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Yours truly
W. Woodworth

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" of W. M. Orr	86	" " Branch Infested with	100
Garden in England, Interesting	380	" " Pear Infested with	99, 256
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RHODODENDRON—PINK.

THE CANADIAN HORTICULTURIST.

VOL. XX.

1897.

No. 1.



THE RHODODENDRON.

“Rhodora! if the sages ask thee why
This charm is wasted on the earth and sky,
Tell them, dear, if eyes were made for seeing,
Then beauty is its own excuse for being.”



HE Rhododendron is one of the most popular shrubs cultivated in the English gardens. The moist climate of that country, and its moderate temperature afford conditions favorable to the cultivation of many of the finest and most showy varieties, most of which are entirely too tender to be grown in even the southern portions of our province. Hooker, the eminent botanist, describes a plantation at Embly, near Romsey, of which we read about eight years ago. He said: “They were planted thirty years ago, the largest number in an exceedingly wet bottom of deep, black peat, full of drains and sheltered with sloping banks of Birch and Fir, but with much Laurel, large Kalmias and Azaleas near the road.

“The shrubs had been cut continually to keep the road clear, and finally made a bank from seventeen to eighteen

feet high. They were scattered over the high ground (a dry, black sand) for two miles. There were, perhaps, a dozen of *R. maximum*, about three times as many *R. arboreum* and hybrid scarlets. *R. ponticum* and *R. roseum* seeded themselves to great extent, consequently producing a great variety in shape, size and color of the flowers. The largest single specimen plant of *Rhododendron* was one hundred and fifty feet round, and twenty feet high. The American species flourished with great vigor, one specimen measured nine and one-half feet in height, and forty-one and one-half feet in circumference.”

To those of our readers who have never read up about the *Rhododendron* it will be a surprise to learn that over 100 species have been discovered in various parts of the world. Its favorite habitat is the Himalayan mountains of India, where about forty distinct varieties have been discovered, some of them

THE RHODODENDRON.

at great altitudes. Here it grows to perfection. Does it not seem too bad that this elegant mountain beauty, with its magnificent flowers of rose or purple, should be doomed to waste its sweetness on the desert air. On Mount Tonglo, in Nepal, at 7,000 ft. altitude, Dr. Hooker discovered a very interesting variety; it was an epiphyte living

The Doctor named this variety *Dalhousii*, in honor of the wife of the then Governor General of India, Lady Dalhousie.

In America there are about six varieties, found mostly in the middle states. One variety, *R. maximum*, one of the finest, is found from New England to Georgia.



FIG. 1027.—RHODODENDRON DALHOUSII.

high up on the trunks of oak or Magnolia trees, with a stalk often five or six feet in length. It was from the numerous lily like flowers of the Rhododendron, and the egg like flowers of a peculiar Magnolia tree strewn on the ground, that Dr. Hooker was led to the discovery. He says, "So conspicuous were the flowers that my rude guides called out, "Here are lilies and eggs, sir, growing out of the ground," a very fair description.

The name rhododendron, is from the Greek words rhodos a rose, and dendron a tree, in allusion to its rose red flowers, and it is botanically allied to the Azalea. The shrub is evergreen, most varieties growing to from one to ten feet high, and about the same breadth, and the flowers, which grow in terminal clusters, vary in color from white to pink, yellow, lilac, crimson and deep purple.

THE RHODODENDRON.

All this will be of little interest to our readers unless they can cultivate this beautiful shrub. Well, of course, it is too tender outside of Southern Ontario, unless well protected in winter, or else grown in a tub and set inside during

cold weather. It is easily transplanted, and easily grown under right conditions. These are good rich soil, entirely free from lime or chalk, plenty of water, and partial shade.

A USEFUL WINDOW BOX DEVICE.

The accompanying sketch shows two brackets arranged outside of a window in such a way that the window-box within can be pushed out into the open air when the window is raised. The brackets have grooved tops, as shown in the diagram, so the box slides without danger of falling. It is a great advantage to be thus able to slide the window-box out of doors so easily, for the fresh air, a gentle rain or shower, and the clear sunlight, are often just the things needed by the plants to make them grow thriftily. One could carry out a window-box and secure these conditions, but the trouble would be much greater than the simple

raising of the sash and pushing the box out—so much greater that without a device of this sort the plants would rarely get an outing.

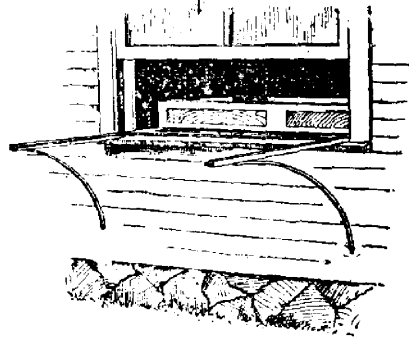


FIG. 1028.—WINDOW BOX.

COLD FRAME CABBAGE PLANTS.—Mr. T. Greiner writes *Farm and Fireside*: One of our readers asks when and how to grow cabbage-plants to winter over in cold frames. Seed of early Jersey Wakefield should be sown in open ground about September 15th and 20th. It is always best to make two sowings to make sure of good plants. Then in the middle of October, or soon after, the plants are pricked out into cold frames in rows three inches apart in the rows. When winter sets in, the sashes must be put on; but plenty of ventilation is to be given on mild sunny days all winter long. The plants are to be kept dormant, and must be prevented from starting into active growth before it is time to set them in

open ground in early spring. They are then well hardened off, and able to endure the cold spells that are likely to come afterward without injury. In my own practice, I prefer to start cabbage, cauliflower and lettuce plants in the greenhouse during February, and transplant them into cold frames as soon as the weather will permit, then a few weeks later into the open ground.

PAPA: "Willie, where are those apples gone that were in the storeroom?"
Willie: "They are with the gingerbread that was in the cupboard"—*Newcastle Chronicle*.



FIG. 1029. — LOWER PART OF CITY FROM ST. MARY'S TOWER.

OUR FRUIT GROWERS AT KINGSTON.

In response to an invitation repeated two successive years, we held our Annual Meeting for 1896 in the old "Limestone City." Thanks to the British Whig, we are able to give our readers some interesting views of this old historic town in connection with our brief account of a visit and a

defence, manned with heavy guns and ammunition and well garrisoned; but in modern warfare they would be of little value, and are preserved rather for ornament than use. Beyond Fort Frederick, looking eastward from the city one sees the Military College, the Westpoint of Ontario, with its sixty or seventy cadets, with their red coats and white helmets.



FIG. 1030.—CEDAR ISLAND IN HARBOR

summary of some of the more important papers.

If one approaches Kingston by water, one must be impressed with the military aspect presented by the numerous massive martello towers and stone batteries, and also by the stout appearance of the city buildings themselves, built of stone and giving the city its well-deserved title. These towers were in early times a strong

The city itself is peculiarly laid out, and though our directors spent about four days in it, scarcely any one could find his way about without a guide. A view of a portion of the city is well shown in our illustration on the preceding page, as seen from St. Mary's Tower,

After calling upon the editors of the leading papers, the Whig and the News, some of us who were first to arrive,

FRUIT GROWERS AT KINGSTON.

called upon His Worship, Mayor Elliot. We found him in his office in the City Hall, and he received us most cordially, and promised to do anything in his power to make our visit welcome.

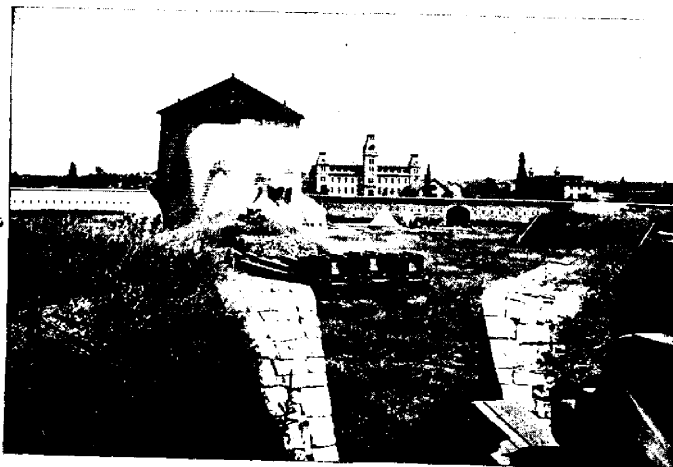


FIG. 1031.—FORT FREDERICK IN HARBOR.

The Board of Governors of the Kingston Dairy School very kindly gave the use of their Lecture Hall for our sessions, but the attendance was so much beyond our anticipations that we should rather have accepted the offer of the City Hall, which was more centrally located and afforded greater seating capacity.



FIG. 1032.—CITY HALL.

FRUIT GROWERS AT KINGSTON.

Never in the history of our Association have we had a more profitable meeting, and our report will be of the



FIG. 1033.—PROF. SHORT.

greatest value. It is not often so much talent can be brought together to discuss fruit topics. There were present both the Dominion and the Provincial Minister of Agriculture, Dr. Saunders and Mr. John Craig, of Ottawa; Prof. H. L. Hutt, of Guelph; R. J. Shepherd, of Montreal; Capt. Shepherd of Queenston; Mr. J. L. Haycock, M.P.; Mr. Ruddick, Superintendent of the Dairy School, and numerous experts in fruit culture from all parts of the Province. Not least, among us was, the array of talent which we were able to borrow from the neighboring Queen's College. Mr. Adam Short, Professor of Political Science, gave an excellent paper on "Gardening in Relation to Civilization," and showed us clearly the steps of advance in the history of gardening. He seemed to favor the natural style of gardening, rather than the artificial, and mercilessly condemned the monstrosi-

ties so often seen in our city parks, in the way of stiff designs or of ribbon bedding. The stiff architectural element is in keeping near the house, but should shade off into the natural as you go from it.

Prof. Fowler's lecture on "Fertilization of Flowers," was an excellent one.

True, it dealt much with first principles, but these are often too little understood, even by the practical hybridist, who is aiming at both fame and fortune by means of some fortunate cross or hybrid. The professor showed clearly the whole process of fertilization of the ovules by the pollen grains, and exploded the old idea that the flowers of our fruits depended each upon its own pollen, for often the very position of stamens and pistils with respect to each other were unfavorable to this work being successfully accomplished. The pollen was

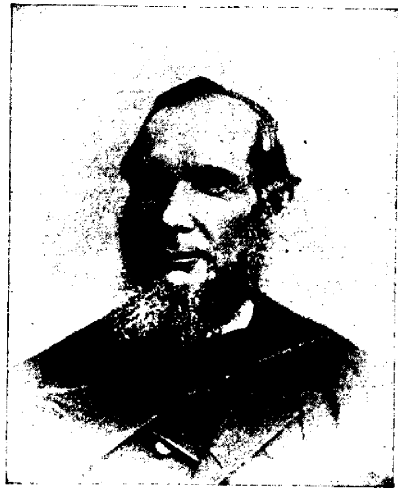


FIG. 1034.—PROF. FOWLER.

carried from one flower to another by wind and by insects, and was more potent with another flower than with its own.

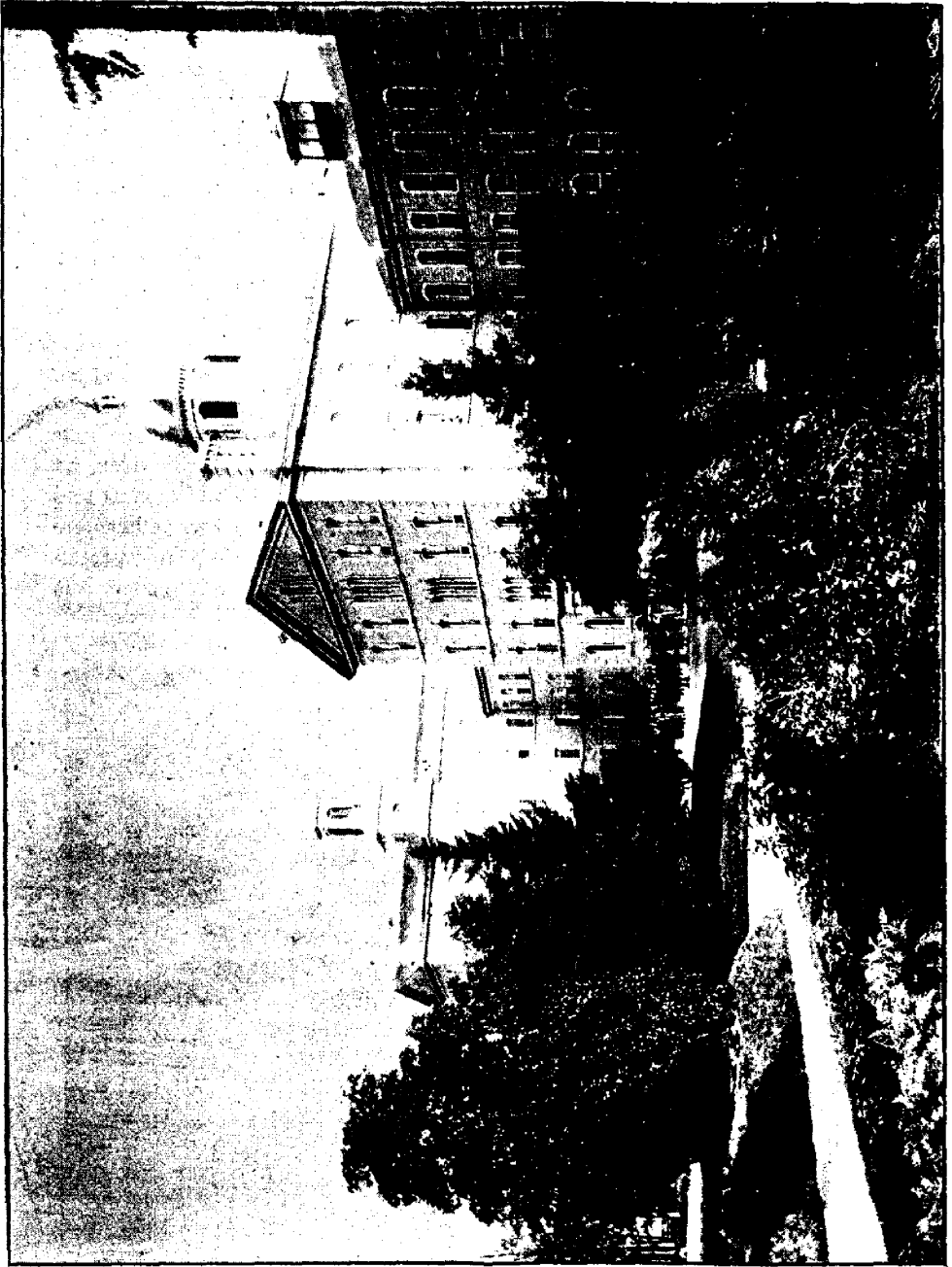


FIG. 1035. ART BUILDING OF QUEEN'S COLLEGE.

