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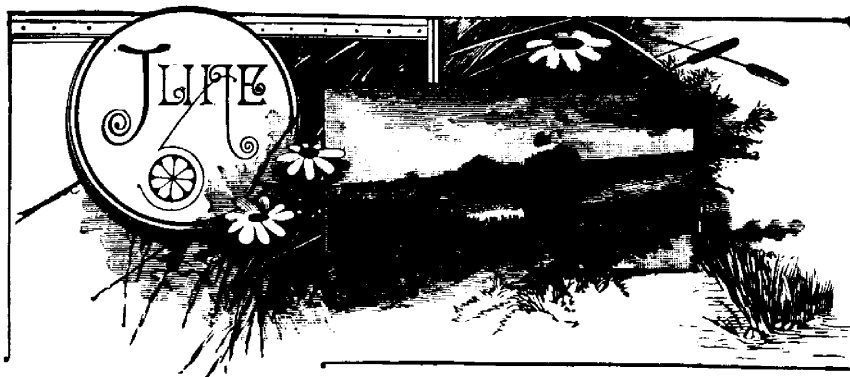
MR. CHARLES GIBB, OF ABBOTSFORD, QUE.
(Late Vice-President of the Montreal Horticultural Society).

THE
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SOME PROMINENT CANADIAN HORTICULTURISTS—X.

THE LATE MR. CHARLES GIBB, OF ABBOTSFORD, QUE.



LITTLE did we think, on the 5th of July last, when we received that brief card to say "Good-bye" from Mr. Gibb, which was published in last year's volume, page 237, that it conveyed so much more meaning than was intended. His journey was indeed a longer one than he had mapped out.

There is probably no man in Canada, whose loss could be so deeply felt in horticultural circles, as that of the subject of this sketch. From all sides have come letters expressive of the high esteem in which he was held, both personally and on account of his work. Mr. John Croil says, "Few men did more for the advancement of fruit culture. His work so well begun, will live after him." Mr. R. W. Shepherd, of Montreal, says, "I feel as if I had lost a dear and intimate friend." Dr. Hoskins of Vermont, writes, "If you get the details about my dear friend Gibb's journey and death I hope you will print them as fully as possible. I loved him as a brother. No man was doing more for his country and ours than he." Possessed of wealth and great intellectual ability, he devoted all to the benefit of Canadian Horticulture, and to his

industry in this respect, the local horticultural societies of the Province of Quebec, the Montreal Horticultural Society and the Dominion Horticultural Society are all lasting monuments.

Mr. John Craig, Horticulturist of the Experimental Farm, Ottawa, who was a personal friend of Mr. Gibb's, writes in this connection as follows :

"It may not be generally known that Mr. Gibb's last efforts were directly in the interests of and for the advancement of Canadian Horticulture. The journey, which may be looked upon as the indirect cause of his death, was one that he had in contemplation for months previous to the time of starting, which was in July, 1889. After spending some time in British Columbia, he took steamer to Japan, where he studied the flora very thoroughly, especially of the northern part, then proceeded to the mountainous regions of China. Next we find him in India, Ceylon, and lastly Cairo. After reaching this point he and his friends looked forward to a speedy reunion. From various points along the line of travel he forwarded packets of seeds, and scions of many forest and fruit trees which specially commended themselves to his notice. There is now at the Experimental Farm, Ottawa, a valuable and interesting collection of plants being propagated from this stock. Among these are fruits which may prove valuable additions to our lists for southern Ontario. There is little doubt that exposure, coupled with severe physical strain through uncivilized lands and over mountain roads, weakened and finally prostrated a frame never vigorous. These last tokens of his affectionate regard for Canadian Horticulture will be faithfully and lovingly cared for at the Experimental Farm, and will, when distributed among the people for whom he labored, be a monument more fitting than granite or marble, and one which shall illumine the annals of Horticulture while the earth shall bring forth the fruits which he so much loved."

Mr. Charles Gibb was born at Montreal on the 30th of June, 1846. He received his early education at Bishop's College, Lennoxville, and went from there to McGill College, Montreal, where he graduated B.A., at the age of nineteen. The application necessary to complete a college course successfully at so early an age, not only injured his eyesight, but also much impaired his health, and he was told by physicians that he had only a few years, perhaps only a few months to live, and they advised him to seek recuperation in foreign travel. This he did, going abroad in company with his uncle, Mr. J. J. Gibb, of Como. This first trip was of two or three years' duration, and embraced visits to Egypt, the Holy Land, and afterwards Switzerland and Europe generally.

On his return he engaged in the cultivation of fruit, in the State of Pennsylvania, no doubt because he rightly considered it one of the most healthful, as well as one of the most interesting departments of agriculture. The climate of Pennsylvania not agreeing with him, he returned to Canada, and purchased the farm on the slope of the Yamaska mountain, at Abbotsford,

so well known to us all of late years, on account of the interesting experiments with Russian and other hardy fruits which he has carried out there.

In 1873 he made repeated trips to the United States, studying the pomology of that country, bringing everything worthy of trial to his farm, not merely in sufficient quantities to stock his own farm, but also enough to make free distributions of trees and plants to his neighbors.

In 1882 Mr. Gibb, in company with Prof. Budd of the Iowa Agricultural College, went to Russia in quest of the most hardy fruits which might be expected to endure the extremes of temperature to which the northern parts of Canada and the United States are subject. Prof. Budd had already made a large collection of hardy fruits at Ames, but so little was definitely known of the names and values of the various Russian fruits that it seemed necessary that some one should go to Russia charged with this errand. Speaking of it afterward Mr. Gibb, with his characteristic modesty, said, "Northern Horticulturists were looking with great hopes to Russian fruits. The work could not be allowed to rest. Some one must go to Russia; Mr. Budd and I went." On pages 192-230 of our report for 1883, may be seen a full report of this journey, written by Mr. Gibb, who, it is well worth noting, took this costly journey at his own expense. This trip was followed by importations of trees and seeds which were distributed to the members of the different Fruit Growers Associations of the Province of Quebec, and seeds of which were sent to the Experimental Farm, Ottawa, and to the Botanic Garden at Montreal.

In 1887 he went alone over the same ground, to verify his previous work, visiting in addition, Norway, Sweden and Denmark. Other trips were made in the interests of Horticulture to the North-West, British Columbia, California, etc., and in July, 1889, he left for this last one around the world, taking in especially Japan, China, India, and other countries.

Freighted with much valuable information, he was on his way home when his death occurred on the 8th of March last, in Egypt. As has already been stated, he contracted La Grippe at Aden, which developed into double pneumonia. His remains were interred in the British Protestant Cemetery at Cairo, on the 10th, the funeral being attended by several friends. It was in accordance with his extreme modesty, by which he was especially characterized in life, that he made the request that his funeral would be conducted in a plain unostentatious manner.

Cut off in the prime of life, his life work apparently only fairly begun, he has yet left many works which will be a lasting monument to his memory. The following list, as well as many of the notes used in compiling this sketch, has been furnished us by Mr. John Craig, viz: "Notes on the Trees and Shrubs of Europe," describing those best adapted to Canadian culture: "Russian Fruits," the best description extant of Russian apples imported by the United States Department of Agriculture in

1870, made up from personal notes taken as seen growing in different orchards, with translated description from the Russian, annexed; "Hardy Fruits for the Cold North," a select descriptive list of the former with fuller descriptions; "Nomenclature of Russian Apples," an arduous task of translating and rendering into euphonious English unpronounceable Russian names, also throwing out synonyms.

Mr. Gibb's mind was very receptive, his opportunities great and memory retentive so that he was generally looked upon as a bureau of information which he was always glad to impart; and in consequence his correspondence was very heavy. He was very much interested in Natural History and contributed many specimens to the Redpath Museum, and he was also a heavy donor in the establishment of the Art Gallery at Montreal. Since it was so fully in accord with the experimental work in which he had already been so largely engaged, it is not surprising that he was one of the first and most active workers in the establishment of the Experimental Farm at Ottawa, in connection with Prof. Saunders.

The engraving which forms the frontispiece to this number represents Mr. Gibb as he was about twelve years ago, and is made from the latest photograph taken. It does not by any means do him justice, but is the best that can be had.

PLAIN HINTS ON FRUIT GROWING.—II.

PRUNING.

THERE are three distinct pleas for faithful pruning once a year of all fruit trees and shrubbery, in our orchards and fruit gardens. The first is, *for the health and vigor of the tree or shrub*; the second is, *for its shapely appearance*; the third is, *for the size and quality of fruit*. The neglect of pruning is soon manifest, in the premature decay of the tree, by the top becoming too great a burden for the root to carry, by the trunk becoming rough barked and dull in appearance, by interlacing branches running at random through the top, shutting out the sun's rays, giving the tree an untidy appearance and a speaking evidence of neglect. On approaching a tree to prune it, the condition it presents will tell of the power the root has to nourish and sustain the top and should be the main guide as to how much of the top must be removed. If the bark of the tree is smooth and lively looking, the limbs green and bright, just enough of the top may be cut away to give the tree a shapely appearance and open out the inside of the top for the sun's rays to act upon the fruit, to give it size, quality and a bright appearance.

A wash of lime or strong lye from hardwood ashes after pruning, will add much to the health and beauty of the tree. If a tough sod has been allowed to grow around the roots of the trees, it ought to be removed at once and chip or long-stable manure, plentifully substituted, mixed with hardwood ashes moderately, to prevent mice from working around the trees.

