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MOORE'S ARCTIC.

THE  
Canadian Horticulturist

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MOORE'S ARCTIC.



PLUM growing in Ontario is becoming a very important industry. The difficulties in its pursuit, such as knot, curculio, etc., only increase the chances of success in the case of those who persevere.

In Southern Ontario we are able to grow nearly all the more tender and luscious varieties, such as the Washington, Jefferson, Bradshaw, Quackenbos, the Reine Claude, Gages, etc., but further north, where these varieties are often too tender, a plum like Moore's Arctic becomes of special value, on account of its hardiness. Possibly it may commend itself to us all, on account of its productiveness and its immunity from curculio stings.

Dr. Hoskins, of Newport, Vt., after fourteen years' experience with it, states that he has never seen the first mark of the curculio on the fruit, although the common red plums were riddled by it.

The tree begins bearing very young, and yields enormously. Mr. F. Sharp, of Woodstock, N. B., has an orchard of this one variety, and he is able to ship away the fruit by the car load. The trees are scarcely hardy enough for this climate, and to overcome this difficulty, he has adopted a plan of laying down the trees in autumn for winter protection, which was described in the CANADIAN HORTICULTURIST, some time ago. He prepares for this operation when planting his trees, by setting them closely in trenches, and permitting the roots to extend in two directions only. Then, on the approach of winter, the trees

are bent to the ground at right angles to the trench, and weighted down. In this condition the orchard more resembles a brush heap than a plantation of live plum trees, but the trees are safely protected from the cold by the snow which accumulates upon them. As a result he gathers an enormous crop annually.

Description—Size, below medium; form, roundish oval; skin, purplish black with a thin blue blush; flesh, greenish yellow, juicy, with a pleasant but not rich flavor; season, early autumn.

The variety originated on the highlands of the Aroostook River in the State of Maine, and is the favorite plum grown by the plum raisers of the Aroostook Valley.

### EXPERIENCES IN THE FRUIT GARDEN.



I AM very much pleased with the HORTICULTURIST so far. Our strawberries did well this year, and off a little less than one-fifth of an acre we took 2,4000 quart boxes, and 40 boxes of gooseberries off 12 middle sized bushes. No sign of mould on the gooseberries. The Cuthbert raspberry does well with us, and also the Golden Queen raspberry, and Mammoth Cluster Black Cap. I like the idea I saw in the HORTICULTURIST, of nipping the black raspberry canes when one foot high. I wish I had known this sooner, and I would have done the same with ours. I nipped ours when 3 feet high, and since the side shoots have grown they have reached the height of nearly 5 feet. I am afraid the fierce winter winds will break the canes off at the ground.

The Concord and Brighton grapes do well here. We also like the Cherry currant as a canning fruit, but it is not prolific enough to pay for a market fruit, and the black currant never did well here, on our farm at any rate.

Our young apples, pear, cherry, and plum trees, are growing finely this season. We planted them four years ago last spring, and we consider spring the best time for such work. All our trees grew. We are just two miles from a good home market, and we have very little competition so far; everybody seems to want our berries, they are always so clean and fresh.

We have a colony of bees; and keep from 75 to 80 hens, which have the run of the orchard, they don't eat many berries, their object being to clean out all the insects they can find. You can read this lengthy epistle when you cannot find anything else to do.

You will, "if all goes right," find enclosed one dollar for the HORTICULTURIST. Wishing you success, "I remain as ever,"

*Elmira, Ont.*

ELLEN FEAR.

## NOTES FROM GRAND ISLE, QUE.



COUPLE of days recently spent with Mr. Louis Simpson, the energetic and genial manager of the Montreal Cotton Company, at Valleyfield, Que., were full of interest to the visitor. Valleyfield is a manufacturing town made up of some six thousand inhabitants, many of whom are employees of the cotton and paper mills.

Grand Isle is formed by a division of the channel of the St. Lawrence, and is about fifteen miles long by two miles wide. The soil is alluvial; clay loam predominates, with occasional gravel beds interspersed with boulders. The limestone bed rock rarely appears, but here and there, in quarries, are seen excellent examples of the abrading power of the ponderous ice floes belonging to the ice age, the surface strata being beautifully defined. The limestone is found in hori-

zontal layers of convenient thickness, is easily quarried, and is used in considerable quantities by the Cotton Company in its building operations.