FRUIT GROWERS AT KINGSTON.

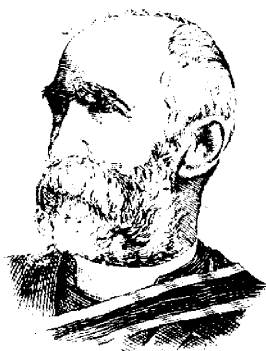


FIG. 1036.—PRINCIPAL GRANT.

Principal Grant himself, was a frequent attendant at our meetings, and seemed to take the deepest interest in all our discussions. He even presided at the session of Thursday evening, and imparted his own enthusiastic spirit to the whole meeting. Some one well remarked, after hearing his admirable address, and his conduct of the meeting, "Truly there is only one Principal Grant."

During the evening Prof. Knight, also of Queen's gave an address on "Organic Evolution," a subject somewhat foreign to our discussions, and evidently not wholly relished by all present, many of



FIG. 1037.—PROF. KNIGHT.

whom are still among those styled by the Doctor "The hopeless minority." The lecturer well presented the theory of evolution, and aimed at proving the common origin of plants and animals from "one undifferentiated mass of protoplasm" as Dr. Bastin puts it. That the vermiform appendix proves man's common origin with the cow; the gill slits in the human fetus his common origin with the fish; his upward turn of the aorta before carrying the blood down the legs his relation to the birds, is in

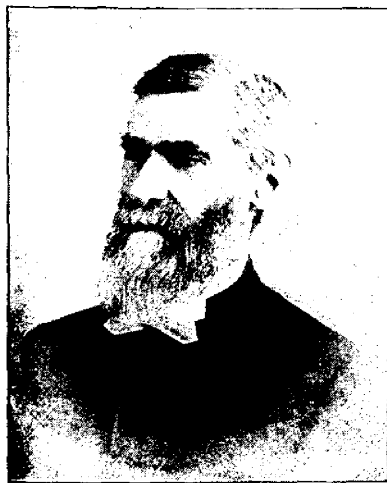


FIG. 1038.—REV. DR. BELL.

our humble opinion begging the whole question. However, we have no fear that science and religion will ever disagree when fully understood, and if evolution is a correct theory, it will not contradict Genesis.

The Rev. Geo. Bell, of Queen's also contributed an excellent paper on "Fruit as Food and Medicine." The Doctor is one of the oldest and best friends of the Association in the vicinity of Kingston, and to him is due a special debt of gratitude. This paper will appear in full in our report.

The great attraction of Thursday afternoon and evening was the presence

FRUIT GROWERS AT KINGSTON.

and address of two Canadian farmers, one of whom occupies the position of Minister of Agriculture for the Dominion, and the other that for the Province of Ontario. The latter in his address emphasized most emphatically the great importance of influencing our Canadian fruit growers to grow only the best fruit, and pack only the best in the very best manner, and then there would be no difficulty in marketing it in any part of the world at remunerative prices ; while the former encouraged us to hope for some special service on railway and steamboat, by which our finest and most delicate fruits can be safely transported in first-class chemical cold storage from the great fruit centres in the Province to the best markets of the old world.

Fruit has ruled so low in price of late, that we hail with great enthusiasm, the prospects thus held up to our view, and hope that better times are near at hand. If in 1897, this cold transportation can only be pushed forward as a commercial experiment on a large scale, and several tons of our best fruit be forwarded each week and landed in British markets in good condition, the operation can thereafter be left to take care of itself. At the request of the Hon. Sidney Fisher, a committee was appointed to give expression to the views of Ontario fruit growers regarding details of carrying on this scheme.

Dr. Saunders, Director of the Dominion Experimental Farms, was present, and took several opportunities of addressing the Convention. The Doctor is one of our most valued visitors, his general knowledge of both theoretical and practical fruit culture, and his special acquaintance with chemistry, and entomology, are of the greatest value to us all. Mr. John Craig, of Ottawa, gave a most valuable paper on

"Orchard Cover Crops," giving the following as those succeeding best in the vicinity of Ottawa, viz.: Alfalfa, Mammoth, Red clover, Alsike and orchard. Crimson clover, which may endure in Southern Ontario, is too tender to give good results at the north.

These, and numerous other topics were discussed at the meeting, and will appear in detail in our next Annual Report.



FIG. 1039.—MAYOR ELLIOTT.

On Friday afternoon the courteous representative of the city, His Worship, Mayor Elliot, provided a procession of cabs and took the fruit growers for an excursion to see the city.

Among other interesting places visited was the "Asylum for the Insane," one of those immense provincial institutions for the comfort of the unfortunate ones of our fellows, which have been placed at convenient points by the benevolent and kind hearted people of Ontario. Excellent order and perfect discipline seemed to be the rule in every department of this institution and reflects credit on the management.

We also visited the famous Kingston Penitentiary. The Warden was very obliging and took us to see many departments of great interest. It seemed a small supper for a workman, as each squad of men filed in from their corridors, carrying each, a chunk of bread

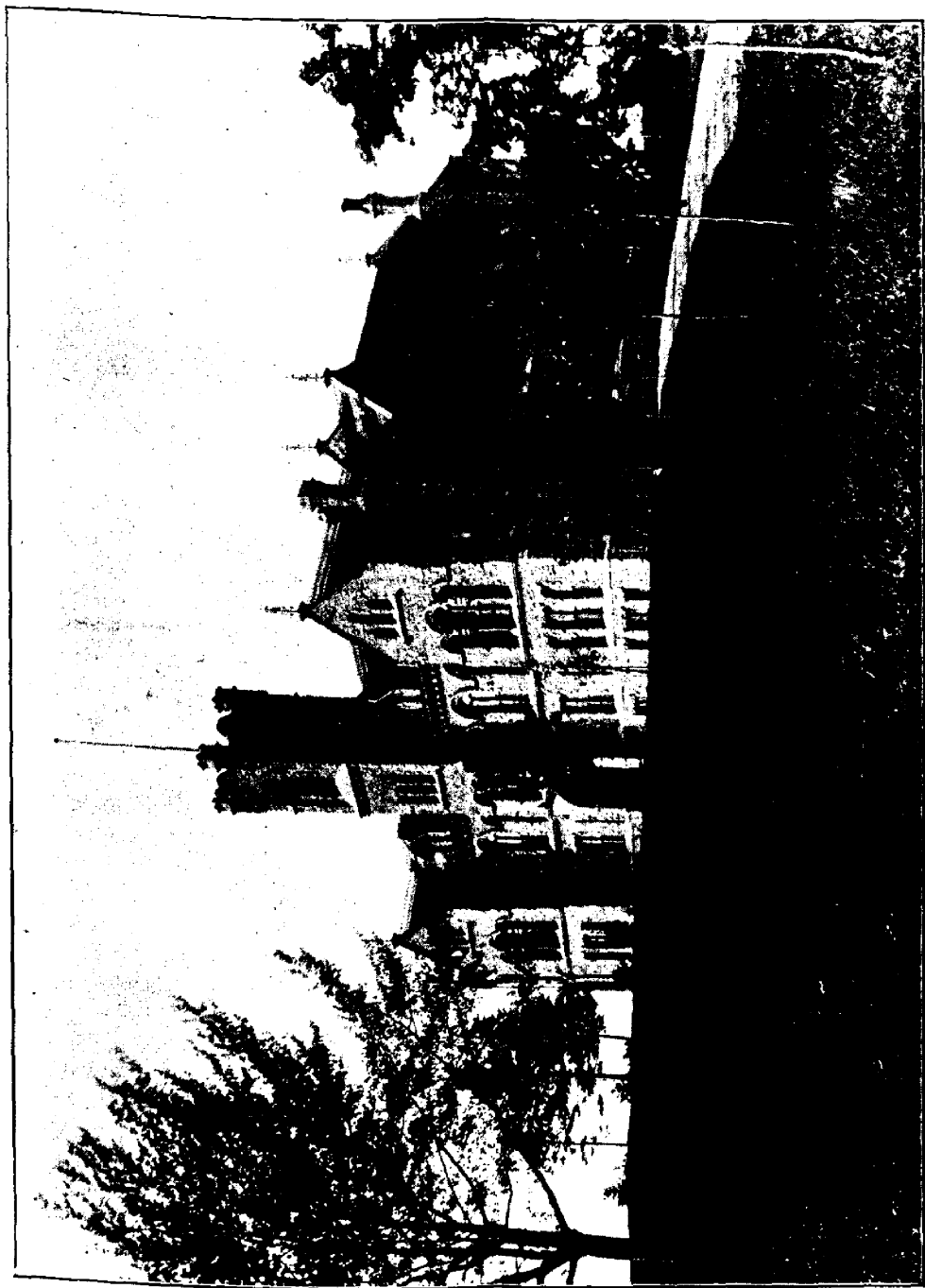


FIG. 1040.—KINGSTON HOSPITAL FOR THE INSANE.

NUT CULTURE.

and a tin mug of tea, but perhaps it is all they deserve. We saw them locked in their narrow cells for the night, and

came away glad to learn from the Warden that gardeners and fruit growers were not found among the convicts.

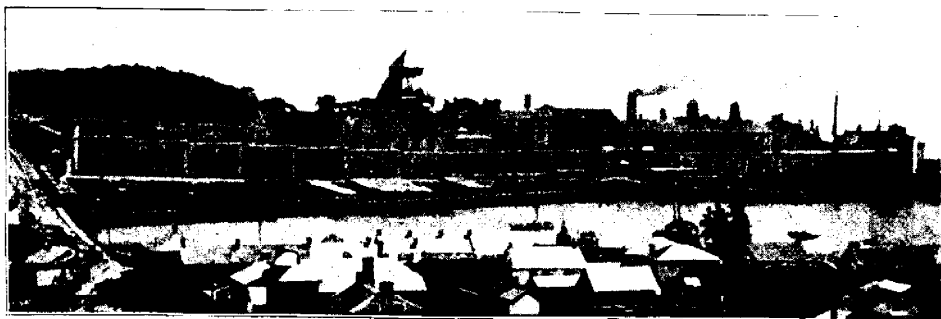


FIG. 1041.—KINGSTON PENITENTIARY FROM PORTSMOUTH.

NUT CULTURE.

THERE is much encouragement to plant our native nuts and some of the foreign ones. As a rule, our indigenous trees are good bearers, and, in Mr. Van Deman's opinion, they produce nuts of better quality than foreign ones. The Chestnut is receiving much attention now, and there are a few well-marked native varieties of value. Although they are smaller than the European varieties, they are of better quality and very productive. The best are Delaney, Excelsior, Griffin, Hathaway, Morrell and Otto. Rocky hillsides and other places unsuitable for tillage can be used with profit for nut trees, and they can be set about buildings and in pastures. The European varieties seem more profitable. It seems to be a rule that the more pubescence the nut has the better its quality. European varieties are more fuzzy than the Japanese, and less so than the American sorts. The most prominent of these are the Paragon, Numbo, Ridgely and Hannum. Japanese Chestnut-trees have a more dwarf habit, and the nut has a bitter skin. They graft quite readily on American seedlings, and the best varieties introduced are Alpha,

Early Reliance, Grand and Superb. Among the Hickories the best nut-tree is the Pecan, a native of our southern states, and the Shell-bark Hickory, common throughout the north-eastern states. A firm in Pennsylvania ships more than twenty tons of hickory nuts every year. The nuts should be planted in rough places four feet apart each way and thinned as they grow. Seedlings are variable, and so they must be grafted. The principal varieties are Hale's, a large thin-shelled sort, Leaming, Curtis, Elliott and Mulford. Among the Walnuts, our native Butternuts may, perhaps, be improved, but the so-called English Walnut is the best of the family, although it is difficult to grow as far north as New York. There is no doubt that nut-trees are hard to graft and to bud. Evaporation should be prevented until the sap begins to flow. When the sap starts the grafts should be put in underground. The scions should be cut so as to have the pith all on one side, or, if necessary to graft above the ground, they should be covered well to prevent all evaporation possible.—Western New York Hort. Soc.

