9467 barrels received this week, all but 2522 barrels were from New York State. The fruit—especially Baldwins—showed much-improved color and quality, and all varieties except Kings were landed in fairly good condition, causing an excellent demand, and at Wednesday's sales an advance of 2/ to 3/ was readily paid. This advance was scarcely maintained yesterday, when about 4000 barrels, ex "Teutonic" were offered, but the market closed strong at last week's extreme rates to 1/ advance. The first arrival of Albermarle Pippins consisting of 350 barrels, attracted keen competition, and although not fully matured, being very green, were clear-skinned and free from scab. The best sold from 25/ to 33/6, while smaller sold from 14/6 to 22/6 per barrel. This shipment confirms the report that the crop is fine, and there is every prospect of their realizing good prices. Quotations for the week for sound: *New York*—Baldwins, firsts, 15/ to 19/; seconds, 12/6 to 14/. Kings firsts, 18/ to 22/6; seconds, 13/ to 16/. Greenings, firsts, 11/ to 13/3; seconds, 9/ to 10/6. Albermarle Pippins, firsts, 25/ to 33/6; second, 14/6 to 22/6. *Boston*—Baldwins, 13/6 to 14/9; seconds, 10/ to 12/. *Canadian*—Colverts, 13/6 to 14/9; Holland Pippins, 13/9 to 14/6; Ribston, 14/ to 18/9; Snow, 16/ to 17/9; Twenty Ounce, 15/ to 18/6; Greenings, 10/6 to 15/3; Baldwins, firsts, 15/4 to 18/; seconds, 11/ to 14/. Slacks sell 2/ to 4/ below these quotations.

Under date October 16th Messrs. Woodall cable their Montreal agent: Market opened very strong and continued so. Shipments have been limited. Good sound fruit commanded good prices. Baldwins, 16/ to 18/; Greenings, 14/6 to 16/6; Kings, 22/ to 23/6.

Messrs. J. McKittrick & Co., of Liverpool, cable their Montreal agent, under date 18th of October, as follows: No Baldwins or Spies offering. Greenings sold from 16/ to 16/6; Kings, 21/6 to 23/. Market very firm with strong demand.

The Montreal Trade Bulletin of October 18th says:—Winter apples are beginning to arrive in large quantities, sales of which have been made here in round lots at \$2 for Greenings and \$2.25 for Reds. American buyers have taken a few lots of Talman Sweets for Detroit and Chicago account, paying \$1.70 to \$1.85 f.o.b. in the West. A lot of 1500 bbls., the large proportion being Greenings, was sold in the West to a Toronto firm at \$1.70 f.o.b. Quite a few orchards have been contracted during the past week at \$1 Greenings and \$1.25 for Reds on the ground, fancy sorts having commanded \$1.50. In Maine, buyers are paying \$1.25 for the fruit on the ground, although the crop this year has a larger proportion of Greenings than usual.

The English correspondent of the same journal writes concerning the English market for apples:—The truth of what I recently said about apples is shown by sales of those arrived. Shippers have done well to withhold early apples, and bad figures have been realized for those that were sent, but even of this fruit the best has reached decent figures, and this will be more the case when the winter stock comes in, in a few weeks. What is also affecting the market for apples just now is the abundance of stone fruit, following on

a plethora of bush and ground fruit, all of which will have disappeared with the arrival of wintry weather. Apples from English orchards are selling now at from $\frac{1}{4}$ d. to 1d. per lb., but this is because they are poor and wasty, and largely unfit to eat, or tasteless; but even now, as high as 4d. and 6d a pound is charged in the shops retail, and correspondingly high prices wholesale. There is not an abundance of good fruit, and there is hope for shipments of the best from Canada. But I do not expect to see anything but low rates for inferior fruit. The experiment of sending tomatoes from Canada I will deal with next week. It is a risky business, with our immense available supplies.

Messrs. Simons, Jacobs & Co., of Glasgow, cable under date October 22nd, 1895:—Market for *good, sound* fruit steady. Prices in some instances a shade better than they have been. The market opened firm and closed the same; demand good. The following quotations are for No. 1 sound Baldwins and Greenings, 16/ to 19/, Kings, 21/ to 24/; poor and wasty fruit weak and inactive.