The presence of large bodies of open water during the entire year, has a marked effect on the local climate. This is evidenced by the kind of fruit trees, and the measure of their success, upon the island. For instance, no where in Quebec have I seen the common red cherry—a form of the Kentish—succeed so well, and with so little culture. The roadsides and gardens are sprinkled with well-laden specimens of this tree, which is quite remarkable, considering the off year. Black knot has, so far, been unknown. Cherry slugs have seriously denuded many good trees. This seems a pity, as the slug is easily destroyed with weak applications of Paris green or hellebore, or with a sprinkling of dry ashes or lime.

Although natural conditions, such as soil and climate, are very favorable for farm and garden crops, yet neither agriculture nor horticulture have been developed to an extent justified by the evidence at hand. A very useful work is being prosecuted by Mr. Simpson, in bringing under cultivation, and in moderate sized blocks, quite an area of land adjoining the cottages of the factory employees. This land is being gradually brought into tillable condition; not by the expenditure of large sums of money in stumping and clearing, but by adopting the best methods; the careful management of a limited farm force, and the judicious expenditure of income arising from present cultivated areas. The benefits derived from this system of management are two-fold, viz., economy and the force of such an example upon the surrounding community.

Cottage gardening among the employees of the Cotton Company is encouraged through the liberality of the President, Mr. A. F. Gault, who offers prizes each year for the best kept and most beautiful garden lots.

The small fruit and truck gardening business of the island is mainly done by Messrs. Hood Bros., who have been engaged in the work for the past fifteen years, the success of which is amply testified by their comfortable surroundings. They have worked on the principle of the "Little farm well tilled," and have done it so thoroughly that their thirty cultivated acres in orchards, small fruits and vegetables, bring them a much larger income than many areas four and five times as large. It was a surprise to find that Concord ripened thoroughly every year, and is one of the principal grapes grown. Champion, Moore's Early, Prentiss, Niagara, Delaware and Lindley, are grown with success, though Niagara cannot be said as yet to have passed the experimental stage. No mildew has appeared this year, probably owing to the early application of Bordeaux mixture. A few vines of Champion were badly attacked by anthracnose, which, I fear is likely, on light soils in the Province of Quebec, to prove a troublesome disease. Of plums, Hood Bros. some years ago planted about 200 Moore's Arctic, which have now entirely disappeared, as have most other blue sorts, a few Damsons excepted. I was pleased to find the Lucretia Dewberry growing vigorously and bearing profusely. This I may say is the first instance of the kind I have noted in Eastern Ontario or Western Quebec, though there may be other cases which have not come under my attention. The vines in question were planted between rows of Gregg's and Shaffer's. It is possible that cross fertilization may have had some effect on their fruitfulness.

Twig and apple blight have appeared in this section, being first noticed about three years ago. It has increased somewhat each succeeding year till now it has assumed rather serious proportions. While no direct remedy is effectual, preventive measures should be instituted. All affected branches should be cut out and burned as soon as the injury becomes apparent. The cutting should be made some distance below the injured portion, and as soon after the presence of the disease is noted as possible. Orcharding is yet in its infancy on Grand Isle, but with natural conditions so favorable, a convenient market, and the growth of knowledge, as to varieties and methods of culture, fruit-growing cannot fail to become wide-spread in that locality.

J. CRAIG.

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PURE, fine-ground bone and a good quality of unleached ashes form a complete fertilizer, and, if we use twice as much ashes as bone, a well-balanced fertilizer for almost any crops. We doubt if the fertilizer men can devise a better formula. True, the nitrogen of the fine bone is not so soluble as the nitrogen of nitrate of soda or sulphate of ammonia. We need only to apply the fine bone a little earlier to the land, or for that matter sow a little soda as a starter.

## DISSOLVED BONES.



R. AITKIN thus writes of dissolved bones in the North British Agriculturist: Bones contain about half their weight of phosphate of lime, the other half consists chiefly of organic matter. The phosphate of lime in bones is what is called insoluble phosphate, that is to say, a combination of phosphoric acid with as much lime as they can unite with. One-third or two-thirds of the lime can, however, be taken away and still leave definite compounds. When two-thirds of the lime has been taken away, the compound formed is soluble in water and is called soluble phosphate of lime. The object of adding sulphuric acid to bone phosphate is to remove two-thirds of the lime by converting it into sulphate of lime, just as in the case of superphosphate, which is a mixture of soluble phosphate and lime and sulphate of lime.