MAKING CIDER VINEGAR.

Would you please tell me in *THE CANADIAN HORTICULTURIST*, the best way to make cider vinegar? Please give full instructions.
W. J. K., *Kenilworth*.

Although cider vinegar is being constantly made by fruit growers in Ontario, methods vary, and we cannot reply better than by giving our correspondent the following directions by a competent writer in the *American Agriculturist*:

Vinegar is a weak solution of acetic acid, which is produced by the action of a minute vegetable germ on the sugar

visible, float off into the air, and as the supply of them is inexhaustibly kept up by the constant souring of various matters containing sugar, all that is necessary is to expose some sweet liquid to the air and it will at once begin to ferment and finally will sour, making what we call vinegar.

Vinegar is a very wholesome substance, and is believed to have a useful effect on the digestive process, and thus we instinctively desire it in our food.

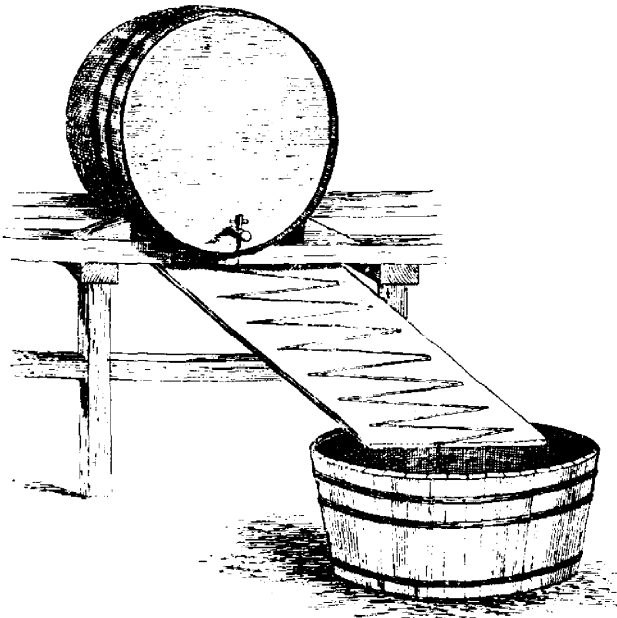


FIG. 1042.—QUICK METHOD OF MAKING CIDER VINEGAR.

contained in the liquid to be acidified. This germ changes the sugar into alcohol, first, and this by further action becomes acetic acid. The germs when accumulated into a mass appear as a kind of soft jelly-like substance which is found in the vessels in which vinegar has been made and kept, and is commonly called the "mother" of vinegar, which it really is in fact. When dried, these germs, which are so small as to be in-

visible, float off into the air, and as the supply of them is inexhaustibly kept up by the constant souring of various matters containing sugar, all that is necessary is to expose some sweet liquid to the air and it will at once begin to ferment and finally will sour, making what we call vinegar. Vinegar is a very wholesome substance, and is believed to have a useful effect on the digestive process, and thus we instinctively desire it in our food.

MAKING CIDER VINEGAR.

The most perfect cleanliness should be followed with all food substances, for such is the unaccountable number of ways in which germs, bad as well as good, affect the health, that no risks should be run of harm from injurious matters taken into the stomachs. The cider should be filtered through fine, clean, sharp sand, by which all the finest

numerable quantities. There are several ways of doing this. But the quickest way is generally most desired. The store barrels are placed where six, or more, feet of space may be had below them. A faucet is fitted into each barrel. An open tub is set under the barrel, and a sloping board, or several of them, are arranged to lead a fine

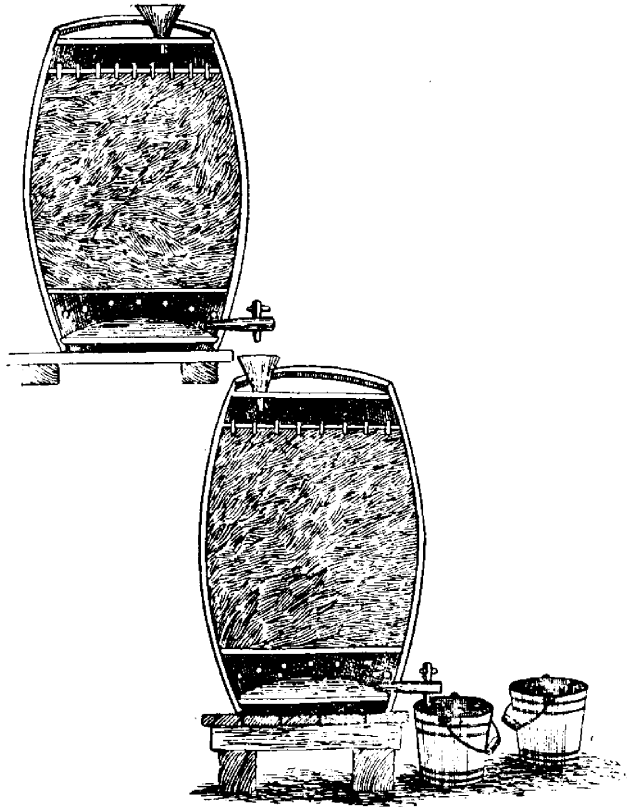


FIG. 1043.—

part of the pomace is separated, and other impurities that would form a good deal of sediment in the vinegar are got rid of; and then stored in perfectly clean barrels.

All that is required, then, to make cider vinegar is to expose the cider to the air, from which the active germs of fermentation are gathered without any trouble. They exist in the air in in-

stream of the cider down these boards into the tub. To lessen the time still more, two of these tubs may be used, one below the other so as to expose the cider twice as long to the air. The tub should be large enough to hold as much as will flow in twelve, or twenty-four hours, and when it is nearly filled, the partly made vinegar is carried or pumped up into the barrel again. In this way,

MAKING CIDER VINEGAR.

with a temperature of 80° F., good vinegar is made in three or four days, and when barrelled or put in suitable close vessels, it will keep improving in strength for years. [This method is shown in the annexed illustration, Fig. 1042.]

For a larger quantity of vinegar another method, but on the same principle with a larger exposure to the air, may be used. This consists of a series of vats placed one below the other (Fig. 1043), so that the liquid may run from one to the other into a receptacle at the bottom. The intention is to have the greatest possible exposure of the liquid to the air. This is secured by filling the vats with beech shavings, or birch twigs, through which the liquid trickles slowly. Air is circulated through the vats by means of holes bored near the bottom, just above the level of the pipe through which the young vinegar flows into the next vat. At the top of each vat there is a board pierced with holes above the shavings, and the liquid flows in thin streams down through these holes. Between these holes there are a number of glass tubes fitted, and the air admitted through the holes below escapes through these tubes, thus affording a constant supply of oxygen. Nothing can be done without pure air, for it supplies the oxygen needed for the change of the sugar into vinegar. The more air passes through the trickling

vinegar the more rapidly and better the vinegar is made. In a very small way good vinegar may be made in a stone jar, kept in a warm closet by partly filling it with cider and putting in it a piece of brown paper dipped in common yeast. This starts the fermentation at once, and the growth of the vinegar plant is quite rapid. If some of this plant can be procured from an old vinegar jar, the yeast will not be required. Then as soon as the vinegar is made, the jar is replenished by as much cider as the vinegar taken out, and a sort of perpetual source of vinegar is secured as long as the stock remains to supply the jar. As vinegar is almost always adulterated, and the material used for this purpose is sulphuric acid, a virulent poison, every family should be supplied with a homemade article, and when cider cannot be procured common molasses or sugar will make a very good substitute. One part of molasses to ten of soft or rain water, with half as much yeast as molasses, makes an excellent stock for vinegar. It may be treated in the way above described. Maple sap boiled down to one-half, or with one part of molasses to twenty of the sap, makes a pleasant vinegar. Much of the vinegar of commerce is made from whiskey, and is at first as clear as water, but is colored and flavored to imitate cider vinegar.

YELLOWSTONE PARK is destined to become a great touring ground for cyclists. A system of fine roads has just been completed about the wonderland and the best way to admire its beauties and marvels is from the saddle of a bicycle. At one place the road is hewn from the solid rock along the walls of a canyon at a cost of \$16,000 a mile. At another point it is blasted from solid glass, the obsidian cliffs, the only glass mountains in the world.

THE FARMER'S GOLD MINE.

THE farm has often been compared to a gold mine, and very properly too, but a gold mine is worth just so much less for each dollar's worth of ore that is taken out of it. The same is nearly as true of the farmer's gold mine. Every crop, every animal, every pound of butter and dozen of eggs that leave the farm, rob it of just so much of its fertility as they contain. And what is this fertility? Where does it come from, and how can we replace it? These are questions which we should all understand fully, and be able to answer them by actual demonstration. With the exception of lime, iron and a few other elements that are usually in superabundance in the soil of most farms, they are *nitrogen*, *potash* and *phosphoric acid*. All of these are absolutely indispensable to the growing of every crop, and to the existence of every living thing, whether animal or vegetable. Nature is generous, and has furnished a large supply of them within our reach, but we must know where they are, when we need them, and how to get them most cheaply.

Nitrogen is far the most costly, and yet it is the most abundant, as four-fifths of the air is composed of it, but in its common and gaseous form, which is beyond our reach, except through the clovers, peas, and other pod-bearing plants that have the peculiar ability to gather and store it in their structures. The bodies of animals contain it in the form of ammonia chiefly, and all their excrements are more or less rich in it. Combined in certain minerals, it is found as nitrate of soda, etc.

Potash is found in every arable soil in fair proportions, but not always in abundance, nor in the most available condition. If one of the three things named is more important than another, it is potash, for it seems to be the backbone of all mar-

ures, whether home made or commercial. Frequent stirring of the soil helps to liberate that which is locked in the mineral particles of the earth. That is one of the ways of extracting the gold from the ores of the farmer's gold mine. The ashes of trees and all other vegetable matter contain potash. But the great mines of Germany contain the most condensed and available supplies of it so far discovered.

Phosphoric acid is also found in the soil, in the bones of animals, in the phosphate quarries, and in wood ashes. Cultivation will unlock the combinations in which nature has secured it, but not often easily or so completely as we would desire. In order to get the wealth from the mines upon the farm, we must in many cases resort to outside help. We must grow the clovers, cow-peas, etc., to get from the air what nitrogen is possible. We must make and save all the animal manures that can be produced at home. When outside aid is called in by the purchase of chemical or commercial manures, then the cheapest sources are the muriate, and sulphate of potash, and kainit, for potash; and dissolved bone, bone-black and dissolved phosphate rock for phosphoric acid. These, and slaughter-house refuse of various kinds for nitrogen, will enable the gold miner on the farm to get out the shining particles, with here and there a solid nugget, in the shape of good crops. Then, if those crops are fed on the farm, and only fat stock sold, instead of grain, with fruits and vegetables (which are mostly water), the fertility may be kept up indefinitely. Thus, instead of the farm mine becoming exhausted, it may, with good management, return profitable yearly dividends, and become richer as the years go on.

Washington. H. E. VAN DEMAN.

COLD STORAGE TRANSPORTATION.

ONE of the most encouraging prospects now before the Ontario fruit grower is that of soon being able to export to Great Britain in perfect cold storage his choicest fruits. This season our fruit growers have waked up to the possibility of over production of some of our finest fruits. Our magnificent Bartletts have been begging for buyers at 25 cents a twelve quart basket, beautiful Concord grapes at one cent a pound, Lombard plums at 15 cents a twelve quart basket, and our world renowned apples at 40 cents a barrel!

At this stage, fortunately, the Dominion Minister of Agriculture comes to the rescue and offers to help us reach the best markets of the world.

At the meeting at Kingston, certain questions were propounded by the Hon. Sidney Fisher, viz:—

1. Will cold storage warehouses be required outside of shipping centres?
2. What amount of space will be needed on railways and steamships during the year 1896, and what quantity of fruit should be forwarded per week or month, to make a fair commercial experiment?
3. During what length of time will cold storage service be required, and about what date could the first regular shipment be expected?
4. Will refrigerator service be needed in winter?

To discuss these questions and communicate the result to the Minister, the following Committee was appointed at the meeting at Kingston, viz:—

L. Woolverton, W. M. Orr, Geo. E. Fisher, A. H. Pettit, E. D. Smith.

Regarding the establishment of District Cold Storage Warehouses, Mr. James Robertson wrote under date of

Oct. 29, asking whether a number of fruit growers in several different districts would form themselves into Joint Stock Companies, for the purpose of erecting and operating district cold storage warehouses for fruit. He said, "I think a building sufficient to hold twenty-five carloads could be erected and equipped with the requisite mechanical refrigerating plant at a cost of between \$5,000 and \$6,000. The charges for the storage of fruit, when the warehouses were at all largely used, would yield a revenue sufficient to pay the operating expenses, and a fair interest on the investment.

Would a guarantee by the Government of say 5 per cent. on the cost of the cold storage warehouses, for three years, in case they did not earn enough to pay 5 per cent. dividend, be a sufficient inducement, or could aid be given in any more effective manner?"