Pruning and otherwise caring for the tree or shrub, not only pays, but gets you into sympathy with its condition and prospects, and depend upon it, the more interest you take in the welfare of your orchard and garden, the greater will be your financial returns and the more your knowledge and experience will expand, and you be concerned for the success of others as well as your own. A right minded horticulturist will not keep his knowledge to himself for the sake of monopoly, but will joyfully impart anything that he has found valuable, that others may be benefited. Next in importance to spring pruning, to fit the tree for the seasons growth, is the care in the fall to carry them safely through the winter.

If the season has been favorable for much new growth on the tree, it will need special protection to carry it through. If you are in a northern climate, you have need to give more attention to your protection and require more patience in the management of your trees generally. Impatience to see favorable results and lack of interest and care to produce them, are fatal enemies to the welfare of the orchard and garden. I may add, in pruning, try to have a leading centre to your tree and do not allow your tree to fork or send off too large low branches. If taken in time, forks and one-sided heavy limbs can be prevented. It is the evenly balanced tree that bears the heaviest load of fruit without injury. A fork in your tree splits down when heavily loaded and a large one-sided limb either breaks down or drags your tree one-sided and ill-shaped.

Be sure to stake your young trees as soon as you set them out. Staking prevents the heavy winds from loosening your tree at the roots, thus preventing drying out, and in the winter, when your trees may be loaded with ice, saves them from injury. It also prevents a bias to the south-east from prevailing north-west winds and is a safeguard generally. A strip of leather one inch wide and eight or ten inches long, will last a long time, nailed to the top of your stake, just below the lower branches of the tree. The stake can be driven within four inches of the tree without injury to it. This might seem quite a task for a large orchard, but still it will *pay* in more ways than one. My young trees were heavily loaded with ice last winter, and some of them wrapped with twisted straw, and had they not been staked, under the force of the heavy winds, they must have been ruined. I will here say that my Russian apricots and Lombard plums, came through the winter finely in their twisted straw jackets. They had also a mound of long manure around them, to keep in the frost late, to prevent early flow

of sap. *It pays to take care of your trees!* As the foregoing hints are applicable to standard trees, I will say a few words about

SMALL FRUITS

before closing this paper. Small fruits may be profitably grown in northern localities, where the larger varieties will fail. Hence the argument for setting forth their treatment, and commending them especially to the novice in the work of fruit growing. You may with impunity venture on small fruits, when you might be timid about apples, pears, plums, cherries, etc. Besides an acre of ground will afford ample scope for your efforts in growing small fruits, while the risk in outlay for stock is not so great by far as for large varieties, raspberries, blackberries, currants, gooseberries and strawberries may be grown with success, with but little previous experience. Obtain a nurseryman's catalogue and look over the varieties, and if he has reputation for reliability, you can depend upon his descriptions of sorts and make your selections therefrom. Stock purchased, to be delivered by mail or express, can be had cheaper than from travelling agents, and as a rule is fully as safe a plan as the other. Choose your ground with reference to drainage and protection if possible, and lay out your fruit garden regularly, both for convenience and beauty. Plant your raspberries, blackberries, currants and gooseberries in rows six feet apart and four feet apart in the row. This will leave a privilege for cultivating and hoeing, a work that well pays in growing small fruits. If you do not care for laying out too much money at first, you can get a dozen or two of several best varieties and take time to propagate from them, thereby gaining by experience of your own, and risking less at first. I would advise this plan as a rule, unless you have plenty of money to risk. If you make a wise choice of older grown varieties, you will be surprised how fair a start you can get with an outlay of fifty or seventy-five dollars. Raspberries and blackberries propagate very fast, and cuttings from currants and gooseberries, if cut in the fall and kept in a damp place without freezing, will be ready to set in the spring. In setting cuttings, put at least two buds under ground with one or two above, and if your location is inclined to moisture you may expect a fair share of success. Strawberries do best set early in the spring as they get well rooted and winter through with greater degree of success. Some fall planted froze out with me the past winter in spite my efforts to save them by careful covering. But as this paper is growing tedious I will defer until next time further hints.

Napan, Ont.

L. FOOTE.

GRAFTING THE STONE FRUITS.

NOTICE this general statement made in answer to a query in the *Question Drawer* of the May number, neither cherries nor any other stone fruits succeed well when root grafted. This does not agree with our experience; we root graft the cherry, plum and apricot as successfully as we do the apple or pear. Now for three years in succession our stand of cherry and plum root grafts has been better than with the apple. We put in the scion at the crown of the seedling by the process known as side-grafting, and wax with the ordinary liquid grafting fluid.

The main secret of success though, is not found in the method of grafting, but in keeping the buds of the scions dormant until the grafts are set in nursery. This we accomplish by keeping the cave or dirt cellar in which they are stored very cold, by opening for an hour or two in the night and keeping it closed up tightly during the day. We often keep the top of the moss in which the grafts are tightly packed, frozen for weeks at a time during the latter part of winter and early spring. If the buds are started when planted in the cold earth of early spring they are apt to rot, if planted down to the top bud as we plant them.

In our climate crown grafting is far more certain than budding, and as we are often compelled to use tender stocks for the cherry the deeply planted grafts soon root from the scion. Even if this fails to take place the tender root is so deeply set that it rarely is injured.

Agricultural College, Ames, Io.

J. L. BUDD.

TREATMENT OF APPLE SCAB.

THE alarming extent to which fungus, known as *fusicladium dendriticum* has spread throughout the country, increasing yearly in degree of injury resultant, makes us who are engaged in fruit culture most anxious to know whether any remedy is likely to prove completely successful or not. Reference has been made in these pages to the use of hyposulphite of soda, in the proportion of one pound to ten gallons of water, and applied two or three times during the month of May, and the degree of success attending it at the New York Experiment Station, by Dr. Arthur.

In the *Journal of Mycology*, Vol. 5, page 210, published by the U.S. Department of Agriculture, an account of some further careful experiments, is carefully noted. Several fungicides were used by two careful experimenters: Prof. Taft, of the College Farm at Lansing, Mich., and Prof. Goff, of

Experiment Station, at Ithaca, Wisconsin, under the direction of the Department. The season being a favorable one for the growth of the fungus, a fair test was made.

Several fungicides were tried, of which the chief and most useful in the order named were eau celeste, ammoniacal solution of copper carbonate, and hyposulphite of soda. The varieties treated were Northern Spy and Fameuse, because these had shown themselves specially subject to the scab. The copper carbonate was prepared thus:—three ounces of copper carbonate dissolved in one quart of ammonia, and the whole diluted to twenty-two gallons; but twenty-eight gallons is advised instead of twenty-two. The *eau celeste* was prepared thus:—two pounds copper sulphate dissolved, mix and dilute to twenty-two gallons, adding one-and-one-half pints of ammonia before using.

The application was repeated seven times, beginning about May 18th, at an expense, including labor, of from about twenty-five to sixty cents per tree, the *eau celeste* being the most expensive.

As a result, the scab was very noticeably less on the trees sprayed with copper solution. The trees sprayed with *eau celeste* gave sixty-eight per cent. of fruit entirely free from scab, while those untreated gave only twelve per cent. Nearly as good results were obtained with the ammoniacal copper carbonate, and both were superior to the hyposulphite.

We quote the closing paragraphs in full:—“ Besides the tabulated results there were others which are of great importance, but can not be estimated in exact figures. A scabby apple is much smaller than a healthy one, and in many cases, while the apples could not be placed in class one, the scab had so been held in check that the fruit had obtained a greater size than it otherwise would. Professor Taft gives the difference in weight between perfect and scabby fruits as varying from .036 to .002 pounds for each apple, and says the scabby apples are ten per cent. smaller than the perfect ones, making a difference of nearly a bushel per tree in size alone, besides the fact that the apples that are badly scabbed are unmarketable. From the combined effect of the two causes,” he says, “ we lost on some trees a barrel of apples.”

The cost of the chemicals and labor expended varied but slightly in the two cases, but both gentlemen were obliged to buy chemicals in small amounts, and the cost per tree would be greatly lessened by treating a large orchard and buying materials in quantity. Prof. Taft used large trees requiring three gallons each for each application, while Prof. Goff used three gallons for the two trees, but Prof. Goff estimates the labor higher than Prof. Taft, and this makes the figures nearly alike. Both these estimates, however, are for seven applications. In an average season, and with the copper solutions, four or at most five applications probably will be sufficient. It is likely that in a large orchard with average-sized trees, when the

chemicals were purchased by the quantity, the expense could be reduced nearly one-half. The expense of the ammoniacal solution in particular would be reduced by purchasing the copper carbonate instead of preparing it from the sulphate.

In Mr. Goff's calculations the cost for labor in making the treatment amounts to more than half the expense.

It seems probable that it would be profitable to make the first application earlier than was done this year, and there is no reason why this application, or the next, should not be combined with London Purple or some other insecticide, and the tree protected from insects and fungus at the same time. Mr. Hatch closes his report thus :—

“What we now need is to determine the correct amount of the copper mixture to use, the times best suited to its application, and what combinations to make with insecticides, and a new era in fruit culture will be inaugurated.”

INSECTICIDES.

[N Bulletin 58, of the Michigan Experiment Station, Prof. Cook gives a review of the various insecticides, from which we draw the following matter as being of service at this] season. For bugs, plant and scale lice, the *kerosene emulsion* is highly valued as it kills by contact. His way of preparing it is as follows: “Mix one quart of soft soap or one quarter of hard soap with one or two quarts of boiling water, and as soon as the soap is all dissolved, stir while hot one pint of kerosene oil; stir violently until permanently mixed. When ready to use this, stir in enough water to make fifteen pints in all.”