In dissolving bones, however, it is found that if enough of acid is added to convert all the phosphates into the soluble form, the whole is converted into a liquid mass, which refuses to dry up and is unfit for use as manure. This is owing to the organic matter in the bones. There is therefore a practical limit set to the proportion of soluble phosphate which dissolved bones can maintain. As a rule, in the case of pure dissolved bones, not more than half the phosphate is present in the soluble form. The usual practice of manufacturers of pure dissolved bones is to add more acid than is necessary, and to dry up the product with fine bone meal, and, by careful mixing and somewhat laborious treatment, produce a sowable manure.

Other things besides fine bone meal are often used as dryers. Steamed bone flour dries more effectively than bone meal, but if it is used to any great extent the product will be somewhat high in phosphate and somewhat low in ammonia. Bone ash is found to be a still more absorbent substance, and it is used much to dry up dissolved bones. Bone ash, however, contains no nitrogenous matter, and is very rich in phosphate, and therefore when it is used the product is high in phosphate and correspondingly low in ammonia. Bone ash is not bones, it is simply impure phosphate of lime derived from bones. The same may be said of bone char, which is frequently used as a dryer, and which gives the black color to many manures sold as pure dissolved bones.

In England there is scarcely to be found a manure sold under the name of dissolved bones which is a genuine article. A great proportion of them contains no bone material at all, and the term dissolved bone is really a conventional name applied to compound manures consisting of any kind of mixture of phosphate and nitrogenous materials which can be dissolved with or without an admixture of bone.

Many of the manures are excellent preparations, just as good as pure dissolved bones, and they have the merit of being formed from materials which would otherwise be allowed to go to waste. Manure manufacturers make no secret of the spurious character of the manures called dissolved bones, and it has become quite recognized in the trade that purity is not expected in them. No doubt a great majority of buyers is deceived by the name, and they pay a higher price for what is called dissolved bones than if they knew the absolute character of the article.

If genuine dissolved bones are desired they should be bought under a guarantee of purity. Pure dissolved bones could not contain much more than twenty per cent. soluble phosphate, and from  $2\frac{1}{2}$  to  $3\frac{1}{2}$  per cent. of ammonia.

When well made it is of course a good manure, but not a whit better than many of its imitations.

The dissolving of bones in sulphurous acid is a wasteful process, not to be recommended, for by so doing the bones are degraded to the level of mineral phosphates, which supply soluble phosphates more cheaply and more efficiently than bones. If soluble phosphate is wanted for a crop, then the cheapest form of superphosphate is the best thing to apply. If bones are wanted for the crop or the land, then the natural bone, finely ground, is the cheapest form of application. If both are wanted, both should be applied separately; but to attempt to combine these advantages by dissolving the bones is to effect a compromise that is not economical. It is really in effect to spoil good bones and to make poor superphosphate.

### A BARREL HEADER.

**T**HIS barrel header works to perfection, and any blacksmith will make it for 75c. The part A A A is made of a small wagon tire with hinges at C C. D D are rods of half-inch round iron riveted to the frame 3 in. above the hinges on each side, but left to turn freely as a hinge. B is a piece of 2-in. plank nearly the size of the barrel head. Place the head on the fruit, then the header in position. Loosen the top hoops, bear down A to press the head in. Drive down the hoops and the head is in.

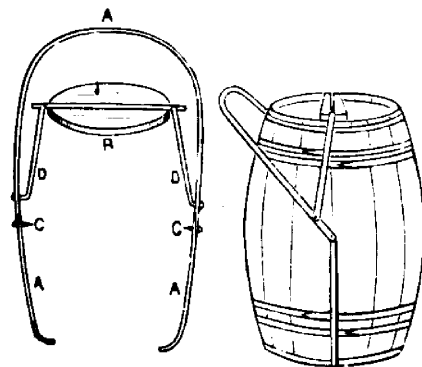


FIG. 577.



## ROCK ELM.



THE growing scarcity of hickory and white ash has prompted wagon builders to look about for substitutes. The makers of common carriages are with them, to a certain extent, while the builders of high-class carriage work still adhere pretty generally to the old woods, finding, as yet, nothing that satisfies them where lightness, strength, and elasticity combined are required.