Garden and Forest of New York, under date October 23rd, says:—Among pears now in season are spicy Seckels from Rochester, New York, at fifteen cents a quart. Showy Comice, the best-flavored of the larger sorts now offered, the greenish-yellow Easter Beurre, and the medium-sized russet Winter Nelis, all range from seventy-five cents to \$1 a dozen for the best. Quinces are becoming scarce; and the best in the retail stores \$6 a barrel. Among the few peaches still arriving are good specimens from western Maryland and Pennsylvania, and some choice White Heaths from the Hudson River district. These sell in the fancy-fruit stores at fifty cents a dozen. Selected King apples bring \$5 a barrel at retail, and Albermarle Pippins \$6. Apples generally are advancing in price, as the European crop is not so large as anticipated, and the high quality of the American crop has been lowered by recent unfavorable weather. The best grades of Alexander and Snow cost, in wholesale lots, \$3 to \$3 75 a barrel, and Jonathan and Alexander \$3 and upward. Small Lady apples, not yet in their brightest colors, cost forty cents a quart. The showiest objects now seen among the best collections of fruits are the orange-red Japanese persimmons; they cost sixty cents a dozen. Jamaica oranges are being hurried on the market at the beginning of the season for high prices, many of them but half-grown, green and sour. As a consequence, prices are lower and likely to fall below the paying point. There is a steady demand for Alligator pears, and one of the fancy-fruit stores, on the arrival of a shipment of this fruit, sends notice to two hundred regular customers. The fruit at this time is coming from Nassau, and sells quickly from twenty-five to thirty-five cents a piece, and the supply is never as great as the demand. A remarkable sale of figs occurred here on last Wednesday, when \$40,000 worth of this fruit was sold at wholesale auction in one hour. Prices ranged from 6½ to 15½ cents a pound, and on the succeeding day the extremely high price of 19½ cents a pound was reached. Thirty-four car-loads of California fruits were sold here last week, mostly Tokay grapes. The last German prunes are now shown and cost seventy-five cents for a package containing three dozen fruits. Extra large-sized chestnuts, from New Jersey, have sold as high as \$12 a bushel, and bring forty cents a quart at retail.

Messrs. Woodall & Co., of Liverpool, writes:—Of this week's arrivals about 3,000 were not landed in time to be disposed of, but the quantity was sufficient to test the market, and it has demonstrated beyond doubt that however large the English and Continental crops may be they do not prejudice the sale of good varieties of American and Canadian fruits. The quality and condition of arrivals from both places has been all that could be desired, and although no material advance can be quoted, there was an active demand at last week's extreme rates, and net results will be more satisfactory than any this season, there being an absence of slack and wasty barrels. Greenings especially have shown excellent quality, and the best realized an advance of fully 2/ per barrel. Kings, on the contrary, are not generally up to the mark, being doubtful in condition, and without their usual brilliancy, there were some bright exceptions, and up to 24/8 was touched for Canadians. A further arrival of Albermarle Pippins was scarcely equal to that of last week, but realized a ready sale at 27/ to 28/, and a few medium Newtown Pippins sold at 22/ per barrel.

Messrs. Simons, Jacobs & Co., quote to-day (Oct. 29th) Glasgow market as follows:—Market opened firm, and continued so throughout the day. Demand good. The following prices are for No. 1 sound fruit, Baldwins, 16/ to 19/; Greenings, 13/ to 16/; G. and R. Russets, 12/ to 15/; Spies, Seekes, C. Reds and Spits, 14/ to 17/; Kings, 21/ to 24/; Cranberry and Ribstons Pippins, 7/ to 10/, 20 oz. 15/ to 18/; Snows, 18/ to 21/.

↪ Question Drawer. ↩

Peach Growing.

753. SIR,—Is it the late spring frosts or the severe winters which make it difficult to grow peaches in certain parts of Ontario, and how low temperature will peaches endure?

A. M. TERRILL, *Picton.*

Both these conditions are barriers in the way of successful peach culture in most parts of our province, but the latter more especially, because when the temperature drops to more than 12° or 15° below zero, the fruit-bud of the peach is destroyed, and there are few sections where the thermometer does not drop lower than this. The spring frosts occasionally destroy the peach crop, as the tree blooms early and is usually subject to injury from that cause.

The Niagara Peninsula.

754. SIR,—Why is the Niagara peninsula better adapted for peach culture than other parts of Ontario which are quite as protected by water?