The *Persian Insect Powder* may be sifted on the plants or applied mixed with water, a heaping tablespoonful to two gallons of the liquid. This also kills by contact and not by being eaten, and is recommended because it is non-poisonous to man and the higher animals. Nothing is better than this for destroying the cabbage caterpillar, pear and cherry tree slugs and plant lice, but for the latter the kerosene emulsion is more satisfactory.

A *tobacco decoction* is also valuable. This may be made from refuse powder, or stems, and a pound of the tobacco to two or three gallons of water, makes a very effective decoction. Turn boiling water on to the tobacco; when cool strain out the tobacco, and the decoction is ready for use. This is very effective against the striped flea-beetle, and the cucumber flea-beetle.

Carbolic Acid Emulsion. This is highly recommended as a valuable compound for the fruit grower. It is made the same as the kerosene emul-


sion only stronger. One part of carbolic acid to from five to seven parts of the soap solution being the proper strength. This is recommended as the best protection against the bark lice and the apple tree borer. The trunks of the trees are thoroughly scrubbed with this emulsion about the first week in June for the bark lice, and about the middle of June to protect them from the borer.

TO DESTROY INJURIOUS INSECTS.


FIVE pounds of potash ; five pounds of lard dissolved in five gallons of boiling water ; one peck of quicklime shaken in five gallons of boiling water ; while hot, mix with the potash and lard. This mixture can be kept in an old barrel for any length of time. To use, add to each gallon two gallons of boiling water, and while hot apply to the trunk and large limbs with an old broom. If this mixture is applied to trees while young, and used year after year, the bark of the trees will be kept as smooth as glass and all bark lice and borers destroyed.—*Insect Life*.

OLD HEDGES can easily be disposed of by cutting down now as close to the ground as possible, leaving them in a narrow compact row over the roots. After new growth has started in Spring, set fire to the brush, and burn it. This will kill the plants, and a year later the roots will be rotted enough to be torn out easily with the plow.—*Gardener Jo*.





Fruits



THE PROSPECTS FOR PEACHES, PEARS, CHERRIES AND STRAWBERRIES.

JUDGING from the show of fruit blossoms up to the date of writing, the 23rd of May, this will be one of the most abundant fruit seasons ever known in Ontario. Every variety is as full of bloom as it can possibly be. Fruit growers in the Niagara district are hopefully expecting a heavy crop of peaches, the bloom having shown itself very freely about the first of May; but the peach is a most tender fruit and there are many chances for disappointment between now and harvest time. Already they have met with a set-back on account of a sharp frost which occurred about the beginning of the second week in May, and as a result a large number of the fruit blossoms have dropped, especially from the old trees, leaving a very small proportion to develop into fruit. On the young and vigorous growing trees, however, there will be an abundance of fruit unless some other mishap occurs. The pear trees are perfectly white with bloom, but of course it is too soon to say what proportion of these will set. Some growers predict that an over abundant bloom is often followed by a small crop, and this season will certainly test the truth of that statement. Cherry trees have shed their petals and are setting a heavy crop. The only fruit crop that seems likely to be short is the strawberry. This is owing to the unusually mild winter and the lack of snow as protection from the evil effects of freezing and thawing. Those who were careful enough to mulch their strawberry plantations with straw in the Autumn, are now rejoicing in the prospect of an abundant crop, but only a few have done this, and where it has been neglected, the plants have been badly heaved out by the winter, and the plantations almost wholly ruined. This is true not only of the Niagara district but of a large part of southern Ontario. We have received a few reports of the present prospects from various sections, some of which we will quote here, hoping in another month to be able to give still more reliable estimates.

MR. A. MCD. ALLAN, of Goderich, in the County of Huron, writes: "We never had a finer promise of a large fruit harvest in all kinds than there is at present. The trees are in a splendid condition to produce a large crop, and if Jack Frost keeps away, this district will easily have 150,000 barrels of apples alone, for export. The pear, plum and cherry crop promises just as well in proportion, and the peach trees are ready to burst forth in a perfect cover of bloom. In some few instances where growers were ignorant enough to plant on low or undrained land, I hear of damage to strawberry vines, but generally speaking, the crop is safe."

MR. T. H. RACE, of Mitchell, in the County of Perth, writes: "Judging from the present show of blossom buds, the promise was never better in this section for an abundant crop of apples, plums, pears and cherries. Small fruits do not promise so well, with the exception perhaps of currants and gooseberries. Strawberries were badly killed in the vine during the winter; there was no covering of snow to protect them, and the continued open weather with alternate frosts and thawings played havoc with them. The Gregg and Cuthbert raspberries have also suffered badly from the sudden climatic changes, and will not yield an average crop."

MR. N. J. CLINTON, of Windsor, in the County of Essex, writes: "Pears show favorably for a good average crop, although not quite up to last year. The old French trees have shown few blossoms; this seems to be their off year."

MR. FRED. MITCHELL, of Innerkip, in the County of Oxford, writes: "By present appearances, strawberries will not be more than half a crop. During the past winter so little snow fell that exposure weakened all and even altogether destroyed many fields. Cherries are not grown on account of the black knot. Pears are loaded with blossoms."

MR. SIMON ROY, of Berlin, in the County of Waterloo, writes: "The crop of apples, pears and plums in this county will probably be abundant, provided that no such calamity as that experienced on the 28th of May of last season occurs. The present season is about fourteen days later than last year, consequently we may escape. As an almost anticipated consequence on the almost total destruction of both apples and plums last year, we may be almost exempt from those insect pests which are almost uncontrollable, by leaving no chance for their perpetuation. During my experience of some forty years, more or less, in Canada, connected with horticultural matters, I have invariably found that in seasons of early fine weather, very indifferent fruit crops were produced. I have noticed particularly the abundance of blossom buds on the various varieties of pear trees, which are really wonderful, and if one pear is produced in twenty blossoms, the crop will be large enough. Cherry trees are largely destroyed with the black knot in this county, but what few trees are left seem to be well loaded with bloom. The past open winter has been disastrous to the strawberry plantations, and, from what I can learn, the crop of fruit will be only about one third. The alternate freezing and thawing of the winter has made sad havoc to plantations not protected by straw. Raspberries in exposed situations have been injured. Many of the popular Cuthbert canes are killed to the ground. The newer varieties such as Golden Queen and Marlboro' appear safe."

MR. GEORGE BUNBURY, of Oakville, in the county of Halton, writes: "Pears in this section are crammed with blossoms. Cherry trees are also well filled. Strawberry plantations are fair to good in some places. Raspberries promise

badly, for some reason or other the canes are dead in large quantities, especially in old established Cuthbert plantations."

MR. JOHN CROIL, of Aultsville, in the county of Stormont, writes: "Strawberries here are completely demoralized from La Grippe of the frost, their growers generally *badly begripped too*. The usual covering of straw failing the addition of snow, has ruined our prospects for the season, and many of our growers seem to be discouraged. We fail to see why. In forty years' experience in strawberry culture, we have not had such a tale to tell, and our advice is, when every one is running; you walk. Replant your beds, they are likely to do in the future as well as they have done in the past, and the inevitable scarcity of our favorite fruit this year will enhance its value in coming ones. In our cold north it would be premature to predict the prospects for pears, cherries and plums, but we may say that in our section pears have always been unremunerative, except in the hands of the few persistent growers, who have had small returns from Bartlett, Flemish Beauty and Clapp's Favorite. Cherries have failed us for years, and plums nearly so.

MR. D. NICHOL of Cataragui, in the county of Frontenac, writes: "Strawberries were badly injured by the winter. There being very little snow, plants were more exposed than usual. The bloom upon apple, pear and cherry trees is more abundant than usual, although about ten days later than last year."

MR. P. E. BUCKE, of Ottawa, writes: "Fruit prospects were never better in the Ottawa Valley than this spring. The only fruit which appears to have suffered is the Raspberry where not laid down, the snow fall last winter having been comparatively light, though we had uninterrupted sleighing from the 27th of November to the 20th of March. Pond's seedling and Glass's seedling, two of our hardiest cultivated plums, are showing a wonderful abundance of bloom. No pears can be grown here."

MR. THOS. BEALL of Lindsay, in the county of Victoria, writes: "The prospects for pears is the very best, but strawberries are nearly all winter killed.

From all these and other reports it is evident that while most fruit trees promise a great abundance and low prices must be expected in consequence, yet strawberries will be an unusually short crop, and good plantations will yield unusual profits.

FRUIT AS MEDICINE.

It is very seldom that fruit is taken as a preventive or cure for illness or disease, yet the value of many varieties in cases of slight ailments, and in some instances of serious indisposition, is indisputable, and advantage might well be taken of this fact by those engaged in the fruit trade to impress it upon the public more strongly. Of the various fruits—English and foreign

—grapes stand first from a medicinal point of view. They are both purifying and nutritious. Peaches also are most hygienic, especially if taken at breakfast time, whilst nothing is more palatable and wholesome than this fruit. An orange eaten before breakfast will, to a great extent, prevent or cure dyspepsia, and the juice as well as that of lemons is extremely useful in cases of fever. Stewed apples might with advantage replace many salts, powders, or pills given to patients by physicians. A taste for tomatoes, although not natural, is easily acquired, and indulgence in this, to many unpleasant, fruit, has a good effect in liver and gastric complaints. Currants, raspberries, strawberries, figs; and many other kinds of fruit are equally purifying to the system, if taken regularly and frequently but not spasmodically. We might continue to cite examples to a considerable length, but the preceding will be sufficient to indicate the value of this class of produce as health producers and supporters.