Now we would like an expression of opinion from our leading fruit growers. Shall first class, large cold storage warehouses be placed in our large cities, such as Toronto, Hamilton, and London; or shall small ones be scattered among our villages? When the Committee reaches a decision, we will publish it. In the meantime we publish a letter on the subject from Mr. E. D. Smith, of Winona, one of our leading shippers.

SIR,—Your esteemed favor to hand, asking if the Government should form a scheme for the transportation of fruit in cold storage to Britain, would a stock company with a capital of \$5,000 or \$6,000 be likely to be formed at Winona if guaranteed interest at 5% for 3 years. I scarcely think so until the success of placing our perishable fruits on the British market has been more fully tested. My idea is this: If suitable storage warehouses were erected in Hamilton and possibly another at St. Catharines, and tests made for 2 or 3 years, to see if the British market will take our fruits at profitable prices; whether they

COLD STORAGE TRANSPORTATION.

can be landed there in sound condition by this system ; then, if successful, there will be no difficulty in having store houses built at Winona, and, I fancy, almost every station along the line if necessary, but for purposes of experiment it seems to me that the fresh fruit could be loaded directly into the cars at the stations. It seems to me the essential point is to get proper dry, cold storage between here and Montreal, and between Montreal and the port of debarkation, and again immediately it is landed there with as quick change as possible from cars to boat, and boat to storage house. Growers would not care to put money into anything of that nature, when a test could be made without this money being put in. I have every faith that we can grow in this Province of Ontario thousands of barrels of Bartlett pears, Anjou pears, and, I believe, Clapp's Favorite and put

them on the British market with cold storage, and get handsome returns, but the system must be perfect. There would be no trouble in putting it on the cars in perfect condition. As for grapes, all they require is cool, ventilated chambers, perfectly dry, with a temperature of about 40°, although I am satisfied they will carry perfectly in a temperature of 50° to 60°, if there is a good circulation of pure air, and I still have faith that, if persisted in, our black Roger grapes especially will find a good market in Britain, and these varieties can be grown almost, if not quite, as readily as any other sorts. I see no reason why, with proper cold storage, too, our peaches could not be landed there, and compete with California peaches.

I trust something may come of this scheme.

E. D. SMITH, *Winona.*

WINTER PRUNING.

WILL pear, plum, apple, or cherry be damaged by winter pruning when the limbs are small ?

Prof. Slayton : Yes, sir. Experiments show that any pruning done between November and the 1st of April, on any of the seed-fruit trees, is an injury. January and December are the worst months. You can see samples in the Farmers' Club room at Grand Rapids, where the bark is killed a quarter of an inch or more in pruning done in January. In March, not so far—about an eighth of an inch ; pruning done in April healed slowly ; in May, very well, and in June and October, best of all. It healed pretty fairly in July, and some very well in August, a little in September, and the October healing was very good, but not quite so good as the June pruning. The December limbs that were cut died absolutely. The January pruning was the next worst, in being killed around the cut.

Mr Rice : I pruned large shade trees in December and had bad results. They were Carolina poplar, which is one of the hardiest trees in the world.—Mich. Hort. Soc.

PRESERVING FENCE POSTS.

IN building a fence around my orchard, several years ago, I tried many plans for preserving the posts. Having occasion to remove the fence this winter, I noted the condition of the posts as follows : Those set with no preparation were decayed an inch or more in thickness ; those coated with a thick whitewash were better preserved, but were quite seriously attacked by worms, the posts coated with hot tar were perfectly sound as when first put in to the ground ; those painted with petroleum and kerosene were equally sound and as good as new. In the future I shall let all my posts get thoroughly dry, and then with a pan of cheap kerosene and a whitewash brush, give the lower third of the post (the part that goes into the ground) two or three liberal applications of the oil, letting it soak in well each time. Posts so treated will not be troubled by worms or insects of any kind, and will resist decay to a remarkable degree. This is the simplest, easiest, cheapest and best method of preservation.

W. J. BENNETT.

Putnam County, N. Y.



❖ Flower Garden and Lawn. ❖

SWEET PEAS.

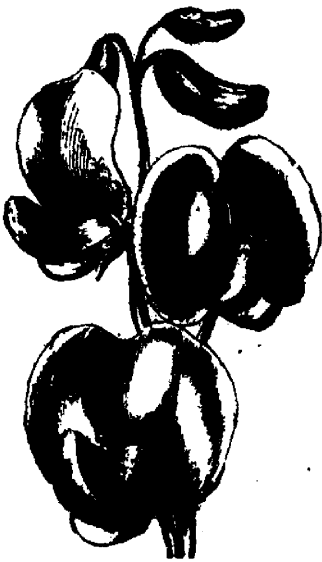


FIG. 1044.—SWEET PEAS.

ANY observant gardener who has studied the catalogues for the last five or six years, will have noticed the great increase in the varieties of Sweet Peas offered for sale. Dealers who listed ten or twelve kinds in 1890, now catalogue seventy or eighty varieties, and every year is adding to the number. No less than twenty new kinds were offered for sale this year for the first time. There is now considerably over one hundred named varieties in the market, and Mr. Eckford—who has originated the majority of the best new

kinds—has promised several more for next season, which are said to be finer than any heretofore offered.

Up to ten years ago all varieties were of the one type in form and habit of growth, a tall growing vine climbing by means of tendrils over anything that came in its way in its efforts to get as near the sun as possible, bearing flowers with a broad roundish petal at the back called the standard, two smaller petals called wings which bend forward as if to protect the central portion, formed by two petals joined together, called the keel, inside of which are the essential organs of the flower—the stamens and pistil. The first departure from this type was in the so-called double Sweet Peas, in which the single standard is multiplied two or three times; these have not proved satisfactory, a very small percentage of the seeds produced double flowers, and there is no increase in the attractiveness of the blossom.

A great beauty in the sweet pea is the straight smooth standard which sets off so well the varied colors of the wings and keel; any improvement must come not from multiplying the parts, it is now perfect in shape, but from new combinations of colors, more flowers on the stalk, and more substance in the petals.

Another departure from the type of growth is the much advertised dwarf "Cupid," which has signally failed

SWEET PEAS.

to justify the claims made for it ; it is undeniably a dwarf, forming a mat of 12 to 18 inches diameter on the surface of the ground, and is interesting on that account ; but in every other respect it is a disappointment, four-fifths of the seed sown in this locality were unfertile, the flowers are small and the stalk short ; in every way it is inferior to Emily Henderson or Blanche Burpee.

The causes of the great popularity of the sweet pea are not far to seek. No other flower combines so many points of excellence, in beauty of form, beauty and variety of coloring, exquisite perfume, convenience for cutting, and durability after cutting—they can easily be kept fresh for a week—it is unequalled, and if properly cared for, the quantity that can be taken from even a small row is enormous.

A correspondent of Garden and Forest kept a record of the stalks pulled from a row 60 feet long, from June 11th to October 20th, when the last one was picked ; the total was nearly 50,000, besides a large number that were allowed to go to seed. From no other flower could we get the same profusion of color and fragrance.

The best soil for growing sweet peas is a good heavy clay loam, rich and capable of retaining moisture, as it is only by keeping the roots cool and moist that we can succeed in having them in bloom the whole season. If the soil is not very rich, put on a good allowance of well decomposed stable manure the previous fall, dig it deeply in and mix thoroughly with the soil, as they do not take kindly to manure in contact with the roots ; if not applied till the spring, bury it deeply several inches below the seed bed. If you want to feed them extra well, a dressing in the spring of a fertilizer rich in potash—or wood ashes—makes stronger and more vigorous plants.

Plant as early in the spring as the ground can be worked, they are quite hardy, and will stand several degrees of frost without injury ; indeed, in dry ground where water does not lie, they may be planted in the fall with perfect safety. Make a trench three inches deep, drop the seeds two inches apart, cover one inch deep at first and do not fill in the other two inches till the plants are well up above the ground. If all the seeds grow pull out every second one—or transplant to another place if wanted—after all danger from cutworms is over—as four inches apart is close enough for the best results.

If your soil is light and sandy it will be necessary to plant much deeper. Make the trench six inches deep and fill in a little at a time as the plants grow, taking care not to cover them with the earth.

The soil must never be allowed to become dry. The frequent use of a sharp rake keeps the surface open and prevents excessive evaporation ; but, in addition, water must be supplied liberally after the middle of June, unless in unusually wet seasons. Don't waste the soapsuds on washday, it makes one of the best fertilizers.

Some of the new varieties grow so tall—in good soil as high as 6 to 8 feet—that it is necessary to provide support for them not less than six feet high. The most convenient trellis material is poultry netting with a two-inch mesh, fastened to stout posts, firmly set in the ground, with a top rail to keep the posts rigid, so that the netting can be stretched smooth.

A very handy trellis can be made from seven or eight feet of netting, bent in the form of a cylinder and the ends twisted together, with a stout wire hoop at each end to keep it in shape. This set on end, fastened to a stake to keep it upright and the peas planted around

SWEET PEAS.

the outside, makes a very pretty object in the garden when covered with flowers of one or two varieties. A great advantage of this style of trellis is that it can be set up anywhere on a few square feet of ground, and can be shifted from place to place as wanted each season. If one is willing to take the trouble to tie the vines to wires, an ordinary grape vine trellis does very well, with the wires about eight inches apart.

The insect enemies of the sweet pea are few in number; cutworms are sometimes troublesome, when numerous they may easily be poisoned by placing little bundles of any succulent weed dipped in Paris green and water and laid every two or three feet along the rows, or they may be dug out in the usual way.

A more serious evil to contend against is the blight; this is only troublesome in very light soils, or where peas have been grown several years in succession in the same place. It first appears when the plants are about a foot high, the leaves turn yellow, then brown, and, in bad cases, the whole plant becomes black and dies. There is not much known about the causes or nature of the disease, or how to cure it when it appears; probably spraying with Bordeaux mixture is as good a remedy as is available.

A great deal of what is taken for blight is really caused by that pest of the greenhouse and window garden—red spider; it is so insignificant in size, that it is seldom observed unless looked for, even then it takes good eyesight to locate him, though the results of his presence are evident enough. Fortunately it is very easily kept in check; a vigorous spraying now and then from the waterworks hose, if available, or from a spray pump is all that is necessary.

In describing varieties, shapes and colors run into one another so much, that it is somewhat difficult to classify

them. In colors, white, red, yellow and blue are so inextricably mixed and blended, that any classification founded on colors is unsatisfactory.

In shape, there are three fairly well marked divisions; the first, from which all the newer varieties are derived, has the standard somewhat wedge-shaped and bent back from the rest of the flower, or reflexed, as in *Painted Lady*; the second, of which *Blanche Burpee* is a good representative, has the standard straight and erect, with the wings and keel close up to it. In the third form, as in *Lottie Eckford*, the standard is inclined forward at the edge, as if to envelope the wings; this is known as the hooded form; many of the most admired new sorts belong to this class. In some cases this tendency of the standard to curve forward is carried so far as to form a roll on each side, as in *Oddity*; when the bending forward is carried to such an extent, it may be interesting to the specialist from its oddity, but it certainly could not be called beautiful.

Whether you plant named varieties or mixed, be sure to plant enough. You will be surprised at the number that can be used as cut flowers, not only in your own household, but by your friends. I have yet to see the visitor to my garden that was not delighted to get a bouquet of sweet peas. Give them away freely. If you want to have an abundance of flowers all summer, they must be picked frequently; never allow them to go to seed. If you plant them mixed, get the best *Eckford* mixture; but it is much more satisfactory to buy named varieties, as you can then select such colors as you prefer. Most of the mixtures have too large a proportion of dark colors for the best effect; in my opinion, not less than four-fifths of a collection should be of light or medium shades.

SWEET PEAS.

In making a selection from the many varieties offered for sale, a great deal will depend on the individual taste of the grower, what colors one prefers, and also on the amount of space that is available. To grow anything of a large collection requires a long stretch of trellis ; a weak growing kind is apt to be overgrown by a stronger neighbor, unless there is about five feet allowed to each kind.

Probably a collection of twelve sorts would satisfy the desires of the average grower ; for variety in that number a very fair representation of the different shapes and colors can be had.

Leaving out of consideration the six new kinds sent out this year by Mr. Eckford, as very few growers would care to pay the price asked for them—2/6 stg. the package—I would recommend as the best out of seventy varieties grown by me this season, the following twelve ;

1st. *Blanche Burpee*, decidedly the best white to date, of large size, fine form, good substance and a profuse bloomer.

2nd. *Primrose*, pale primrose yellow, a very delicate and handsome flower ; by some, Mrs. Eckford is considered a better yellow, but it has not done so well with me.

3rd. *Ramona*, a new Californian variety sent out this year, of largest size, slightly hooded form, color white, with faint rose-pink lines on the standard, a lovely flower, strong, vigorous grower and profuse bloomer.

4th. *America*, also a new one from California, the best red and white stripe, white ground with brilliant blood-red stripes, a most effective flower either in a bouquet or on the trellis.

5th. *Princess Beatrice*, pale blush and pink, an old favorite, much grown by florists for cut flowers.

6th. *Lottie Eckford*, white suffused with lavender standard and wings, with

a delicate blue edge, a most exquisite flower.

7th. *Countess of Radnor* standard, a clear lavender, wings a little darker, good size, hooded form, the best of the lavenderers.

8th. *Katherine Tracy*, new last season, by far the best pink to date, of largest size, good shape, clear rich pink all over, the most profuse bloomer in my collection, should be in every garden.