A. M. T., *Picton.*

The reason is because the northerly winds are tempered by coming across Lake Ontario, and because it has the advantage of having two lakes on its borders. However, the south-eastern part of Ontario, along the shore of Lake Erie, is almost, if not quite, as safe from injury by frost as the Niagara peninsula.

Palms in the Window Garden.

755. SIR,—Please give me full directions about growing palms in the window garden.

G. A. WINTERS, *Brantford.*

Reply by H. L. Hutt, O. A. C., Guelph.

There are a number of varieties of palms which may easily be grown as house plants. The following are a few of the points relating to their management which require special attention. They should be potted in well prepared, suitable soil. This may be made of equal parts of loam, vegetable mould, and sand. As a rule palms do best when somewhat restricted at the root. It is better to keep them in small pots, and re-pot into larger ones only when the roots become crowded. The roots should never be cut if it can possibly be avoided, nor should any part of the stem be buried when re-potting. Good drainage should be provided by means of broken brick or pottery in the bottom of the pots. Water should be given liberally and often enough to prevent the roots becoming dry. An occasional watering with liquid manure, made from cow manure, will help to impart a healthy appearance to the foliage. The

leaves should be frequently sprayed or sponged to remove any dust which may settle upon them.

The following are a few of the most desirable varieties for house culture : *Latania Borbonica*, which has large fan-like leaves ; *Seaforthia elegans*, a taller grower, with long gracefully arching foliage ; *Cocos Weddiana*, one of the smallest palms, with finely divided delicate foliage, and *Phoenix reclinata*, a variety with large stiff leaves reaching out well on each side.

Peach Sections of Ontario.

756. SIR,—In what parts of Ontario can peach growing be successfully carried on in a commercial way ?

A. M. T., *Picton.*

As indicated above, the best portions are the Niagara peninsula, especially in those parts which have suitable soil, and the County of Essex. The soil most suitable for peach growing is a dry, well-drained, sandy loam.

Hardy Varieties of Peaches.

757. SIR,—Please name two or three of the best hardy varieties of peaches.

A. M. T., *Picton.*

Probably some of the native seedlings could be most relied upon to prove hardy in Ontario. Some seedlings of merit have originated lately in the County of Essex, as, for instance, the Tyhurst seedling and the McConnell seedling, and in the Niagara peninsula, the Bowslaugh's Late and High's Early Canada. This latter, however, is almost identical with the Alexander. Bowslaugh's Late has this year given a good crop of peaches, when most other varieties have failed. The Fitzgerald, which originated at Oakville, is a peach of excellent quality, and said to be very productive. Of American seedlings, the Crosby is highly commended as a hardy variety.

Pruning Climbing Roses.

758. SIR,—Should climbing roses be pruned every year in the same way as Hybrid Perpetuals ?

R. H. L., *Kingston.*

No ; the climbing rose should not be cut back like bush roses. The latter should be severely cut back, leaving only a few strong shoots, and these cut down to a few eyes. This should be done either in the fall or in the early spring. The climbing roses should be well cut back to three or four buds when planted, and thereafter only the strongest branches encouraged to grow. These should not be shortened unless weakly, but only thinned or spurred as may be necessary to direct the shoots where most needed.

Smith's Seedling Apple.

759. SIR,—I send you samples of four varieties of seedling apples for examination. The largest one is grown from seed of the St. Lawrence.

W. SMITH, *Minden, Haliburton Co.*

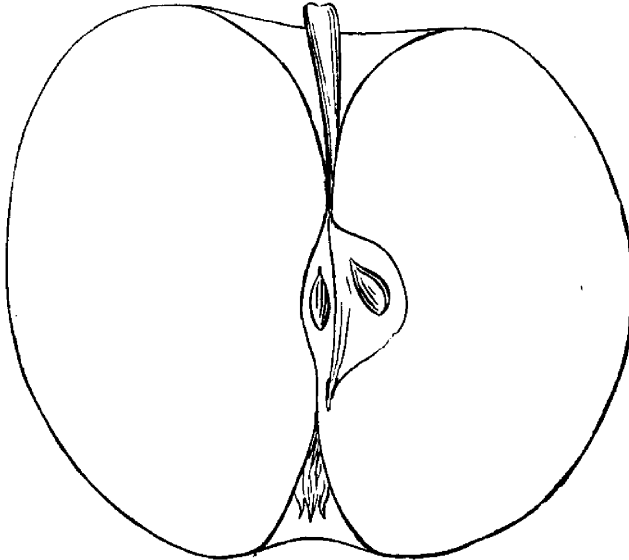


FIG. 852.—SECTION OF SMITH'S SEEDLING.