Besides the almost universal use of the orange as a dessert, the sweet variety abounding as it does in citric acid, possesses in a high degree anti-scorbutic properties. The enormous consumption of this fruit among all classes must have a very beneficial effect on the health of the population.

The late influenza epidemic undoubtedly gave a temporary spurt to the orange retail trade. As is well known, the medical profession strongly recommended the fruit as a means of alleviating, if not actually staving off that distressing complaint. This fact was endorsed by the analyst of this publication, and then made the most of by the metropolitan retailers, who, especially in the poorer districts, exhibited large placards with the quoted medical opinion respecting the anti-influenza virtues of the orange.

The bitter orange is a valuable stomachic, and the astringent properties contained in the rind make this fruit an excellent tonic. Orange wine is made in great quantities from the Bigarade.—*Fruit Trade Journal*.

AN ESTIMATE OF APPLES.

I HAVE read Dr. Hoskins article entitled "Estimate of Apples," and thoroughly agree with him in his remarks regarding Ben Davis and Baldwin. The Ben Davis is hardy, a great cropper, and although of inferior quality, I believe pays very well in the English market. It can be grown successfully where the Baldwin would not have the slightest chance of success. I do not agree with the doctor's estimate regarding the paying qualities of an orchard, but I think the Doctor is a good authority on hardy varieties, as he tests all the new varieties, and is located in a locality where only hardy kinds will succeed. You must know that a larger percentage of

trees give a profitable crop in the Niagara district, in Prince Edward's Co., and also along the lake shore of Northumberland, Durham and Ontario, than his estimate.

Toronto.

W. E. WELLINGTON.

I see nothing to find fault with in that portion of Doctor Hoskin's letter which you have published *verbatim*. I should require some explanation of the term "common varieties" in the introductory remarks, before giving an opinion. The introductory remarks and the latter part of the worthy Doctor's letter seem to clash. You note he says: "The discovery of this variety (the Wealthy), has extended *profitable apple culture* at least one hundred miles further north."

The Fameuse is undoubtedly a "common variety" if by that term you mean a variety "commonly grown" on the island of Montreal. Yet no crop of potatoes grown on that island will compare, in financial returns, for one moment with the crop of Fameuse or Snow apples that could be grown in the same ground. When "City Property" is given up to growing Fameuse apples it must undoubtedly be a good paying investment otherwise Montreal orchardists would not grow them.

Renfrew.

A. A. WRIGHT.

With regard to the quotation on p. 46 of our journal, it struck me at the time, that the remarks in the first few lines were not what I understood to represent the facts in apple culture, but I do not see that it is either wrong or improper to insert the doctor's statement. In fact even if he is wrong, it is proper to note his utterances, as being the opinion of one whose opinion is based on experience. The reiteration of commonly accepted statements of facts does not further information so much as the assertion of that which appears erroneous; the latter stimulates independent investigation and puts people thinking.

Wingham.

J. A. MORTON.

MR. BEALL'S ESTIMATE OF APPLES*.

IN speaking of the *relative* value of importance and usefulness of fruit trees, full force should be given to the adjective. In the cold north, iron-clad hardiness of tree is essential, and until we have a wider choice we shall have to take and make the best of sorts that otherwise we should reject. Take *Tetofsky*, for instance; the tree is iron-clad, healthy, productive and the fruit early, handsome and though not soft fleshed is mildly sub-acid, and quite eatable for want of a better. The

* See Report 1880, p. 4; and p. 146 of this volume.

Yellow Transparent is a week or so earlier, soft-fleshed, better flavor, and about equally productive. I much prefer it to Tetofsky for *my own eating*, but I have many trees and positively cannot say which sells the best or brings the most money. Chiefly, however, I value Tetofsky as a stock upon which to top work varieties like Prolific Sweeting, which are late in coming to fall bearing. On Tetofsky, Prolific Sweeting bears as soon and as freely as the Tetofsky itself, while root-grafted trees of Prolific Sweeting, 17 years set, do not produce as many apples as those on Tetofsky six years grafted. The commercial importance of such a stock is very great. If it will do for the Bethel what it has done for the Prolific Sweeting it will make it by far our most valuable winter apple. I have now a lot of Tetofskys which I shall plant out this spring for the purpose of making the trial. The only fault of the Bethel is that it is as long as the Spy in becoming a paying tree. In reference to the keeping qualities of the Wealthy if it is gathered early, and at once placed in a deep cool cellar with well-managed ventilation, I find it to keep in perfect condition until spring. Last year at this time I sent to Mr. R. W. Shepherd of Montreal, a box of Wealthy's in prime order. They were kept in my house cellar with no extra care, and not a cent's worth of extra labor. Simple attention to the above named conditions is all that is needed. By reversing them I can have them ripe and mellow in October.

Mr. Beall seems to think that what he does not know is not worth knowing; at least, his condemnation of apples because little known * (to him), looks that way. If he will consult Mr. Gibb, Mr. Shepherd or Mr. Wright, he will obtain Canadian experience of considerable length regarding *Scotts Winter*, which is highly favorable. High dessert quality has never been claimed for it, but as a vigorous and productive tree, more hardy than Wealthy, with superior culinary quality and remarkable long keeping it occupies a place not otherwise filled in the cold north.

As to *McMahon's White* I expressed no judgment on it until I had fruited it for several years, and then I set out every tree of it I had in my nursery, because it gives a succession to the Duchess much needed. As to *Duchess of Oldenburgh*, it is ridiculous to speak of it as a summer apple here. It does not get its full growth until September, and by gathering as soon as well colored, and placing in a cool cellar, it keeps well into October. But of course in a warmer climate it is earlier.

Magog Red Streak, though it seems to be much liked by a good many and though I myself was the first to propagate it, is for me so completely surpassed and replaced by the Wealthy, that I have no further use for it. Still it has merits and stands the winters with me quite as well as Wealthy. My family regard it as our best pie apple. The *Switzer* is the nearest perfection in tree and fruit of any apple I have, its only "out" being a

* See Report F.G.A. 89, page 4.

tendency to drop its fruit, though not before it begins to be merchantable. Trees in sod do not seem to show this fault. In quality it is almost equal to Fameuse, while the size is larger, the fruit free from spot, and the tree a first-class iron-clad, and a wonderfully free and elegant grower. It accompanies McMahon's White in season, but is of finest dessert quality, while McMahon's is only fair. It is, however, a large apple and equally fair, though with only a slight blush. There is more money in Switzer than in McMahon, I think, though both are "bonanzas."

Regarding 43° as the limit of the Baldwin northward, as a commercial apple. I should (if I did not) have limited the remark to New England, as I am well aware that it is grown as far north as this, or farther, in Michigan. It is grown, but with difficulty and on unhealthy trees, on our Vermont islands in Lake Champlain. But in this north-eastern part of Vermont I have never seen a Baldwin tree live to be old enough to bear an apple. In Maine its profitable production is limited to the extreme south-western towns. None are grown in New Hampshire or Vermont, north of White River Junction, in the Connecticut Valley, one hundred and four miles south of here.

As you are aware, I have never attempted to give a list for Ontario, and it would seem to me that for practical usefulness there should be a division into districts in some of which any apple would succeed, while in others only extra hardy and iron-clad kinds could be profitably planted.

Red Astrachan, Haas, Colvert, Yellow Bellflower, Northern Spy, Canada Red, Tolman Sweet, Golden Russet all fail here; while St. Lawrence, though the tree stands, bears very lightly. Alexander and Cellini are hardy and productive, but are nearly destroyed by the Codlin worm, which seems to have a special fondness for these varieties. Fameuse Sucree and McIntosh Red are nearly as hardy as Wealthy, but unprofitable from spotting and cracking by fungi. Nearly all the true Russians are hardy, thrifty and productive, but time is needed to select the best from among them. Longfield is good and productive but not better than Switzer while it is an inferior tree, with smaller and much less handsome fruit. Antonovka will make a good early winter commercial apple, of fair but not high quality. Titovka (as I have it) is a large coarse-fleshed, mellow, pleasant flavored, red striped apple, that will only a little exceed Oldenburgh in season. Zolotoreff is of same season, handsome and good, but too strongly ribbed,

Newport, Vermont.

T. H. HOSKINS.

A PROMINENT horticulturist states that by placing tomato leaves around the trunks of trees and also by sprinkling roses and cabbages with a decoction prepared by steeping tomato leaves in water, insects did not disturb them. This is worthy a trial.

THE HUBBARDSTON APPLE.

THINK that a great amount of patience must be required to fill such a responsible office as that of Editor of our CANADIAN HORTICULTURIST, on account of the varied and conflicting experiences in the cultivation of the the different varieties of fruits, plants and flowers had by your subscribers. My experience, with regard to the subject of your last colored engraving representing the Hubbardston Apple, has been very unfavorable, and, if my experience is to be relied upon, some points there made need qualifying. You say, in the outset, that "this apple is less known and cultivated in our orchards than its merits would warrant," and farther on you qualify this by saying, guardedly, "in those sections in which it has been found to succeed." This if rightly understood means volumes, inasmuch as in my estimate of it I would as soon plant the wild thornapple, either for home use or for market. You say that Mr. Wright buys his apples from Prince Edward county, and infer therefore that it thrives well here. This must be a mistake. My experience with fifty trees planted in 1865, turned out so badly that they nearly all died in less than ten years. I then top-grafted them on Tolman Sweet, Golden Sweet, Yellow Siberian Crab and seedling stock with very little more satisfaction. To day I have scarcely a vestige of this apple in my orchard, and during these ten years I can safely say I have not put up ten barrels all told. My opinion is that in our country there are not twenty-five barrels of it grown in a year, and consequently it is passing out of cultivation.