9th. *Lady Beaconsfield*, salmon pink and primrose, not of large size, but fine form and a charming combination of color.

10th. *Lady Penzance*, a cherry pink with pale carmine veining, a unique color, good form and profuse bloomer.

11th. *Fire Fly*, the best red to date, not large in size or of the best shape, but very brilliant in color.

12th. *Boreatton*, the best dark sort, an old favorite, deep velvety maroon and claret.

Such a collection would require at least sixty feet of trellis, and if well grown should produce not less than 50,000 trusses in the season ; I don't think that is too many, if you have lots of friends—and what gardener has not when he has flowers to give away—you can easily dispose of a great many more than that. Of course twelve kinds does not include all that are worth growing, if you liked you could very well add another dozen to the number, every one of them desirable flowers to have. To my taste the second best dozen would be made up as follows : *Lemon Queen*, a fine white with a touch of yellow in it the first day after it opens. *Blanche Ferry*, pink and white. *Day-break*, a new American variety, white and scarlet. *Mrs. Gladstone*, blush and pink. *Splendor*, deep pink. *Venus*, salmon pink. *Princess of Wales*, blue and white striped. *Grey Friar*, should

SWEET PEAS.

be bluish grey, but is often spoiled by dark stripes or blotches inherited from Senator, from which it has been selected; when perfect it is a very fine flower. Stanley, purplish maroon. Dorothy Tennant, mauve. Duke of Clarence, dark mauve and purplish blue. Captain of the Blues, the best blue.

No doubt some of you will think that it is all nonsense growing so many kinds, but I can assure you there is a great deal of pleasure to be derived from taking any of our garden flowers, sweet peas, asters, poppies, or any other flower you prefer, growing all the available varie-

ties of it, making a thorough study of their habits and peculiarities, discarding the inferior sorts, retaining the kinds that please you most for future use. Then the next year take up some other flower, pursue the same course with it, and in a few years you will have acquired a knowledge of the floral kingdom, and developed an interest in your garden, such as you never dreamt of in the old days, when you were content to plant the same few papers of mixed seeds year after year.*

Ottawa.

R. B. WHYTE.

THE WALNUT.

THE walnut is best grown from the nut, but it can also be propagated by budding, grafting and layering. Fresh gathered nuts should be selected, and they can be sown in nurseries in drills two feet apart, or better where it is intended for them to remain, as this tree makes a very strong tap-root, which, if the tree be left too long before removal, may be injured in the transplanting. A deep and preferentially a calcareous soil should be chosen, with a dry bottom. The young tree is somewhat delicate and is apt to be injured by the spring frosts. In cold districts therefore it must be protected for a year or two. Plenty of room must be allowed, as it is a vigorous grower and makes fully twenty feet in height in ten years, at which date it usually begins to bear a crop. Once established little or no attention is required, and except to remove unsightly growths no pruning is necessary. It will attain quite 100 feet in height, and lives to a great age, its productivity increasing with its years. It is very suitable for avenue planting or as a roadside tree.—National Messenger.

SHRUBS FOR FARMERS

WE advise all our agricultural brethren to plant largely of hardy shrubbery and herbaceous perennials. They require the least attention, suffer least from insect pests, and, if treated liberally as we have advised, to well-rotted muck, barnyard leachings, or an admixture of hen droppings and ash siftings, they will give you the most satisfaction. The beds need not be renewed with the return of each season. If the work is well done when you set out the herbaceous kinds, and you give them plenty of room, they need not be lifted and divided for a period of at least five years. Shrubby perennials have woody stems. There are the deutzias, spiræas, hydrangeas, roses, mock-oranges, lilacs, snow-balls, golden-bells, tree pæonies, and many more which we find in catalogues of hardy shrubs. Let the tallest growing species be planted near the boundaries of your premises in the centre groups, or as screens to conceal unsightly objects from view.—Report Pa. of Horticultural Society.

* This paper was read before the O.F.G.A. at Kingston, and will be interesting to the members of our Horticultural Societies.—Ed.

RICHARDIAS.

AMONG the many favorites for the window garden, there is perhaps none which is more generally grown in Canada than the one we call Calla Lily. Its large sagittate leaves, and its pure white spathe thrown back to disclose a bright yellow spadix, fully covered with flowers proper, make it a rich ornament to any window. No funeral

spread to be corrected, except among florists. The name belongs to another species of the Arum family, viz., *Calla palustris*, or Water Arum, a low perennial herb, which, although originally introduced from Europe, is quite common in the northern United States in boggy places, but is not worthy of a place in the window garden.



FIG 1044.—VARIEGATED CALLA, RICHARDIA ALBO-MACULATA.

decorations are thought complete without a liberal supply of the African lilies, and the length of time they will keep in a fresh condition is an additional point in their favor.

It will be a surprise to a good many to be told that the name "Calla," by which this flower is commonly known, is a misnomer, although perhaps too wide-

The *Richardia* takes the name from L. C. Richards, a French botanist, and is a genus comprising five species of marsh plants, natives of South Africa, four of which have been introduced for greenhouse cultivation.

They are of very easy cultivation, the most important point being to give them a plentiful supply of water during their

RICHARDIAS.

growing season. They will succeed best in a rich soil, made of a compost of good loam and cow manure in equal parts.

Richardia Africana is the proper name of the variety above referred to as most grown by amateurs. It is a winter and spring bloomer, and is usually allowed to rest in the summer months, by turning down the pot on its edge and leaving the plant without water; or it may be

planted out and left without care until early fall, and then potted.

R. albo-maculata, or the white spotted Calla, is by far the best of the other three for amateur cultivation. This one is highly prized for its foliage, which has a variegated appearance, while its greenish-white spathe, though smaller than that of *R. Africana*, is still very interesting.

HYACINTHS.

HYACINTHS to bloom for Easter should be planted early this month (January). For successful blooming of the bulbs planted in pots there are two things absolutely essential, and one is that until the shoots are two inches long about the same proportion of water should be kept around them and the bulb, keeping them from the light and air. The other requirement is that the soil in which the bulb is planted should be well mixed with sand. As soon as the bulb is planted it should be placed in a cool place and watered sparingly until it begins to shoot up its leaves, when it may be more freely supplied. After it has fairly started in a cool place it may be transferred to the sitting-room window, and in a few weeks its beauty and fragrance will fully compensate for the care bestowed upon it. The hyacinth is a native of the Levant, and was introduced into Germany early in the fifteenth century. So popular did it become that in 1700 over 2000 varieties had been propagated. It is named after Hyacinthus, whom the gods, unable to save, changed into a flower. The Greeks fancied they could perceive on the petals of this flower the notes of grief.—Detroit Tribune.

BEGONIAS FOR THE WINDOW.

IT is safe, I think, to say that Begonias are only second to Geraniums in popularity for window gardening. They are the most interesting of all easily grown plants because of the diversity of their foliage and the difference in their habit of growth, and are great favorites with the average plant lover. One of the most beautiful is *B. manicata aurea*. Its principal charm lies in its handsomely variegated foliage, but its delicate, lace-like blossoms are not to be despised, and altogether, with its beauty and ease of culture it is a most satisfactory plant. Another favorite is *B. semperflorens gigantea rosea*. It is a strong grower, and a wonderfully free bloomer; it is besides very handsome, having a vivid scarlet spot in the center of each leaf. The bright, long-stemmed blossoms harmonize admirably with the polished foliage. *B. Bruanti*, though seldom mentioned, and not always catalogued, is another excellent sort, thriving all winter long with little or no care and blossoming with admirable persistency. *B. Thurstonii* is beautiful in leaf, and makes a most shapely plant. Its coloring is very pleasing and it makes a welcome addition to the winter window garden. These are to be depended upon for the ordinary sitting-room window.—[Farm and Home.

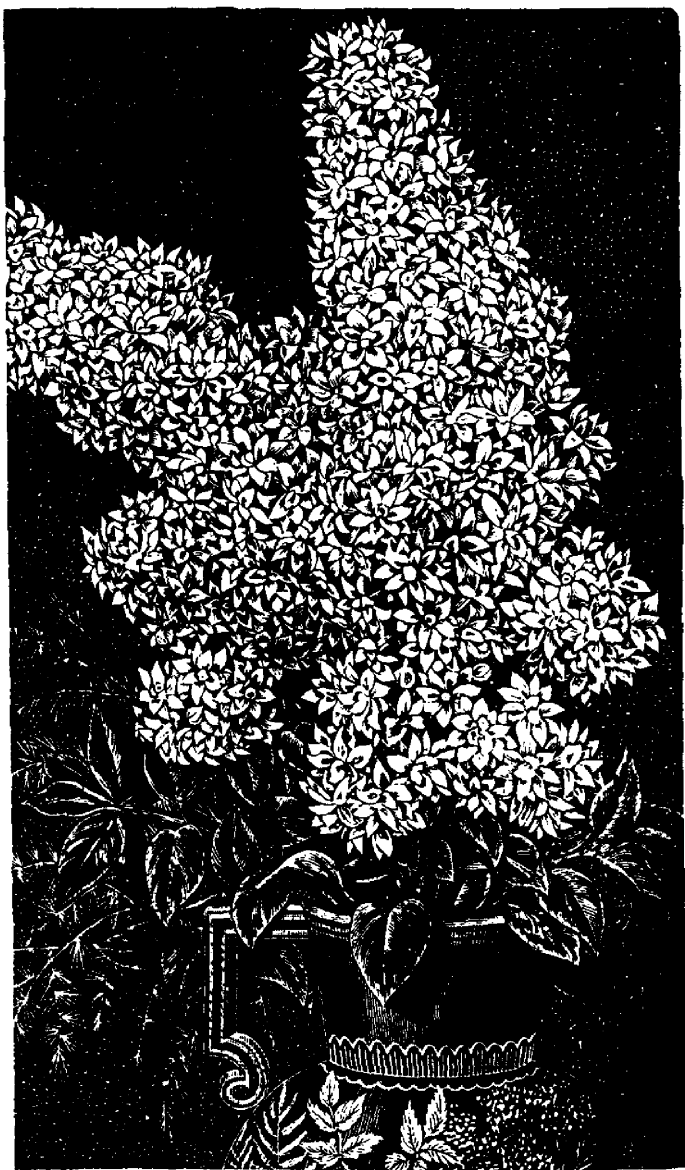


FIG. 1045.--THE LILAC.

THE LILAC.

IN nearly every garden in Southern Ontario we find the Common lilac, *Syringa vulgaris*, and truly no shrub is more prized for its elegant display of beautiful flowers. The color may be either red, blue or white, the latter being particularly desirable; groups of the

white lilac may be seen growing in the garden of the old rectory of the English Church at Grimsby, and are always much admired. The common lilac was brought to England from Persia in 1597, just three hundred years ago.

The generic name *Syringa* is from

AMATEUR'S GREENHOUSE.

Greek syringos a pipe, referring to the long straight branches filled with pith, while the common English name Lilac called Persian lilac (*S. Chinensis*) grown is a Persian name for the flower. The so in many of our gardens, is probably a cross between *S. vulgaris* and *S. persica*, a Persian species. Its flowers are usually of a deep violet color.

The lilac is easily propagated from suckers, and will grow in almost any soil

and situation. Still for the best results the ground should be enriched and given good cultivation.

Botanically there are only about ten species, natives of Central and Southern Europe and Asia. There are, however, great numbers of garden varieties, of great beauty, and one of our enterprising Canadian nurserymen lists no less than twenty-two fine varieties in his catalogue.

AMATEUR'S GREENHOUSE.

SIR.—Can you give me a good plan by which to build a cheap greenhouse. I want to build a lean-to against the house, but I am afraid our house is not rightly situated, for the only place is on the north side. What would a small lean-to cost? Could one be heated with a good heating coal oil stove?

G. A., Brantford.

Our correspondent does not seem to be well situated for a lean to greenhouse, for any side would be better than the north side of his house. It would be better, but of course more expensive, to build a separate house.

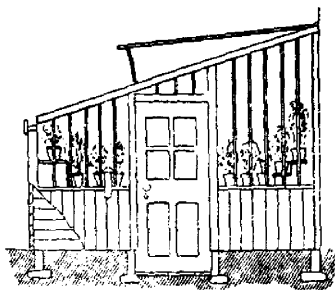


FIG. 1046.—A CHEAP GREENHOUSE

In 1890 we gave a plan of a cheap lean-to greenhouse from Popular Gardening, and here re-publish the same for the good of our correspondent.

Size of building 9 x 16 feet, being a lean-to against the dwelling. Cost \$28.50 complete, including the heating contrivance, which consists of kerosene

oil stoves and drum with connecting hot-air pipe about twelve feet in length and three and a half inch in diameter inside measure.

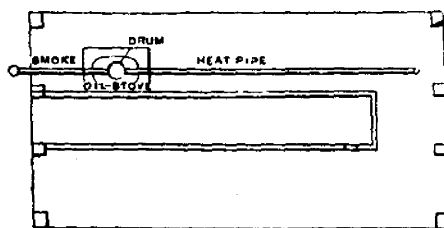


FIG. 1047.—PLAN OF GREENHOUSE.

The average cost of heating is but ten cents a night. A pipe leads from over the lamps to the outside of the building to conduct away any smoke or smell from the lamps. This pipe turns upwards outdoors, and is protected with a cap-like cover to keep the rain out.