The smaller varieties are of little merit, but the largest one appears to be a valuable fall cooking apple; and, being evidently very hardy, should be of especial value for our Northern sections. It is above average size, splashed beautifully striped with red, and almost equal in appearance to the famous Gravenstein. Worthy of careful testing.

Pruning Honeysuckles.

760. SIR,—Do the honeysuckles need any pruning; Hall's honeysuckle, for example?
R. H. LIGHT, *Kingston.*

Yes, honeysuckles will be better of pruning. Some varieties flower on wood of the last season's growth, and these should not be pruned till the flowering season is over; when they should be well shortened back. Those which flower on the new wood may be pruned in early spring.

Green Mountain Grape.

761. SIR,—Should this vine be laid down for winter protection?

R. H. L., *Kingston.*

Nearly all grapes will produce more fruit if laid down and protected in winter. The hardiness of the Green Mountain has not yet been proved in Ontario.

Books on Fruit Farming.

762. SIR,—Would you kindly tell me, through the HORTICULTURIST, the titles, publishers and prices of the best book or books on fruit farming, adapted to Ontario. By so doing, you will greatly oblige,

ONE OF YOUR READERS.

“Thomas’ American Fruit Culturist” is perhaps the best book for Canadian fruit growers. The author is the late John J. Thomas, of Union Springs, N. Y., and the conditions prevailing there are very similar to those in Ontario.

Seeds and Plants Wanted.

763. SIR,—Please tell me where Melilot clover seed can be purchased, and the price.

T. F. EMERSON, *Valentia.*

SIR,—Please inform me if any one, to your knowledge, has the Heebner raspberry bushes for sale.

Will those interested please reply.

A Good Peach.

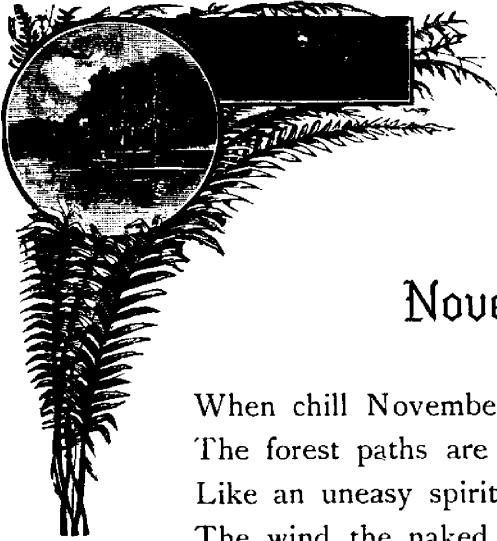
764. SIR,—I want a peach of good quality, hardy and productive, that will mature about the last week in September or first of October in our latitude, which means, I presume, the last of September in Ontario. What would you recommend? What about Old Mixon Freestone?

JOHN KILLAM, *North Kingston.*

We have a peach in Ontario known as Stevens’ Rareripe, which would probably ripen about the time required; a good sized, white fleshed, salable peach. Another is Bowslaugh’s late, a variety originating in this section, and counted quite hardy and profitable. Old Mixon ripens close with Early Crawford, and Smock, our finest late peach, ripens about first week in October.

✦ Our Book Table. ✦

THE FOURTH REPORT of the Department of Agriculture of British Columbia, 1894, has just come to hand. Careful precautions are taken by this Department to prevent the introduction of insect pests. The reports from all parts of the Province are in detail, regarding crops, prices, weather, timber, water, soils, pasturage, fungi, insects, labor, etc.



November.

When chill November days appear,
The forest paths are strewn with leaves ;
Like an uneasy spirit grieves
The wind, the naked boughs among.

The robin's farewell song is sung,
And on impatient wing he hies
To fairer scenes, 'neath warmer skies,
When chill November days appear.

When chill November days appear,
What matters storm or lowering skies ?
I seek my heaven in her eyes,
When chill November days appear.

—J. TORREY CONNOR in " Mayflower."