There is a variety called the Nonsuch which is hardy, a large deep basined flatish apple striped with red, three fourths of the size of a King in general, but somewhat coarse and not as long a keeper. This apple I have worked quite freely during the past few years, while the Hubbardston is very tender and should be cultivated where peaches will thrive. A good peach locality may grow them nicely.

I would like to hear from Mr. Wright of Renfrew, giving a description of the apples which he has been getting from this county as Hubbardstons, and saying from whom they were purchased. I will take much trouble to see a bearing orchard of them.

Bloomfield, P.E. Co.

J. P. WILLIAMS.

NOTE BY EDITOR.—We are glad to receive this criticism from Mr. Williams. One of the objects for which this journal is published is to compare the experiences of growers in various parts of Ontario. It is very desirable to know just in what localities any apple will succeed, and in what kind of soil. We should be very sorry indeed if anyone were led by anything in these pages to plant apples unsuited to their climate, and we hope to hear from Mr. Wright as to whether there could be any mistake in his having received shipments of the Hubbardston Apple from Prince Edward Co. In the county list of apples published in the Report of 1884, we find the Hubbardston marked five for

hardiness in the counties of Grey, Bruce and Huron, counties surely exposed to as low temperatures as Prince Edward Co. In most of these it is also ranked as vigorous and productive. A grower in the county of Middlesex, however, only gives it three for hardiness, remarking that it does best on a good, deep, strong soil and especially on limestone.

We hope to hear from others with regard to this apple.

LOW PRICES OF FRUIT: CAUSE AND REMEDY.

AS the time for the shipping of fruit approaches, it is well to regard carefully those principles which will insure us an honorable reputation and the highest possible prices. The following remarks by a New York commission merchant in the *American Garden* are worthy of repetition: "Cultivation of fruit in this country has attained such proportions that, if we are to believe the statements of some growers, it is no longer profitable. If this is true we should investigate the cause, and then like sensible men apply the remedy. The cause of this depression in prices, I think, is the production of such large quantities of poor fruit, which must be sold for a price less than the cost of production. Thousands of quarts of berries, tons of unripe grapes, thousands of barrels of apples, pears and quinces which are not fit for consumption, are sent to market with the idea of getting some price for them. Growers make a great mistake in shipping unripe grapes to market, for when the market is stocked with other varieties of ripe fruit there is but little demand for the ripe grapes, and none for the unripe. The continued shipping of the unripe grapes to market has the effect of depressing the prices for a time after the ripe grapes replace the unripe. If such varieties as the Champion, Hartford and Elvira were exterminated from our vineyards and only the later varieties cultivated and allowed to ripen before being picked, the grower would realize a greater profit from his vineyard than he now does; or if those sour varieties were permitted to ripen it would add to their value, as then they might be sold for wine. But now each grower vies with the other to get his grapes on the market first, and the consequence is that the returns from the sale of the fruit do not pay for the labor expended upon it. Premature, wormy and imperfect apples, pears, etc., are an objectionable feature in the trade, and the continued shipping of these fruits have the same effect upon the market as in the case of unripe grapes. It would unquestionably be far better to keep this fruit at home and send to market only the ripe and perfect kinds. Not only would better prices be obtained, but the chance of having the fruit seized by the agents of the Board of Health would be reduced to a minimum. Each year these agents seize large quantities of unripe fruit and there is no redress for the shipper.

During the strawberry season there are many dealers from other cities whose business is to ship to their home customers, and I have frequently heard these men say that "although there are so many berries in market, we cannot procure enough desirable stock to fill our orders." The self-evident remedy is to plant less acres, to devote more care to securing fruit of a better quality, and cease shipping premature and unripe fruit to market. Producers should remember that the taste of consumers is becoming cultivated and now the demand is for the best fruits. Each year it is more difficult for dealers to dispose of the immense quantities of inferior grades. To become a successful cultivator one needs brains, energy, capital and a large amount of patience and perseverance, in order to overcome the many obstacles to be met with in his business. Having succeeded in learning how to produce good fruit, the next item is to learn how to market it. One important feature is the selection of proper packages for each variety; for frequently the form of a package is objectionable to the purchasers, and one who aims at success in fruit culture must meet the wants of purchasers. Of late years the gift packages have become so popular that many refuse to buy fruit in packages on which a deposit is required. Choice fruits sell better in small gift packages than in larger ones. Some growers ship their poor fruit in these small packages, thinking that if the size of the package effects the price secured for good fruit it will also help the price of the poor stuff; but that is a mistake. Another important item is to establish a reputation for giving honest weight and measure; and to secure this reputation, the grower must give the packing of the fruit his personal attention, for some employees think it folly to be so particular, and imagine they know how to do it as well as the employer, and do not hesitate to deceive the purchaser, thinking that their employer will not find it out. The result is that the brand is ruined without the knowledge of the owner. Possibly the owner may wonder why his fruit does not sell for its accustomed price, and the receiver, supposing that the owner is aware of the change in packing, says nothing when reporting the sales. Again, the grower is apt to overlook the placing of the fruit wagon in charge of a trusty driver in transit to the station. A careless person can do much harm by driving over rough places without any regard to the tender character of the fruit. I would suggest to the shippers of tender fruit that they follow their drivers occasionally to the station and examine the fruit before it leaves for market. I know from personal experience that a large amount is injured in this way and the loss attributed to transportation companies.

Let the shipper raise the covers of his berry crates and he will soon learn why dealers complain of the poor condition in which the fruit arrives. In some instances he will see berry baskets resting at an angle of 45 degrees, with one-third of the fruit gone, or he may see all of the fruit in the top tier of baskets so bruised by jolting as to be worthless. It would be wiser for

the dealer to throw this tier away than to sell the whole at the value represented by the top. An essential point for the dealer to consider is the selection of a commission merchant to sell his fruit. This being done, he will do well to inform the merchant of the varieties and quantity of each fruit he proposes shipping and to obtain all the information he can upon the best methods of preparing and shipping the fruit ; also, the kind of packages to be used in order to place the fruit upon the market to the best advantage. The dealer is generally much better informed on those points than the shipper, who would frequently save money if he would occasionally consult with the merchant. Every shipper should be on the most friendly terms with his dealer, as their interests are usually mutual. No shipper should hesitate to ask for the information he needs, or take offence when the dealer points out defects in packages or methods of packing. I consider it a part of his duty to note and inform his patrons of these deficiencies, yet I have frequently known persons to get angry at their dealers for mentioning these items, and quit shipping to them. One of the great mistakes shippers make is to keep their dealers in ignorance of the quantity and varieties they have to send, or when they intend shipping. One day a grower may send a small lot of a certain variety, and should the dealer report its sale at a high price, the sale perhaps being because it was a small lot, he may immediately double or triple the quantity, thinking it is just as easy to sell much as little. On its arrival the dealer is compelled to lower the price or let it perish, whereas if the shipper had notified the dealer of the amount he proposed shipping, the dealer could have instructed him as to the quantity to send at once. Not only this, but the dealer could probably have arranged with his customers to take it on arrival at liberal prices. A curious feature of the fruit trade is that shippers demand a daily report of sales from the dealers, yet at no time during the season do most shippers give the dealer any notice of their intentions as to shipments, and be they little or much, a full price is always expected. Nor does it seem to enter the minds of some that the non-arrival of the usual quantity effects the dealer, or would be a disappointment to the purchaser, who had been accustomed to get it regularly. In fact shippers show the utmost indifference to the whole matter.



THE CLEMATIS IN ONTARIO.



My experience with the Clematis is entirely at variance with Mr. Gotts. (See p. 86.) In fact I have proved that all the varieties of Clematis may be grown with the greatest ease that are grown in England, and the luxuriant growth of foliage and wealth, variety and profusion of bloom which my garden shows, from May until the unopened buds are frozen hard, make a sight not to be forgotten. The first requisite is, they *must* have morning sun, and continue to have plenty of sun for at least half the day. Then the bed must be prepared fully two feet deep, just as an asparagus bed is prepared, almost wholly old manure and a good deal of wood ashes. No one should grow the double varieties at first, but should make their selections from the *Lanuginosa* and *Jackmanii* types. These require no cutting from the trellis and laying down, merely cutting off the whole top of the plant in the Autumn about ten inches above the ground and covering for one foot with manure. In the Spring the little sprouts grow to the height of a morning glory vine and blossom profusely. There is one double variety which, although called perennial wooded, still will blossom if the whole top is cut off. It is called *Belle of Woking*, and is a rich delicate lilac, large and as double as a rose. It is a great pity that gardeners do not grow this exquisite vine more. I have over sixty varieties, and would gladly increase my stock had I room for them.

New Edinburgh.

SARAH LAMBERT.



HOUSE PLANTS IN SUMMER.