Agricultural implement makers have substituted steel and iron for wood in a large number of places where it was formerly used exclusively. The implement factories are using less than one-half the lumber they did only a few years ago. The light forged or cast steel plow beam has taken the place of the clumsy wooden one of our fathers, that formerly absorbed a large amount of the finest white oak, while the early spring tooth harrow, entirely of steel, has superseded the old time V-shaped implement that formerly vexed the bosom of Mother Earth.

But while the others have reduced the amount of lumber more or less required in their special lines, the makers of farm and road wagons and heavy trucks are still forced to use nearly the same amount of wood as formerly. White oak, white ash, and hickory has thus far been the chief wood used in wagon construction. Other woods have been used for certain parts, but the three woods named have been the chief reliance for good work, and now that hickory and white ash are becoming so scarce, especially the former, and good, tough white oak is no longer found in great abundance north of the Ohio River, while it is called for for so many other purposes as to greatly enhance its value, substitutes of as nearly equal value as possible, in strength, durability, and elasticity, are eagerly sought after, that may be furnished cheaper than the old stock.

Of all the woods tried, probably rock elm has proved the most satisfactory for many uses in wagon building, where one of the three, oak, ash, or hickory, has heretofore been almost exclusively used. Its elasticity and general toughness should recommend it for axles, holsters, and reaches. Indeed, it is being sawed for these purposes to a large extent in some sections, a number of the Wisconsin and Michigan hardwood mills having large orders for future sawing.

While it may be true that the bulk of such stock at present goes to the small wagon makers and repair shops, it is also true that some of the largest manufacturing in the country are ordering a good deal of rock elm for their season's stock, while the bending factories are taking a large increase over a year ago.

This should be good news to the hardwood men of the extreme north, where the timber is found of the best quality and in greatest abundance. They will be gainers from the fact that it will allow them to clean up another kind of timber when logging a piece of hardwood land. If they can market their

rock or gray elm for furniture and hoops, and can add beach to the list of flooring stock, they will have less to complain of than now.

The elm is a noble tree, in its native habitat, but is by no means so abundant as is thought by many, and while it can be marketed at present at a profit at a much less price than white oak, the general free use of it for wagon and carriage building would, in a few years, greatly enhance its value, by producing a comparative scarcity.—N. W. Lumberman.

## NOTES ON STRAWBERRIES AND RASPBERRIES AT OTTAWA.



A LARGE number of the newer strawberries fruited in our trial plots this season. Among them the following are improvements as grown here over old varieties.

*Parker Earle*, B.—Is a remarkably strong grower, with good clean foliage. Berry of the pointed and rucked type, dark red, good quality, fairly firm, very prolific, about five days later than *Crescent*. As a fertilizer for berries like *Bubach*, or *Mrs. Cleveland*, it will be valuable.

*Middlefield*, P.—Is a fair grower, bearing round glossy berries, bright red, very firm and of good quality. It is also late. Not sufficiently productive for market.

*Gov. Hoard*, B.—Is of fair quality but unproductive. But, as quality is a characteristic of the first order, this variety should not be lost sight of.

*Beder Wood*, B.—Vigorous, very productive of pollen and berries. Fruit roundish, conical, of good size and quality, but lacking in firmness. Rather later than *Crescent*. The following kinds are not promising so far on these grounds: *Boynton*, *Standard*, *Yale*, *Westbrook*, *Leader*, *Gillespie*, *Crawford*, *Martha*, *Dayton*, *Barton*, *Beverly*, *Auburn*, *Van Deman*, *Princess*, *Iowa Beauty*, *Cameronian*, and *Westlawn*.

### RASPBERRIES.

A number of English varieties have fruited, among them *Carter's Prolific*, *Baumforth Fillbasket*, *Gladstone*, and *Superlative*. The first and last mentioned are the best; while of better quality than *Cuthbert*, they do not equal it in productiveness or hardiness. *Heebner*, as noted in my report for '91, has again proved itself a decided acquisition on account of quality and productiveness.

The new *Black Cap Older*, of which plants were set out last year, has borne a large crop of fine berries ripening with *Hilborn*, of the size but surpassing *Gregg* in quality.

A large number of seedling and hybrids are fruiting this year, the curiosities are many, the useful and promising comparatively rare.