The plan of putting up the structure was this: First, six 4 x 4 inch posts were set in the ground, resting on stones with some smaller ones between, and to these for making the sides, boards one foot wide were nailed lengthwise. Over these horizontal boards a second layer was nailed, but to have them run up and down, and with strips nailed over the joints. Two coats of paint were given to the exterior. The inside surface of the wall was covered with heavy build

AMATEUR'S GREENHOUSE.

ing paper, an eighth of an inch thick. Altogether this wall is so warm that during the great blizzard, which in March (1888) visited our correspondent's region, a night heat of 47° was easily maintained

Concerning the plan of heating with oil stoves, Mr. Emmerich says that in his case it is entirely satisfactory. Two small stoves, made by the Kerosene Oil Stove Co., and having two four inch wicks each, and an oil receptacle containing seven quarts to each. The drum from which the hot air pipe extends, is situated upwards from and between the lamps. While the 3½ inch pipe is effectual in conveying heat to its further end, still Mr. Emmerich is of the opinion that if it were a size larger it might be even more satisfactory.

Regarding oil lamps smoking when put to such a use, and of which some complain, no trouble has ever been realized. The lamps are kept perfectly clean, and nothing but the best 150 tested oil is used. Care is taken, however, to not have them turned up too high at any time, for if they were, naturally they would smoke. By means of the pipe leading outside all smell of the burning oil is removed.

Concerning the general success of this house, the writer says he wishes our readers could see the beauty and perfection of the many plants grown within its walls. Still it must not be forgotten that the general attention bestowed on plants has at all times quite as much to do with their success as the providing of sufficient heat and light for their wants.

THE TRITOMA.

AMONG fall blooming plants the Tritoma, or Flame plant, or Red Hot Poker plant stands out conspicuous as being the last to succumb to the approaching winter. For several years we have seen this wonderful herbaceous plant produce its bright orange spikes in profusion during the months of October and November, even after repeated frosts, and after every other plant had ceased to flower. It begins to bloom in late July or August, and only ceases when visited by a real hard frost. The hardy nature of the flower induces some to attribute to the plant greater hardiness than it really possesses; it appreciates a covering that will preserve it from superabundant moisture, it may either be dug and wintered in a cool cellar, or a box or barrel may be inverted and placed over it. It is rather impatient of a damp location in the winter. It is easily increased by divi-

sion. There are several varieties of the Tritoma, but *T. uvaria grandiflora* is beyond a doubt the most desirable.

Hamilton. WEBSTER BROS.

FLORICULTURE and small fruit culture are pre-eminently adapted to women. There are few industries where fairer returns for capital and labor expended are more certain; few that can be so well begun with small means, and still remain capable of indefinite extension. Fine fruits and flowers are in demand. Our densely populated commercial centres, our thronged and fashionable summer resorts, are rarely if ever adequately supplied with them. As a rule, they take all they can get, and then look around for more. You might double the largest annual yield of good berries, or fine roses or carnations, with profit to the producers. The home market for products of this sort is wonderfully elastic, the demand ever keeping well abreast of the supply.—Rept. Columbus (O) H. Soc.

* Our Affiliated Societies. *

PORT DOVER.

THE Fruit Growers' Association for the Township of Woodbourne and Pt. Dover held a meeting in Town Hall, Pt. Dover, on the evening of Dec. 10th, when a programme consisting of recitations, addresses, vocal and instrumental music was given by members of the Association, assisted by Mr. H. H. Groff, of Simcoe. Mr. Groff gave us two papers, one on the "Gladioli," and the other on the "Canna,"—both were well received, being very interesting and instructive.

This meeting was held in commemoration of the event of having obtained the requisite number of names for an organized Horticultural Society, and those taking part in the meeting must

have been pleased, as well as the directors of the Society, by having an audience who were appreciative of the efforts put forth by the members, as well as having a house packed to its doors. At the conclusion of the meeting a vote of thanks was tendered Mr. H. H. Groff for his valuable and instructive papers on the above subjects. Jonathan Ellis, Esq., occupied the chair. The meeting was brought to a close by all singing, "God Save the Queen,"—after an announcement of the next meeting, which will be held Jan. 13th, 8 p m, 1897, for election of officers.

J. SYMINGTON, W. F. CARPENTER,
President. Sec.-Treas.

Port Dover, Dec. 20, '96.

TORONTO'S SEVENTH ANNUAL CHRYSANTHEMUM SHOW.

FOR a number of years past, one of the chief attractions in Toronto during the Thanksgiving season has been the Chrysanthemum Show held in the Pavillion in the Horticultural Gardens. The display this year surpassed in many respects all previous ones.

The number of specimen plants of chrysanthemums was probably not equal to that of last year on account of the lateness of the season. There were, however, a choice lot of plants grown to single stems in 5-in. pots. Those exhibited by the Horticultural Gardens were especially admired for their dwarf habit of growth. The variety and quality of chrysanthemum cut bloom fully equalled that of last year. The majority of prizes were divided among J. H.

Dunlop, Toronto; H. Dale, Brampton, and Millar & Sons, Bracondale.

The display of roses, carnations and orchids was finer than ever before seen in Toronto. The beautiful vases of "Mermet," "Meteor," "American Beauty," "Bride," and "Bridesmaid" roses were the admired of all admirers.

Among the carnations the fine collection of seedlings grown by Millar & Sons, Bracondale, was well worthy of special mention, many of these will no doubt become popular standard varieties.

The floral designs excelled in both quantity and quality. Their beauty and artistic arrangement may be inferred from the names of some of the principal exhibitors,—Tidy & Sons, Grainger Bros. and Millar & Sons.



— 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.

ADVERTISING RATES quoted on application. Circulation, 4,000 copies per month.

✦ Notes and Comments. ✦

CO-OPERATION IN EXPERIMENTAL WORK.—The question of a Dominion Fruit Experimental Farm in Southern Ontario was discussed at our Kingston meeting, and it was resolved to ask the Minister of Agriculture for the Dominion to utilize the various provincial stations now established in Ontario, for special experiments, and to have a special sum placed in the estimates to be at the disposal of the Director of the Dominion Experimental Farm, for the conduct of such experiments by the provincial experimenters, under his direction.

Mr. Lodeman was a native of Switzerland, a graduate of the State Normal School of Michigan, and received the degree of Master of Science at Cornell, in 1895.

His last journey to Oswego County, New York, was for the purpose of inspecting experiments in fertilizing strawberry fields, and here, under some impulse induced by strain of work, he met his tragic end. We glean this from Garden and Forest.

SUDDEN DEATH OF PROF. LODEMAN.—Our readers will be grieved to learn that Mr. E. G. Lodeman, Assistant Horticulturist at Cornell University, died on the 2nd December last, in Mexico, New York State. We are much indebted to him for his help in advancing the science of spraying, and some of his bulletins have been of great value to Ontario Fruit Growers. Only last August he visited Grimsby in company with Mr. Craig, to investigate a new disease of the vine.

OUR FLORICULTURAL DEPARTMENT will be enlarged in future, providing our readers will contribute to it. We have now about twenty-three affiliated Horticultural Societies, and the members are nearly all amateurs in floriculture, and are eager for information. Now we want to learn from each other, and by writing to this Journal notes on our successes or failures, or any experiences we have had with flowers or flowering shrubs, we will contribute to the general interest, and draw out information from others.

NOTES AND COMMENTS.

THE SHORT WINTER COURSE of Horticulture at the Nova Scotia School of Horticulture opens Jan. 7th. The course is practical, embracing instruction for the needs of young men engaged in farming or fruit growing. An outline of the course will be furnished on application to Prof. E. E. Faville, Wolfville. The tuition is free, and the board reasonable.

THE ANNUAL REPORT of the Bureau of Industries has come to hand. It contains the usual valuable information on weather and crops, live stock, dairy and apiary, farm rents and wages, but does not give enough statistics about the orchard and garden to satisfy the fruit grower. To these only three columns are devoted, while a whole page is given to turnips, the same to carrots, etc. To us it would be very useful and interesting to know the quantity of apples, of pears, of peaches, etc., grown in each county.

We note that the amount of orchard and garden land is increasing, about 4,000 acres being added in 1894-5, and 10,000 acres in the last ten years.

INJUSTICE TO CANADIAN FRUIT AND FRUIT TREES.—We have received from the Minister of Agriculture of British Columbia, a copy of a resolution passed by the Board of Horticulture, strongly protesting against a proclamation by His Excellency, Sir H. Robinson, Governor of Cape Colony, strictly prohibiting the importation into that country of stone fruits and trees, scions, roots, or seeds, those of, grown in and being the product of the Dominion of Canada. No doubt this has reference to Black Knot and Yellows, the former of which is seldom seen on nursery stock, and could not be carried in the fruit or in the pits; and the latter of which is not known in

Canada, except in a very limited district. The Horticultural Board of B.C. claims that that province is entirely free from these diseases, and therefore a special injustice is done to that province.

THE LADY APPLE must be profitable when grown near New York City. Garden and Forest says these apples are selling at 15 cents a dozen. Never were they more brilliantly colored. Comice, Winter Nelis, and Sheldon bring \$1 to \$1.25 per dozen for the finest grade. Surely the Sheldons could not be kept till this date except in cold storage.

FRUIT AND FRUIT TREES — The following note concerning fruits in 1896 appears in Bul. 60, Bureau of Industries for Ontario:—The remarks in the August bulletin regarding the great yield of apples are verified by the reports just received. The yield was enormous, the market is glutted, and in many counties, more especially in Western Ontario, thousands of barrels of good apples are going to waste. The average price per barrel paid farmers is from 40 to 60 cents; extra choice bring slightly higher figures, and poorer sorts go lower. For these prices the grower is usually expected to pick the fruit, board the packers, bring in the empty barrels and carry the filled ones to the station. Some aver that it pays better to feed the fruit to live stock. The codling worm and the canker worm have been reported by a few correspondents, but the bulk of the statements regarding the quality of apples claim that the fruit is remarkably free from worms or other injury. Ice storms last winter, and the heavy bearing of this season, have caused a good many limbs to break, but fruit trees generally are in good condition. Grape vines made a vigorous growth, and the yield of fruit was abundant.

NOTES AND COMMENTS.

SPRAYING IN BLOSSOMING TIME.—In open letters Mr. Holterman calls attention to the transgression of the law in certain sections. The Fruit Growers' Association has no sympathy with such violation, because the bee is the best friend of the fruit grower, and we desire to be known as its special guardians.

NEWTOWN PIPPINS are a short crop this year. In Virginia the Yellow Newtown Pippin is the most valued export apple; it is known and exported under the name of the Albermarle Pippin; but this year the whole crop of this apple in the State does not amount to more than 1,000 barrels. The price for the first grade, in even this year of low prices, is \$6 per barrel in New York City, and about \$8 in Liverpool, according to Garden and Forest. Ordinary stock, however, of this and other winter apples, is but 60c. to \$1.25 per barrel.

REGARDING THE FRUIT TARIFF, the following resolution was passed by our Association at Kingston, viz.:—M. Burrell moved, seconded by E. D. Smith, that "for the guidance of the committee appointed to appear before the tariff commission, this meeting expresses the opinion that the present import duties on fruit should be maintained as they are, with these changes: the ad valorem duty on pears and plums of twenty and twenty-five per cent. respectively be changed to a specific duty of one cent per pound, and that the duty on imported peaches be increased to two cents a pound." The resolution was carried unanimously. E. D. Smith moved, seconded by M. Pettit, that "as it is extremely important to prevent the utter ruin of Canadian nurserymen, by unfair competition of the United States nurserymen, driven to

selling stock at a frightful loss by the enormous production of southern nurserymen, and as the consequence of such ruin of Canadian nurserymen, this country would be flooded with southern grown stock, which, though fine in appearance, is not at all suited for planting in Canada, this meeting is of opinion that the existing duties on such stock should be maintained." The resolution was carried without dissent.

PEACHES IN THE LATITUDE OF HUDSON'S BAY.—Mr. Arthur K. Grant, of Armstrong, B.C., writes as follows: A few peach trees planted here in favorable location have borne fruit the past two years. As this locality is over fifty degrees north, it is, I presume, the most northern point in America where this tender fruit has matured. Fifty and half degrees north would place the fruit growers of Ontario near the waters of Hudson Bay.

COLD STORAGE IN NOVA SCOTIA.—During the recent trip of the Hon. S. Fisher and Dr. Saunders throughout Nova Scotia, the fruit growers were met at the Horticultural School at Wolfville, and were very enthusiastic over the prospect of the cold storage accommodation proposed by the Hon. Minister for the encouragement of the export trade in fruit. The growers seemed to agree in favoring Halifax, their shipping port, as the best place for a cold storage house on a large scale, where the fruit could be kept at an even low temperature until placed in cold apartments on the steamship. We acknowledge receipt of the Acadia Fruit Grower, from the President of the Association, Mr. C. W. Bigelow, containing a full account of the above meeting.

A CURIOUS FREAK OF AN APPLE IS REPORTED IN "SCIENCE," by Mr. T. H. Lennox, of Woodstock. In an orchard near Lake Erie, a Greening tree bore Greening apples on one side, and on the other, apples of a mixed character, each apple being partly Greening and partly Talman Sweet. The different kinds occurred in sections for the most part corresponding to the carpels. A Talman Sweet tree stood near. Prof. Bailey writes he considers it an instance of what is very unusual, the immediate effect of cross pollination.

directors—who will be appointed by the shareholders themselves—see fit; principally for the building of warehouses such as those at Cambridge and Port Williams, where apples can be handled independently of the state of the weather, and be ready for shipment whenever steamers arrive. Fruit growers know that no greater boon could be conferred on them than the erection of such warehouses, connected by a siding with the railway. It will now be for themselves to decide, by the amount of their subscriptions, whether their district can get a warehouse or not.