WHETHER green house and window plants in general should be kept in their pots or turned into the open ground for the summer, depends upon what is desired of them. Probably most plants can be trained into better form in pots than in the open ground, and if one does not care

for the labor but seeks the best results in the form of his plants, continuous pot culture is best. But to lessen labor most gardeners now turn their green house plants out of pots and into the open border for summer, and repot about the first of September. As a rule, plants are cut back when so turned out. Azaleas may need attention to pruning some little time before they are put out. We prefer to plunge the pots of Azaleas in sand in the garden, and not to turn them out, though some gardeners do so. Before these plants are turned out, and when they have done blooming, the weak wood can be cut out and the shoots shortened, and a top-dressing of about an inch of fresh soil be given.

THE AFRICAN LILY.

THE tubers of the Calla, Richardia, continue to produce bloom plentifully for a number of years, but in time commence to fail. A stock of young and vigorous plants can be kept up from the offsets produced annually by the old tuber. Every year, after the blooming season is past, the plants should be allowed to go partly dry, reducing the water week by week until they come to a state of rest, or nearly so. The plants can be kept in the pots, nearly dry, during summer, or a better method and requiring less care, is to turn them out of the pots and set them in the garden about the first of June, and leave them there until the last of August or first of September; then lift them, repot in fresh soil. At the time of potting take away all the offsets. Boiling water, or even warm water, is not needed to place in the saucer of the plant; few ever use warm water, although some claim that they succeed better with it. A plentiful supply of water is required during the growing stage, and those who are interested in giving warm or hot water are probably so attentive to the needs of the plant that it is never allowed to go dry, and this may be the cause of greater thriftiness which is attributed to the higher temperature of the water.

—  Trees • and • Shrubs  —

HEDGE, WINDBREAK AND TIMBER.

VALUABLE USES TO WHICH THE OSAGE CAN BE PUT.

AS a hedge plant the osage is too rapid a grower to be easily kept in shape, and requires too great an amount of labor at a season of the year when all work is pushing, and it is almost impossible for the farmer to attend to it when care is most needed. There is but one way that we have ever discovered to keep a hedge in good shape, and that is to trim three times each summer, and in seasons of unusual growth four times. The trimming should always be when the new growth is soft and before the thorns have hardened, as then the twigs cut off will shrivel up, and there will be no thorns left on the ground; but the farmer with a mile or two of hedge cannot—or does not—always get the work done in time, and so the hedge is soon out of shape and thorns scattered along the edges of the fields.

When the osage is allowed to grow into a tree it makes a straight, smooth trunk which is entirely free from thorns, and with its glossy green leaves is a tree of more than ordinary beauty. It is very easily worked, as, like the locust, it chips freely, splits easily, and when green is easily cut, but becomes very hard and dense as it seasons.

A correspondent in Ohio, writing on this subject, says:—This week I passed a neglected osage hedge which had been allowed to grow for probably twenty years unmolested, and the entire line would average ten good posts to the rod, and in some places sixteen to twenty good posts could be cut in this distance, as some of them were large enough to split into two posts at the but, and long enough to make a second post at the top cut.

Now this suggests a very valuable use for the osage, which is that we combine the benefits of a wind break and a fence, while growing valuable timber. We have evidently mistaken the nature of the plant while trying to dwarf it and keep it down, for like "Banquo's Ghost," it won't "down," but it possesses all the desirable qualities for a wind break and a fence for cattle and horses.

The common price for plants is \$2.50 per thousand, and eight plants to the rod, costing two cents, will be all that are needed for this kind of a fence. In three years, or four at the farthest, they will be large enough to turn cattle and then all that is needed to make a perfect fence of it for all kinds of stock, will be pannels of common board fence made of three six-inch boards set along the bases, secured by a stake at the bottom and loosely wired at the ends to one of the growing plants.

These pannels should be made of twelve foot fencing nailed two by two oak uprights, using three uprights to the pannel, and at \$1.75 per hundred for lumber will cost about fifty cents a rod. It would cost about the same and would look neater to stretch the woven wire fence along just as close to the hedge as possible, secure it to posts set fifty feet apart and then wire occasionally to a plant in the hedge row.—*New York Herald.*

Vegetables

THE STACHYS.

THE STACHYS AFFINIS, called "Crosnes" by the French, is highly spoken of as a table vegetable, by F. Burvenich, one of the editors of the *Bulletin d'Arboriculture*, published at Ghent, Belgium. He says he cultivated it quite extensively, and has had an opportunity to have them well tested at a recent banquet, on the occasion of the twenty-fifth anniversary of the Circle of Arboriculture. All the guests, he states, of whom there were more than forty, were unanimous in pronouncing the new vegetable delicious. In France, it is in all the fruit shops, and can be bought at from twelve to twenty-five cents a pound, and is very popular. In Germany, it was tested by a Society of Horticulturists at Berlin, the vegetable being served both boiled and roasted. The verdict of the majority was that it has "a fine, peculiar taste, and should be highly recommended to the epicure." Perhaps it would be appreciated by the members of our Association if we were to place this new vegetable upon our list for distribution, in the spring of 1891.

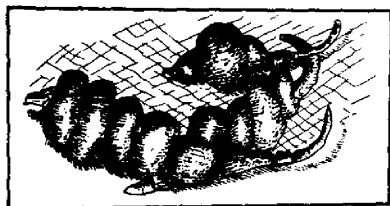


FIG. 48.

Mr. W. H. Rogers, writes in the *Gardener's Chronicle*, England, as follows, regarding the Stachys:—

I first became acquainted with this new vegetable last spring, when I executed an order for America. The roots were smaller than I expected, being mostly about one-and-a-half inch in length and about one-third in diameter. I retained half-a-dozen, but omitted to plant them for three or four weeks, when they were in a dry, shrivelled condition, apparently without life; nevertheless I planted them singly in small pots, and, to my surprise, they soon appeared above the surface, and grew so rapidly, that I tapped them from the pots into some rich peaty soil in my kitchen-garden, about two feet apart. They continued to grow, and the foliage soon covered the ground. After maturing, it completely died off, when, in order to test the result, I had one root dug up, and found that it had increased more than one hundred-fold, most of the roots retaining their original size. I selected about fifty, and had them dressed by boiling in milk and water with a pinch of salt for about twenty minutes, when they were served up on toast with a little butter, and pronounced "delicious." I, therefore, recommend every gardener to give Stachys a trial, as I have no doubt it will become a most useful adjunct to our comparatively few cultivated vegetables.



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.

NAMES WITHOUT POST OFFICE ADDRESSES. The following persons have sent in their money to this office without giving their post office addresses, viz:—W. W. Collins, John Kerr, Edwin Grainger.

THE MILLS grape vines were not so large as we expected and therefore for the most part we have been able to send them by mail, notwithstanding what we said in the circular. We hope for fine stock for 1891.

THE SUMMER MEETING of the Ontario Fruit Growers' Association will be held at Niagara-on-the-Lake, beginning on Tuesday evening, the 8th of July. A very interesting programme is being prepared, a copy of which will be sent by mail to any one applying for it by card to the Secretary.

WEEKLY MARKET BULLETIN.—It is proposed to issue a Weekly Market Bulletin to all members of our Association who wish it, beginning with the month of July. The object is keep our growers posted on Canadian and foreign markets during shipping season. Would those who want us to make this attempt please send a post card asking to be on the list. If encouragement is sufficient we will proceed. No one will receive it without applying for it.

THE PLANT DISTRIBUTION may be worked to better satisfaction, we hope, next year,

by combining the old system of sending out larger stock by express, with the present one of mailing small plants. Any club of five or more might agree to have them by express, in which case we could as well prepay the express charges, as pack and mail the stock separately. Anyone whose plant has come to hand in bad condition may have it replaced another year without charge; we have our contracts with honorable nurserymen, but of so many a few may be poorly packed.

THE fifteenth annual meeting of the American Association of Nurserymen, which convenes at the Park Avenue Hotel, New York City, June 4th, promises to be a notable event. Twenty-five practical men will be present with off-hand talks, or papers on topics of great interest, including Professors I. P. Roberts, L. H. Bailey, J. L. Budd, B. E. Fernow, B. T. Galloway. Also, Hon. H. E. Van Deman, Chief of the Division of Pomology, A. S. Fuller, and many of the eloquent and silvery-voiced speakers so well known to nurserymen. Three hundred or more members will discuss the subjects presented. Reduced fare has been secured on all railroads east of Chicago, and reduced prices also at the new fire-proof hotel. For particulars address Chas. A. Green, Secretary, Rochester, N. Y.

APPLES FROM DENMARK are likely to compete with American and Canadian apples in the markets of England. During the last year the importations of apples from that country, both to Great Britain and Germany, has grown into a business of some importance, and bids fair to grow each year. Formerly the apples grown there were mostly consumed in their own markets, and were largely sold from floating fruit shops, moored to the quays; but of late an organized effort for the export of garden produce has been made, and as a result some five or six hundred thousand pounds in value of apples have been exported during the past year. The leading apple grown for export by the Danes is the Gravenstein, the variety so much grown by the Nova Scotia orchardists, and they will no doubt feel the competition most keenly.

RUSSIAN APRICOT.—The especial attention of our readers is called to the remarks of Mr. Niemetz, with regard to this fruit, on page 103. It would appear that the varieties disseminated have been brought from the south of Russia and consequently their claim of perfect hardiness for our northern sections has yet to be proved. Prof. Budd, of the Iowa Agricultural College, said in a recent Bulletin. "At present we do not propagate any one of the South Russian Apricots. Those we have fruited are small in size, low in quality and the trees are not hardy. If the named varieties of Nebraska prove, when fruited, better in size and quality, and hardier in tree, they will be included in the list sent to our trial stations."