J. CRAIG.

## THE VALUE OF LIME.



LIME is one of those elements of the soil which is essential to the growth of plants and trees, and when it is properly used a vast difference in the growth of the vegetation is noticeable. All farmers and horticulturalists use it in many ways, but it is probably as often abused as used. The full and direct effects of lime upon plants under all conditions have not yet been fathomed, but enough knowledge concerning its general effect is possessed for one to use it intelligently on many crops. In the vegetable garden lime is invaluable. It is the best preventive and check for mildew on cucumbers and diseases of potatoes. As soon as the cucumber vines show signs of the diseases the powdered lime should be sprinkled over every part of the plants that are affected, and the operation repeated after rain so long as there are any signs of mildew. If one watches the plants early in the spring, and applies the lime as soon as the disease manifests itself, it will never be allowed to make much progress, but sometimes in the case of plants being nearly dried up with the disease the lime will give them new life and growth. Potato stalks are often dried and eaten up by diseases, and this can also be prevented by an early application of the powdered lime sifted over the stalks with a fine sieve. The work on this crop, however, must be done early. If the disease is allowed to progress so much as to half eat the plants up the powdered lime has but little effect. If the disease has shown itself in spots all over the field it will pay to sprinkle the lime on all the plants, even though no signs of the disease can be seen in many places. It will prevent a breaking out in new places. Many potato fields could be saved from partial or total destruction in this way if the lime were used freely early in the season. Lime water is a great disinfectant and destroyer of insect life, and it will be needed in the summer time for many purposes. Caterpillars and tree grubs and insects die upon its application, and many orchards are saved from great ravages by its use. Gardens and lawns frequently need it in the spring of the year. It should be sprinkled over the grass lawn just before a rain, so that the water will soak it into the ground. The grubs and worms in the soil as a result will burrow far down in the soil to escape its destructive effects or crawl rapidly up to the surface of the ground for air and sunlight. The chickens should then be turned upon the lawn to pick up the dead or squirming worms and grubs. This is the most effectual way of clearing grass lawns of this pest. The flowers, plants and shrubs also need lime water when infected by worms and bugs. An application to the gooseberry and currant bushes will drive the bugs and ants away, and a similar treatment of the flowers will make the snails and bugs slink away to parts unknown. If the application is renewed occasionally the insects will continually avoid the shrubbery thus treated.—American Cultivator.

## SOME PROMINENT HORTICULTURISTS—XXII.

## Mr. Wellington Boulter.



R. BOULTER was born of U. E. L. stock on the farm now owned by him, in the Township of Sophiasburg, Prince Edward County, on the 14th February, 1838. In his early days he had only the slim advantage of attending the common school through the winter months, having, as was then usual, to work early and late on the farm. His father, the late George Boulter, had planted one of the first nurseries in the Midland district in 1818. He brought up from Montreal the first Famuese and Bourasa apple trees planted in the county, some of which are still bearing fruit, and from them many grafts have been taken. Mr. Boulter early evinced a fondness for fruit growing; and now he has on his farm over 2,000 apple, and 400 pear and plum trees, besides some eight acres raspberries and strawberries. This apple orchard has been splendidly kept and is one of the finest in the county.

Believing that we could grow as fine fruits in this Canada of ours as our cousins in the United States, and that they could be hermetically sealed to compare with any American goods he started the first canning factory in Eastern Ontario at Picton in 1882, and through his well-known energy his goods were soon pushed to the front. At that time nearly all the canned goods used in Canada were imported from the United States, but this was no help to fruit growers in Canada, and in 1883 a convention was called by Mr. Boulter, at Hamilton, of all the packers of canned goods in Canada, and he was unanimously chosen its first President, a position which he has filled for ten years. He went to Ottawa and succeeded in getting the present canned goods' law placed on the statutes with the duty removed from tin plates. At present, scarcely any American canned goods are now found in Canada. Those canning factories, scattered over Canada, furnish a good market for our fruits and vegetables. For the past five years he has been exporting the surplus goods to England and Germany, competing there with American goods. Mr. Boulter has always been in favor of a heavy duty being placed on all fruits coming from the United States into Canada, believing Canadians should have our own home markets; and he has always done what he could for them. At the last annual meeting of the Fruit Growers' Association, in his absence, he was elected as one of the Directors to represent the Counties of Hastings, Prince Edward, Lennox and Addington, to succeed the late P. C. Dempsey, Esq., who for many years occupied that position, and was also at one time President of the Association.