The providing of cold storage is no part of the scheme. When gotten up at Halifax and on the steamers, of course any shareholder at his request can have his apples shipped in cold storage, but the great bulk of our apples do not require cold storage, but well ventilated steamers, and it is only wanted for the softer kinds, such as Gravensteins, etc.

APPLE SHIPPING COMPANY—Mr. P. Innis, of Coldbrook, Nova Scotia, writes giving particulars of a proposed company for shipping, and selling Nova Scotia apples which he believes would save the fruit growers of that province not much less than \$100,000 per annum. The scheme proposed is as follows:

PEARS IN ENGLAND.—If we may judge from "The Fruit Grower" of London, England, pears average good prices in that market. That Journal says under date of the 23rd ult, "The extraordinary run on pears during the present season justifies special reference to the production of pears for market, since, as we have pointed out again and again, the demand for good pears is unlimited; and this is proved from the prices which have ruled during the past few months, ranging from 75c. to \$1.50 per dozen fruits. Why even earlier in the season they were in demand at \$2.50 to \$3.50 per bushel, at these prices the demand was always greater than the supply, which, as a matter of fact, has not been satisfied this season from first to last."

1. The formation of a Joint Stock Company with the object of encouraging the producer to ship and market his own apples; and having for its shareholders, principally, the farmers and fruit-growers of the Cornwallis and Annapolis Valley.

2. By combination and co operation to secure the control of as large a portion of the apple crop for shipment as possible.

3. The erection of warehouses at large shipping stations for the receiving, storing, assorting and shipping of apples.

4. The judicious regulation by one central authority of shipments in accordance with the state of the markets, and the providing suitable and well ventilated steamers for the carrying of apples.

5. The securing the full advantage of competition as regards freight rates, with the further advantage of shipping from and to any suitable port.

6. The practical extinction of middlemen's tolls, as the shareholders will, through their own officers, market their own apples and transact their own business.

7. The reduction of commission and other charges in England to a minimum, consequent upon the consigning of all shipments to their own accredited agents.

To carry out this scheme it is proposed to start with a capital of \$50,000 in 5000 shares of \$10 each. This is a small amount for the 5000 fruit growers of these districts to raise, when the benefits they will immediately derive are taken into consideration. The money will be required gradually, and as the

Why should California fruit growers swallow all the advantages of this excellent market for fine pears, while we Canadian fruit growers, with fruit of finer flavor, if not so attractive an exterior, are compelled to sacrifice our fruits at losing prices. We have hope that the schemes now under consideration for cold storage transportation to Great Britain will meet our needs, and give us an opening for the disposal of our fruits to the best possible advantage.

↗ Question Drawer. ↖

Wolf River.

894. SIR,—I see in the magazine several inquiries about Wolf River apple. I find it to be far ahead of Wealthy, both in size and quality. It has some red streaks, but does not color as highly as I expected.

JAMES WALKER,
Fairville, St. John, N.B.

Wolf River as we saw it at the World's Fair, was much larger than Wealthy, and very highly colored; but not so long a keeper. We think it should be classed among the fall apples.

Poplar Roots.

895. SIR,—Will you kindly advise me how to destroy the vitality of poplar roots? Some trees on my place were cut down this fall, but the roots were not destroyed. How can it best be done?

C. E. G., *Strathroy.*

Had these trees been cut down in midsummer, the roots would probably have lost most of their vitality through the shock. We would advise cutting down all sprouts in midsummer.

Raspberry and Blackberry for Simcoe.

896. SIR,—What variety of raspberry, and what of blackberry would you recommend for this section of country?

JOHN REID,
Everett, Ont.

We would advise you to try the Turner raspberry and the Snyder blackberry. Possibly you could succeed with the Cuthbert raspberry, a more productive variety than Turner.

Native or Foreign Plum Stock.

897. SIR,—What advantage is there in grafting cions on wild natives, over using imported stock?

H. SAUNDERS,
Fairbanks.

We know no advantage except that the natives are hardier and less liable to winter kill in cold sections. We shall be glad of more light from any reader.

One Year Old Pear Trees.

898. SIR,—Would you advise planting one year pear trees in preference to two or three year old trees?

H. SAUNDERS.

It is just a question of expense. One year old pear trees are too small to plant out in an orchard and be cultivated as they should be. If you can buy such trees enough cheaper than three year old trees to pay you for planting them in good rich soil in nursery rows on your own place, and grow them a year or two, all right. Pear trees should be once or even twice transplanted in nursery rows before being set in an orchard, in order to encourage the formation of fibrous roots, but this is so expensive that nursery men seldom do it in practice. You could do this yourself, if you buy yearling trees.

Varieties of Pears for York County.

899. SIR,—What varieties of pears would you advise me to plant? Some advise Bartlett, Flemish Beauty, Clapp's Favorite, and Anjou? Can I control scab on Flemish Beauty pears by spraying?

H. SAUNDERS.

The list of pears recommended to you is good. You might add Giffard for an earlier variety than Clapp's Favorite or Bartlett, and Lawrence for an early winter dessert variety. You can control the scab to a very large extent by spraying four or five times with the Bordeaux mixture.

QUESTION DRAWER.

Apples and Plums.

900. SIR,—Would you kindly try and find out from some fruit grower if Starke Fallawater, Ontario, Utters large Red, Delaware Red, York Imperial, and Scott's Winter apple trees are early, abundant, and regular bearers, or which are the best. Also, Bradshaw, Washington, Shipper's Pride Plums, which are best as abundant and regular bearers. Also, whether Cuthbert, Golden Queen, and Shaffer's Raspberries, are the best varieties. I have plenty Ben Davis, Baldwin and Pewaukee apple trees. I want to get more apple and plum trees to plant next spring, and I want to get the very best early and abundant and regular bearers. I take THE HORTICULTURIST, but cannot get this information in the journal so far, and if you would please ask some reliable fruit grower, and let me hear, you will confer a favor on, yours truly.

THOS. F. CHAPIN, *Lisle.*

The Ontario is an early and regular bearer; it is one of the best for profit. Fallawater is neither an abundant or a regular bearer. Stark is counted one of the profitable export apples at our Bay of Quinte Station.

The other three varieties have not been sufficiently tested in our province to furnish a reliable reply. The three varieties of plums are all about equally valuable. Of raspberries the Cuthbert is best for main crop, Marlboro' for early, and Shaffer for canning.

Will some of our growers add their experiences?

Tarred Paper for Mice.

901. SIR,—I notice in THE HORTICULTURIST, that tarred paper is suggested as a preventive for mice gnawing fruit trees. My experience is, that it will not only keep the mice away, but will injure young trees as well. I wish some of your correspondents would give a remedy for this evil, that is simple, cheap, and effective.

WM. B. LEAVENS, *Chisholm, Ont.*

Our own plan is a very simple and effective one. We simply clear away all rubbish and then place a mound of fine earth about the trunk of each tree. This can be done quickly with a sharp spade. We have practiced it for thirty years and never lost a tree by mice where properly done.

An Early Grape Wanted.

902. SIR,—I have a vigorous growing Isabella grape vine, but which, owing I suppose to the shortness of our seasons, fails to ripen the quarter part of its fruit. I propose to graft it to some earlier, and better variety. I shall feel obliged by your giving me name of the most desirable grape for my purpose.

GEO. THOMSON,
Wolfville, Nova Scotia.

Moore's Early is one of the best early black grapes; Lindley is one of the best early red, and Lady one of the best early white varieties.

Covering Grapes.

903. SIR,—Is it necessary to cover grape vines in winter, and is it the practice of all large growers.

E. F., *Brantford.*

In Southern Ontario, at least south of Hamilton, in favored localities, there is not the slightest necessity of covering the vines for winter protection, nor do our vineyardists practice this custom. Further north it is best to give winter protection in this way in order to obtain the best results.

Keeping Celery.

904. SIR,—What is the best way to pack celery for the winter?

E. FRENCH, *Brantford.*

That intended for late keeping should be left in the rows as late as possible, and packed in dirt half way up the stalks, and kept at a temperature of about 40°. Or, it may be stored in trenches outside. The trench is dug in a dry place, a foot wide, and as deep as the plants are tall. Set the celery plants in rows across the trench, close together. As the cold weather increases cover with leaves, and short boards, and earth over all. It may then be taken out as wanted through the winter.

Leached Ashes.

905. SIR,—My garden has been filled in about one foot from an excavation running from 2 to 3 feet, and the soil though not blue clay, is poor. I can get any quantity of leached ashes from an adjacent potash factory for 15 cents a load. I have already covered the garden one inch in depth, having put on about 28 loads, the garden being 60 feet by 100. Would it be advisable to haul more in the spring? Could I injure the land by too much?

It might be possible to give an overdose of unleached ashes, but in our opinion it would be quite safe to work in as much more of the leached ashes, and get beneficial results.

Cutworms.

906. SIR,—Could you kindly inform me whether lime or salt is best suited for land where the cutworm does harm? Or do you know of anything better suited to destroy the cutworm? It was the worst enemy I had to contend with in my garden.

JOHN REID, *Everett.*

Reply by Prof. J. H. Panton, O. A. C., Guelph.

There are many species of cutworms, some of which are very troublesome in the garden and in the field. The moths from which they come lay their eggs during midsummer; these soon hatch and the larvæ feed upon the roots and tender shoots of plants. When cold weather arrives, they bury themselves in the ground and pass the winter. In spring they re-appear and become destructive. When the larvæ are full grown (about June) they go down into the ground and enter the pupa stage, from which they emerge about August, and deposit their eggs, often in grass fields, on the grass stalks. Hence they are usually found in crops following sod. They are not observed in the sod field, because they have plenty of food; but when the field is sown with a new crop, they at once become destructive, by feeding upon the young plants.

The larvæ (worms) are about one-and-a-half inches long, smooth, naked, and presenting a greasy-looking appearance. The color varies, but is generally some shade of green, gray, brown, or black; most are night feeders; when disturbed, they curl up at both ends. They cut off the plant at the surface or a little below, suck the juice from the lower part, and let the rest wilt. The moths usually have the front wings of a mottled gray appearance, with some spots; the hind wings are of a much lighter color. The expanded wings measure one to two-and-a-half inches across. The above is the life history of most cutworms.

REMEDIES.

1. Fall ploughing, the earlier the better, so as to disturb and starve them before going into winter quarters. This refers to fields likely to be infested.

2. Plant with corn and use a top-dressing of salt. Salt to some extent kills the worms or drives them off and gives the plants a chance to get a good start.

3. Where practicable, poisoned baits may be used, such as small bunches of clover, cabbage leaves, etc., dipped in Paris green solution (1 lb. Paris green to 100 gals. water), and placed where worms will feed upon them and be destroyed.

4. Some make a mixture of 1 part Paris green and 50 parts bran (by weight), add water and mix, having it thick enough to dip out without dripping. A little sugar added to water improves the mixture. Cutworms are fond of this, and will eat the poison when put where they are.

5. Cabbage plants may be protected by putting a piece of paper around the stem, so as to prevent the worm getting at it.

* Open Letters. *

Spraying while Trees are in Blossom.

SIR,—When the Spraying Bill was passed before the House, it was done largely through the endorsement of fruit growers, and I think whatever prejudice then existed, has largely worn away since that time. It is now admitted that no good can result from spraying trees while in blossom, and if it does not injure the blossom, it is at least a loss of time and material. During the past year there has been a good deal of spraying of fruit trees while in blossom. There doubtless has been occasions when the law has been broken in ignorance, and I know of one or two instances where experimental work has been carried on, and, owing to uncertain weather, there may have been some excuse for transgressing; but there are others who have openly and in defiance of the law, sprayed during the prohibited time. This is particularly the case with men who charge so much for spraying orchards, and they begin as early in the season as they can and continue as long as work will be given them. I have been asked to bring this matter before the Fruit Growers' Association, knowing that in this way attention of fruit growers could best be drawn to the matter. There should be fellowship between two branches of agriculture—which the greatest scientists of the world have linked together in so interesting a way. I have reference to the pollenization of blossoms by bees.

R. F. HOUTERMAN,
President Beekeepers' Association.

Fruit Growing in Scotland.

SIR,—In the fruit growing business, this has not been a profitable year. Prices were very low all round, and few if any growers have done more than make ends meet. Family expenditure will require to be met out of capital. As jam makers are likely to be well cleared out before next season, prospects are better for the coming year. At my own fruit farm at Bridge of Allan, I pulled 30 tons gooseberries, 37 tons strawberries, over 10 tons raspberries, and odds and ends of currants, etc. My apples, pears and plums are coming into bearing, that is, those first planted, and I had some very fine samples this year on the young trees. We cannot compete, however, with your apples. Our only chance is in growing early baking apples, that will be in the market before your Canadians arrive. We have no early or even late eating apples of sufficient excellence to go alongside your Spios, Newtowns, Baldwins, Kings, etc. There was a fairly big crop of Scotch apples, also Irish apples, and prices were fair till Americans came in, when ours became quite

a drug, and had to be sacrificed at prices that spelled loss to the dealers. I never saw so many American apples in evidence as this year. Every Tom, Dick and Harry is buying a barrel, while they are being hawked up and down the country at 1d. per pound, by hawkers innumerable. In this way half a dozen barrels will be disposed of for one in ordinary years. Judging from the quantities arriving, your crop must be enormous. Fortunately, quality is also turning out good. There appear fewer spotted fruit, and slack barrels are turning out better than they usually do.