In our plant distribution this spring we have sent out to those calling for the Russian Apricot one of these named varieties, known as the Budd. We shall anxiously wait to hear of its success when fairly tested.

ORANGE GROWING in Southern California has strong attractions for some of our Canadian fruit growers. Mr. E. J. Woolverton has lately returned from Riverside, and gives a glowing description of the beauty of the country; the salubrious climate, and the golden profits of growing the citrus fruits in that highly favored section. Entering upon Riverside, after leaving the barren steeps of

Rockies, the green foliage and lawns, the orange trees drooping with their golden fruits almost brushing the train, seemed like a paradise on earth, and so taken up was he with the apparent profits that he invested in twenty acres of orange land, and left a son in charge of the same. The varieties most cultivated, samples of which were sent in to our office, were the Washington Navel, the Blood and the St. Michael, all fine large oranges of excellent flavor. We imagine that even in that land of golden dreams there are many discouragements to the fruit grower. The land is very high priced, irrigation is costly, markets are distant and low prices must be often expected.

THE JOHN HOPPER ROSE has been so much called for by members of our Association that the supply has run short. We have tried the leading rose growers both in America and England, but cannot make up enough. We have therefore been compelled to substitute two other equally beautiful roses for a part of our members, at the same time asking their forbearance until another season, when we shall place John Hopper again on the list, so that all who wish it may secure it. The two roses used as substitutes will be, (1) *Mrs. John Laing*, a new Hybrid Perpetual rose, of great promise: the flowers are large, finely shaped and exceedingly fragrant; in color soft pink. The plant is extremely free from mildew. It commences to flower early and very profusely, and continues until quite late. (2) *Anna de Diesbach*, a beautiful and most desirable garden rose, raised in 1858 from *La Reine*. In color the most lovely shade of carmine; flowers very large, double and fragrant. Unfortunately we cannot succeed in getting any but small green plants.

THE CANADIAN TARIFF OF CUSTOMS has been amended, the changes coming into effect the end of March last. The duty on fruit has been considerably advanced and is now as follows: Apples, 40 cents per barrel (formerly free); blackberries, gooseberries, raspberries and strawberries, 3 cents per pound (formerly free); cherries and currants, 1 cent per quart; cranberries, plums, quinces, 30 cents per bushel;

peaches, 1 cent per pound (formerly free); grapes, 1 cent per pound; dried apples, 2 cents a pound; other dried fruits, 1 cent per pound. On fruit trees and plants as follows: Apple, 2 cents each; peach trees, 4 cents; pear trees, 4 cents; plum trees, 5 cents; cherry trees, 4 cents; quince trees, 3½ cents; seedling stock for grafting, 10 per cent.; grape vines costing ten cents and less, 3 cents each; raspberry and blackberry bushes, 1 cent each; rose bushes, 5 cents each. Some modifications in the above, especially the nursery stock, are being made, but as yet no authorized list of them has come to hand. It is to be hoped that these regulations in our interest may contribute to the wealth of our fruit growers, who are surely as deserving of consideration as any class of the community.

THE IMPERIAL PRODUCE COMPANY.—We are hoping for some good results to come to fruit growers from the operations of this company, whose circular and advertisement appears in this number. We are informed that cheesemen, throughout the country are well pleased with the sales made for them so far in the British market, and are sending in regular contracts for the whole output of the season. Mr. A. McD. Allan, who is outside manager, writes, "Our British arrangements are becoming more and more complete all the time, and we desire every one to know distinctly that we handle nothing but Canadian goods; and already we are being known in England as the Canadian house. We will give Mr. Britisher to know all the time that there is an important difference between *American* and *Canadian*. We are going to supply the great civil service stores of London with special lines of apples in small packages, and in order to do so will have to re-pack. You and all fruit growers can rely upon it that my efforts will be unceasing to build up a very high reputation for our fruits in the markets of the world,

and am convinced that if we do not make any money for growers, then it can't be made."

HOP-GROWING for profit is the chief agricultural industry engaged in by farmers in Central New York, south of Utica, in the Chenango Valley, and especially about Waterville. During a recent trip east the writer was much interested in the extreme contrast which a country devoted to hop-growing presents when compared with a fruit country. Leaving the Niagara district, descending the mountain at Lewiston via the New York, Ontario & Western, where the whole landscape is full of fruit trees, laden deeply with bloom, and awaking in the above mentioned region, one is surprised to find a country utterly devoid of fruit trees, and in their place a forest of poles for hop vines; and in place of fruit packing houses, hop-houses, for drying and packing hops, surmounted by peculiar ventilators.

A friend there who has one hundred acres in hops, stated that it was the only branch of agriculture which really paid in that section. Although the expense of growing and harvesting hops is very heavy, amounting to about \$100 per acre, or about ten cents per pound, and in some seasons the selling price is not over that amount; yet for a period of twenty years the average has been twenty cents per pound, and on one occasion reached the enormous price of \$1.00 per pound, giving fortunes to growers in a single season. There are three kinds of hops grown; the Canadian, the Humphrey, and the Early Cluster, the latter of which is the most generally grown. In hop-picking season everybody turns out and all seem to enjoy the fun, if one may judge by the songs which enliven the hop yard; while the men cut the vines and pull the heavily laden poles, laying them across the end of the boxes to be stripped by the women and girls, who thus earn a good deal of money for their own private use.

Question ◦ Drawer

44. SIR:—How late in the season may bush beans be sown?—W. W. R., TORONTO.

If with any prospect of ripening a crop, not later than the 20th of June; but if for using green, they may be sown as late as the 12th of July.

CINERARIAS.

45. SIR.—How shall I care for Cinerarias to keep them perennial? All that I have seen die after blooming, do they want a rest; if so, how should they be treated while resting, and for how long?—J. K. D., *Almonte*.

Reply by A. Gilchrist, West Toronto Junction.

Cinerarias are not worth keeping over; they are best raised from seed each season. No florist to my knowledge tries to keep them over. I never do.

ALKALINE WASH FOR APPLE TREES.

46. SIR:—Which is the proper time to apply an alkaline wash to fruit trees?—M. J. C., WINDSOR.

That depends on the object. If for the bark louse, about the first week in June, as then the young lice are most easily destroyed; if for the borers, once a month in June, July and August, for at that time the moth is busy depositing her eggs.

SCOTT'S WINTER APPLE.

47. SIR.—Please give me short information about Scott's Winter. (1) Is it hardy? (2) How long under favorable circumstances will it keep? (3) Is it a good cooking apple? (4) Habits of growth? X. Y., *P. E. Island*.

Reply by R. W. Shepherd, Jr., Montreal.

(1) It is quite hardy. (2) Will keep under favorable circumstances all through winter to end April. (3) It is an excellent cooking apple. (4) Growth vigorous, rather upright than spreading.

DURATION OF AN ASPARAGUS BED.

48. SIR:—Please say how many years an asparagus bed will last.—W. W. R., TORONTO.

The duration of an asparagus bed depends very much upon the treatment it receives. Injudicious cutting, that is continuing to cut too late in the season, is very injurious, and if persisted in year after year would soon spoil the bed. With proper care an asparagus bed should last in good condition for a period of at least twenty years, and we have known them, under certain conditions, to go on for an almost indefinite period.

CURING TOBACCO.

49. SIR.—How shall I cure tobacco, in order to have it at its best, to use in the greenhouse?

I tried to dry some in the shade, by hanging it up in an old building, but it got somewhat mouldy and does not appear to give as strong a smoke as cigar stumps.—J. R. D.

Tobacco is usually cured by hanging up the plants, singly, in a building through which there is a free circulation of air. Mr. Gilchrist thinks that the best and cheapest way is to send to the nearest cigar factory and get a bale of it, if wanted for smoking a greenhouse.

PLANTS DAMPING OFF.

50. SIR.—WHAT is the cause of plants "damping off"? I am loosing hundreds of Cabbage and Cauliflower in that way; I transplant them but it appears to do very little or no good. There are not many of any other kinds that are going in that way. Can you give a remedy? The plants are in a greenhouse; have not started hot beds yet. Temperature varies considerably.—J. K. D.

Reply by A. Gilchrist.

Early Cabbage and Cauliflower are very liable to damp off in a close greenhouse or hot bed; give plenty of ventilation, it is a Fungi and develops rapidly in a close atmosphere.

FRUIT GROWING IN MUSKOKA.

51. SIR.—The strawberries I received and planted last year all lived and made a good growth. I cultivate the Wilson, and find them very successful. We gathered a good

crop the last two years when strawberries have been so poor a crop in many places. Small fruits are very successful in this part of the country if properly cultivated, and prices are excellent for all that are offered for sale. I have found the HORTICULTURIST a great benefit, and would not like to be without it. What kind of pears would be suitable for this climate? Wishing you every success in the furtherance of the interests of horticulture.—JESSIE PARKER, *Gravenhurst*.

[We would recommend a trial of Clapp's Favorite and Flemish Beauty.—EDITOR.]

SIZING FOR HOT-BED SASH.

52. SIR.—Would you please give me a recipe for painting muslin covers for hot-bed sash, to be used instead of glass.—A SUBSCRIBER.

In reply we cannot do better than quote from *Popular Gardening* the following answer:—For three sashes of usual size, get one quart of linseed oil, one pint of water, yolks of fourteen eggs, and the whites of four eggs. Then boil oil and lime water together, remove from the fire, and after a few minutes stirring, add the beaten eggs, stirring again until all is thoroughly mixed. The muslin being tacked on the frames, is painted over with two coats of this mixture, and when dry will be ready for use.

FLEMISH BEAUTY PEAR.

53. SIR.—(1) Is it good flavor? (2) Is the tree vigorous? (3) Is it hardy? (4) Does it meet a good market? X. Y., *Charlottetown, P.E.I.*

To all these enquiries we may reply in one word, Yes. The quality of the Flemish Beauty is very good, indeed many prefer it for eating to any other variety, especially when gathered on the green side, and ripened indoors. The tree is a vigorous grower, hardy, and an early and abundant bearer. When the fruit is well grown, it commands a good price in our markets, for it is a large and very handsome, and sometimes takes on a fine reddish-brown color on one side, otherwise becoming pale yellow at maturity.

The difficulty in our way, in growing this pear in the Niagara district, is its tendency to crack and spot, which diseases render the fruit almost unsalable, and the tree when

once attacked by the blight is generally beyond recovery, as it is taken in the trunk and not in the branches only, as is the case with the Bartlett.

SEEDING DOWN AN ORCHARD.

54. SIR.—What is the best to seed down an orchard with? How many bushels to the acre will it take? A. A. FUNNELL, *Trenton*.

Reply by John J. Hobson, Mosborough, Ont.

I have had very little experience in growing any of the grasses but timothy and the different varieties of clovers; I have watched the results of the experiments which have been carried on at the Model Farm, in growing the different varieties of grasses, and it has made me feel quite satisfied that I never went into the testing myself,—and unless I see more satisfactory showing I will keep on on my own line—my practise is to sow seven pounds of common red clover, from one to two pounds of Alsike (according to the nature of the soil) and four pounds of timothy to the acre.

THE ONTARIO APPLE, FIG CULTURE, THE CORTLANDT GRAPE.

55. SIR.—Why don't some one give a true description of the Ontario Apple now that that variety ranks highest in the list for Ontario. To say that it is good size, may mean all the way from the English Russett to a Gloria-mondi; a late keeper, may mean Dec. or June; Highly colored means a Belleflower, Greening, King, Blue Pearmain or any and all the shades of the beautiful Princess Louise, quality might be rated so as to be understood by comparison with other apples. What I most desire in my present condition is "more light," won't you kindly furnish it for me. I am interested in fruit culture; am setting an orchard for commercial purposes. I am very anxious to know just what the Ontario is like and if I can make it *rate best* for British Columbia, I will not hesitate to set a thousand trees as soon as I can prepare the ground.

I also would like to know of any varieties of figs that can be successfully grown in Ontario, and can you give any information in regard to the Cortland grape advertised in the HORTICULTURIST.

I have a niche in the mountain well sheltered from cold storms, and am anxious to try growing some of the tender varieties of fruits that would not succeed in more ex-

posed situations, this is my reason for making enquiry regarding figs.—GEO. W. BEE-LEE, *Agassiz, B. C.*

The Ontario Apple was distributed by our Association for testing in the year 1879. It was originated by the late Chas. Arnold, of Paris, and by him considered one of his best seedlings. At the winter meeting in London, in January 1885, it was referred to by Mr. T. H. Parker, of Woodstock, as a magnificent apple, and keeping well until that time. Mr. Wm. Saunders stated that he had had it fruiting for two years, and for its age it was the most productive tree he had. The fruit is uniform in size, an excellent cooking apple, and a fair table apple. Mr. A. MacD. Allan said it was one of the best of shipping apples.

It is hardly wise for us yet to recommend

anyone to plant this apple extensively for a commercial orchard, until it has been more fully tested. We would like to hear from a good many, briefly giving the result of their tests with this apple. The tree at Maplehurst is unfortunately not living.

Figs are not grown at all in Ontario, so that we have no experience to offer. There are several hundred varieties, but all are tender, not enduring a lower temperature than fourteen degrees Fahr. above zero.

The Cortland Seedling grape has not yet been tested to any extent in Ontario. Its disseminators claim that it is the earliest grape in North America, ripening about the middle of August. The color is black, and the berries large and sweet with a thin skin and very little pulp. It is said to be very hardy, and quite free from mildew.

Open Letters

OPENING UP THE BRITISH APPLE MARKET.

SIR,—Prospects so far for fruit crop are exceptionally good. I have finally decided to go to Britain in the early fall to take charge of all fruit sales, and have now made magnificent arrangements where cargoes can be broken and forwarded on the through bill of lading into all cities and large towns in Britain; storage and re-packing rooms free, and we have special agents in almost every town now, so that we shall be in a position to supply local markets direct.—ALEX. MCD. ALLAN.

FRUIT IN HURON CO.—STRAWBERRY YIELD.

Gooseberries were a very good crop here last year. The yield on my grounds was seven hundred quarts on a tenth of an acre. Your subscriber here, Mr. A. Stewart, from a bed of strawberries 92 feet by 20, set out the spring previous and well attended to, gathered last summer 230 boxes. That is the best we have heard of in these parts. Wishing prosperity to THE HORTICULTURIST and success to yourself in your good work, I am yours truly, SAMUEL FEAR, *Brussels, Ont.*

LIST OF SCIONS FROM RUSSIA.

From Dr. A. Grell, Moscow, a celebrated grower of Russian fruits:—(1) Miron; (2) Bieloj Naliv, (White Transparent); (3) Skvozina, (Transparent); (4) Anis, very hardy, like Antonovka; (5) Skrut; (6) Skryj Apple; (7) Aport (in your country, Alexander); (8) Antonovka (white); (9) Arkad; (10) Worgulek; (11) Koryschnevoi (Cinnamon apple); (12) Somnitelnoe (Doubtful). From Solovieff of Moscow:—(13) Gruschevka (Pear Apple); (14) Plodovitka, (Productive Apple); (15) Titovka, (Tetofsky); (16) Arkad; (17) Aport (Alexander); (18) Dynoe, (Melon Apple); (19) Miron; (20) Korobov, (Box Apple); (21) Borovinka, (in your country Duchess, but in Russia we have two sorts, light and dark skinned) From Kozlov:—(22) Koryschnevoi (Cinnamon); (23) Legen, (Keeper); (24) Stone Antonovka; (25) Borovinka (Duchesse); (26) Lopough; (27) Plodovitka; (28) Lebedka, (Swan Apple); (29) Antonovka, white; (30) Titovka (Tetofsky); (31) Billoj Naliv. From Government of Tschernigov:—(36) Stone Antonovka, (from the garden it is disseminated in Russia); (37a) Putim Fall; (37b) Putim Summer; (38) Stklianka Glass; (39) (Lolotarev) Gold Apple, good winter apple. From Mr.

Ansjutin:—(15) Antonovka, (late, Government Kursk), three varieties; (9) Sapieganka or Polish Bergamot; (10) Hamburg Bergamot; (11) Ukraine Bergamot; (12) Salviati; (13) Solenoi, (Salt Pear, for evaporating); (14) Ogust (excellent winter pear, from Kaukar acclimatised in Russia); (16) Sklianka; (17) Naliv; (1) Anjutin's Apricot, white, large, early; (2) Anjutin's Apricot, small late; (3) Anjutin's Apricot, yellow, early; (4) Anjutin's Apricot, yellow, late. From my garden:—(40) Gana, (autumn, oblong, handsome); (41) Borodavka, (Giant apple, earlier than Alexander); (42) Russian Tirol apple, (excellent autumn apple, it yields every year); (43) Papirova, (Paper apple, summer); (44) Ziganka, (Gipsy), (a good red winter apple); (45) Gremuch, (a very large

autumn apple); (46) Baba, (large, early); (47) Gleck, (the best for evaporating); (48) Niemetz Plum, (found in my garden, very early, July, excellent); (49) Cher Kush, (Moldavian Plum); (50) Plinka, (the earliest small pear). Crimean varieties:—(51) Chelebi, (grows also at the north); (52) Golden Stone apple, (Golden Pippin); (53) Sari-Sinap; (54) Kara-Sinap; (55) Gul-Pembe; (56) (?)

NOTE BY EDITOR:—All these interesting varieties have been put in charge of the Horticulturist at the Central Experimental Farm in the meantime. In course of time arrangements will be made for the general distribution of the most valuable, to the members of our Association.

* Our • Book • Table * * * * * *

TRANSACTIONS OF THE INDIANA HORTICULTURAL SOCIETY for the year 1889, being the Proceedings of the Twenty-Ninth Annual Session, held at Indianapolis, Dec. 3, 4 and 5. 214 pages, cloth. C. M. Hobbs, Secretary.

SEVENTH ANNUAL REPORT OF THE BOARD OF CONTROL OF THE STATE AGRICULTURAL EXPERIMENT STATION at Amherst, Mass., 1889, C. A. Goesmann, Amherst, Director.

TWENTIETH ANNUAL REPORT OF THE ENTOMOLOGICAL SOCIETY, ONTARIO, 1889. W. E. Saunders, London, Secretary-treasurer.

THE STATE AGRICULTURAL COLLEGE OF THE STATE OF COLORADO. Second Annual Report of the Agricultural Experiment Station, 1889. Chas. L. Ingersoll, Director.

HINTSON VEGETABLE AND FRUIT FARMING, by Charles Whitehead, Maidstone, England, 1890.

NOTES SUR LA SOCIÉTÉ D'HORTICULTURE DE LONDRES et sur la Société Pomologique Américaine par Ch. Joly, Paris, France, 1890.

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