We are contemplating starting a Fruit Growers' Association on this side, to look after the interest of growers with respect to railway rates, salesmen's commissions, insect pests, etc. In fact, pretty much on the lines you have adopted in your quarter. The hints given in your "Association's Transactions" will help us to get under way.

Again thanking you for your kindness, I remain, yours faithfully,

R. SCOTT,
Carlisle, Scotland.

The Dominion Journal of Horticulture.

SIR,—It is with pleasure that I peruse Mr. Roys letter in your December number, containing as it does the most feasible solution of a question that must be met and answered at an early day.

As a member of the committee appointed at Kingston for the purpose of suggesting some method for placing our present journal in the position that it should and must occupy, unless we are content to allow our more progressive American competitors to take the cream of our more advanced workers on all lines, I felt regret that this committee did not report in time for me to express a few frigid facts that could be better advanced during general discussion, than in a report or correspondence.

Not long ago I was asked to take stock in a new Canadian journal of horticulture, but declined doing so unless it was made national and issued weekly. The movement failed for the moment, but I was told that "we must learn to creep before we could walk." Now we do not want to learn to creep, as those who have not graduated from that stage of development, are still in the chrysalis form, or are buried in the cycles of the past, and if any wish to continue creeping, no surprise need be expressed when they are walked over by others.

Would any intelligent listener at the recent annual meeting claim for one moment that creeping was the proper position for those whose efforts on well directed lines lead th world? I do not think so.

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As to the business end; there is no good reason why advertising space in such a journal, should not nearly pay for the cost of its publication.

Let us have the question fully ventilated, and at the proper time let a committee be appointed composed of members of the Provincial Societies, to arrange the detail, and carry it to a successful issue.

H. H. GROFF.

The Dominion Horticulturist.

SIR.—I notice in the December number of THE HORTICULTURIST, under the heading, "A Dominion Journal," the writer urges the making the magazine more thoroughly Canadian by the other provinces accepting it as their organ, and we should then have articles from different parts of the country, and thus making it larger and better, the increased cost being more than covered by the larger circulation. But in the latter part of the article the suggestion is made to issue it in a weekly form, which would, I think, be a great mistake, as it would contain a good deal of information that would soon grow old, and the expense of binding it would be increased, and its value when bound would be less. Hoping you will not adopt this change unless it is considered really necessary,

I remain, yours sincerely,

A. J. COLLINS.

Listowel.

The Honey Berry of Japan.

SIR.—I first received this as an unknown plant, collected by my collector in Japan, on an unknown island in the Yellow Sea. It grew rapidly from the first start, and proved that it required no petting. I was surprised at its rank luxuriant growth; the first season, I believe, it attained a height of about 16 feet, with canes nearly an inch thick; the next season the canes grew nearly 20 feet in length, almost straight up; the leaves on this plant are quite similar to the leaves on certain rose plants, except that they are several times larger than any rose leaves; the leaves being about 10 inches long on the old stalks or canes; the leaves are a brilliant, dark green; the under parts being covered with numerous purple thorns; the canes also are covered with tens of thousands of purple thorns, which glisten in the sunlight, and which gives the bush a singularly beautiful appearance. The fruit is a marvel; it is so glassy, and so brilliantly colored as to sparkle in the light; the color is reddish yellow; the fruit is quite large, of a strange, mystic flavor, which many people pronounce superb; again, others do not like the flavor. This plant is a raspberry; it commences to fruit with the earliest raspberries, and continues until Christmas. It is a greater yielder than any raspberry known at the present day; the fruit is valuable for any purpose that a raspberry is put to.

S. L. WATKINS,
Grizzly Flats, Cal.

Fruit is all Right.

SIR.—While it is early to suggest these reports, yet, there is reason why they should be recommended.

In brief, I would mention that the marketing of fruit requires the best of skill in handling, being properly gathered, and properly packed, which we know has something to do with the price of it. When we know what our markets want, then let us try and give them the desired article. It is safe to say, that carefully handled fruit, in properly put up and attractive packages, will yield double the profits of those unskilfully handled; therefore, to succeed, we must display skill and ability in our business; and would say it is not good business to put beautiful specimens on top of our package and then fill in with more inferior grade; we cannot afford to do this. Then the package. The fruit is worthy of being put up in the newest and cleanest package that is possible to obtain, and that each grower put his name and address on each and every package that he sends to market.

When one begins to grow fruit he will find (like the agricultural product) it is not all good enough to market, and therefore the greatest skill is required to handle our fruit, to realize the best returns. It does seem to me that we should try and improve upon last year's methods, if it is possible. Now if in shipping fruit in packages (especially to foreign markets), that a smaller package will carry better and in better condition on arrival than a larger one, why then let us adopt a smaller one, and, as many have suggested, they are in demand.

These facts are well known to many no doubt, and it is very important that experiments may be set on foot that will determine their goodness in this matter.

It is for this reason that I make these few assertions, that this continual striving and ambitious aim will lead to greater things, that we might not otherwise have undertaken. No matter what one undertakes, he must ultimately improve.

E. HERSEE, Woodstock

Gooseberry and Currant Growing.

DEAR SIR.—Lately I read two articles in the Toronto News, one by Mr. Spillet, on Gooseberry Culture, the other by the name of Stevens on "Small Fruit Culture." In Mr. Spillet's article he makes the assertion that gooseberry bushes cannot be grown from cuttings. Now I hold he is far astray as my experience for many years proves the reverse. As an example I will relate a circumstance which occurred in July last. Mr. Brooks of this town brought me two medium sized bushes, which were nearly dead, caused by the strawberry white grub eating the roots. After concluding they were beyond recovery I threw them on the ground where they lay

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for two days wilting in the sun. A friend calling to see me, I showed him the state they were in, he suggested that I might give them a trial, which I did. I cut off the old wood along with the roots up to the first young branch leaving the leaves on, I planted them in a slanting position up to near the tips, I choose a spot for shelter the north side of a grapevine; they soon began to show they had taken kindly to their new surroundings. I tried at intervals, by cutting the bark to see if my patients were progressing and can now say they are in perfect health. So this negatives Mr. Spillet's theory.

Although the Industry and Lancashire Lad can be grown from cuttings, it is too slow a progress for them, it is slow even with layering. Mr. Jocelin, a well-known fruit-grower, writes, that he has never come across the man in America who can start the Industry, and says they have all to be started in England. If he takes in the method of layering and the less successful one by cuttings then the statement don't hold good in Canada. I may in the near future give a few points on starting G. B. cuttings. In the meantime I wish to make a few remarks on the article by C. L. Stevens, which I consider is misleading to the uninformed. His remarks on "Strawberry Culture" is the same as we read all the time, only he has not got out of the rut of growing the old Wilson and Crescent when others much better every way, are for sale. He states that it seldom pays to grow the second crop. Now although they are not so large as the first crop, still taking weight for weight the second outweighs the first; then there is the labor of planting the second to be taken into account. He asserts that 80 per cent. of the plants after the first crop is over will be found dead. I think it will be hard to find fruit growers to endorse the statement. The same plant will grow year after year by simply setting it an inch below the crown.

The principal reason why so many in towns and villages give up growing this delicious fruit is that they are confined to a small plot of ground and cannot change their patch to new ground, no matter how much stable manure is used, as that won't contain all the mineral which has been extracted from the soil for a few years. One has only to consider the fine flavor and richness of this fruit to be convinced that it must have a heavy drain on the elements of the soil, if virgin soil was applied every two or three years along with wood ashes it would remedy the soil.

The writer in his remarks on raspberry says the Golden Queen requires protection in winter. It is quite hardy here in North Wellington. I hold a different opinion as to its fine quality, but "taste differs." I dug mine all out this fall for its being so badly affected with the grub which attacks it at the crown of the plant. Very few of my other varieties are affected by it. I may state here for the benefit of those who grow it that I tried an experiment with sulphur, lime and salt boiled, lime 30, sul. 20, salt 15, together taking a pint to a pailful of water, and

sprinkling on the crowns about twice a week, it was effectual to at least 90 per cent. Mr. Stevens says the Dewberry is of high quality. This is new to me, for what I have tasted of them, I would prefer a turnip, but here again "taste differs."

On the subject of currants he prefers the Victoria to all others, because the others have a sprawling habit. Fay's Prolific is the only one among the red out of the many I know that has that habit. The White grape in the white class has also this habit. It is a heavy bearer and of good size, but of poor quality. I dug up all my Fays last fall, as I could fill their places with much better varieties that did not require so much space. It scarcely ever sends up a shoot, consequently there is only old wood to rely on, but a worse objection to it is that the fruit made into preserves is very insipid. As for his remarks on gooseberries, the growers of this palatable fruit will be behind the times by adopting his choice, which is the old Houghton, now very little grown on account of its small size and poor quality. If I had no better to grow I would give it up.

Now, Mr. Editor, my article is lengthy for you to find space in your valuable Journal, but my object is to put the inexperienced on their guard.

It gave me much pleasure to read of the highly interesting meeting lately held at Kingston by the Fruit Growers' Association. Long may you go on in your way of well doing, so as the country will reap the benefit of your good work.

F. W. PORTER, Mt. Forest.

MR. S. SPILLET'S REPLY.

Sir,—Upon the testimony of the teaching of the CANADIAN HORTICULTURIST for some time, upon the testimony of a large correspondence upon this subject with many of the leading gooseberry growers of Canada and the United States, and upon testimony of my own experience for fifteen years, I emphatically repeat my statement in "Daily News," that practically the gooseberry can't be propagated from cuttings. I would not say that if the soil were kept very damp, and the part of the cutting above ground were shielded entirely from the drying effects of sun and wind, that the cuttings would not catch. But layering is so certain and simple that it would not be worth the trouble. A gentleman of Mount Forest reported to me that he could not

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get more than 10% in this country, but there was no trouble in getting them to root in England. So I admit that if cuttings were completely shaded, or very heavily mulched, a large per cent. might catch.

STANLEY SPILLETT.

Nantyr, Dec. 22nd, 1896.

Advertise in this Journal.

SIR,—I beg to convey to you the information that the Add which is inserted in your valuable journal by N. Otis, our Agent, at Boston, has proved to us of great advantage in furthering our business, and trust that your efforts in behalf of your journal will lead up to a bright and prosperous New Year.

Yours truly,

JOHN T. LOGAN.

↯ The Markets. ↰

Our Apple Markets.

The total number of barrels of apples landed in Liverpool this past season to date of December 5th was about 940,000 bbls., over four times the quantity landed in 1895, and yet in all cases where the fruit turned out really tip top, the price obtained has been just about as high as in other years. The great difficulty is to get even our finest winters over in anything like the condition in which they leave our orchards.

Woodall & Co. write under date Dec. 5th :

SIR,—Week's receipts are 74,685 barrels, which is not excessive, as compared with the weekly receipts during the season, but the total quantity received to date is immensely in excess of any previous year. From some cause which has previously been experienced, but never satisfactorily explained, arrivals from all shipping ports have landed in poor condition. This has tended to depress a market that could only have been sustained with excellent quality and condition, in the absence of which a very large proportion of

the weekly arrivals have sold at low prices, and net results are consequently unsatisfactory. There is no important decline to quote on good sound stock, which was eagerly competed for, but the average returns to shippers through wasty condition must shew a reduction of 2/ to 3/ per barrel. At the approach of the holiday trade sound condition is of the first importance, and the failure in this is much to be regretted. If what are now afloat should land up to requirements, there should be an excellent demand at remunerative prices. Newtown Pippins continue in moderate supply, and there has been an active demand at very full rates, prices ranging from 16/ to 27/6 per barrel.

Quotations for Canadian apples for past week are as follows :—

Baldwins, 9/ to 12/9, 2nds, 7/6 to 8/6 ; Spy, 9/ to 11/6, 2nds, 7/9 to 8/6 ; Davis and C. Red, 10/ to 13/3 ; 2nds, 9/ to 9/6 ; King, 14/ to 17/ ; 2nds, 12/6 to 13/6 ; Russets, 10/ to 13/3, 2nds, 9/ to 9/6 ; Greenings, 9/6 to 13/6, 2nds, 8/ to 9/. Slacks sell 1/ to 2/ under these quotations.

LILIUM SPECIOSUM.

SINCE we intend sending all our Societies bulbs of this lily for general distribution in early spring, they will read the following directions for planting, from the Garden, with interest. In planting the bulbs they should be put far enough apart so that they will not need lifting in four to six years. They increase very fast. Some of the speciosum lilies here that were planted four years ago, three bulbs to a clump, have

30 to 35 strong flowering canes now, and are growing stronger every year. Lilies like plenty of water in their growing season, and this should be seen to. When you see the leaves at the bottom of the cane turning yellow, you may be sure the plants are dry at the roots. We always keep a mulching of old manure on them all summer, this helps to retain the moisture as well as to feed them. The mulching is put on in the fall, and left on, we do not take it off in the spring.