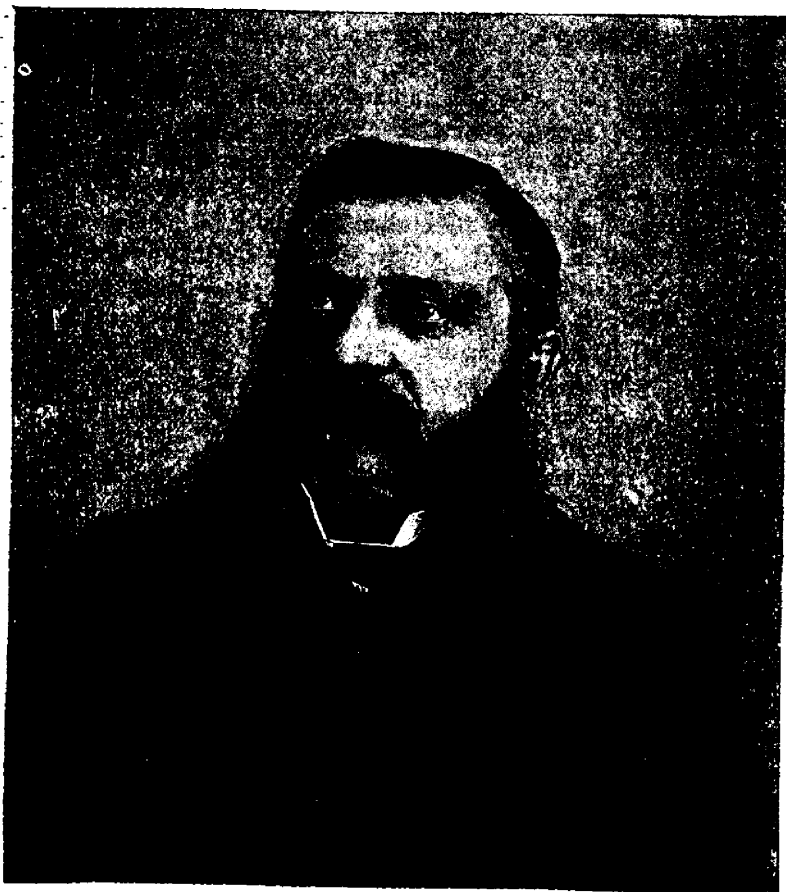


FIG. 578. MR. WELLINGTON BOULTER.

## WILL FERTILIZERS EITHER PREVENT OR CURE PEACH YELLOWS?



**A**N exhaustive series of experiments have been conducted by Dr. Irwin F. Smith, special agent in charge of the peach yellows investigations of the United States Department of Agriculture, for the purpose of ascertaining whether the peach yellows were caused by soil exhaustion, and whether they could be either prevented or cured by the application of potash salts and superphosphates. These experiments were continued for a period of four years, and the results, with full details, are embodied in Bulletin No. 4 of the

Division of Vegetable Pathology, 1893, embracing 197 pages.

It will be remembered that Professor Penhallow has supported the view taken by Goessman, Fuller, Hale, and others, that by the use of potash salts and superphosphates the peach yellows could be both cured and prevented; and wide publicity has been given to frequent statements that the results obtained by these means were very satisfactory. In order to thoroughly test this matter, these experiments by Dr. Smith were undertaken and prosecuted on a scale and for a length of time sufficiently extensive to fully demonstrate the truth or error of the view taken and advocated by Professor Penhallow.

In order to ascertain whether affected trees were suffering from want of nourishment, Dr. Smith supplied potash, phosphoric acid, lime, nitrogen, etc., in the form of guano, dried blood, superphosphates, muriate of potash, kainit, kieserite, dissolved bone-black, dissolved bone ash, nitrate of potash, nitrate of soda, sulphate of ammonia, Canadian hardwood ashes, lime, tobacco dust, and barnyard manure. Also to learn whether healthy trees could be so strengthened that they would be able to resist the yellows if these fertilizers were applied to them also. Fifteen orchards were included in these experiments, containing over 16,000 trees, in the heart of the great Delaware and Maryland peach region. Here, before the advent of the peach yellows, the peach trees lived from twenty to forty years, and still attain to such age in a productive condition in those sections where the yellows have not yet appeared.

To determine whether, in diseased branches, excess of lime and deficiency of potash and of phosphoric acid were constant conditions, careful chemical analyses of such twigs were made by Dr. Eastwood, Professor of Chemistry in Georgetown College, Kentucky. In the case of branches sent from an orchard near Dover, Delaware, he found in the healthy branches 15.53 per cent. of potash, and 10.63 per cent. of phosphoric acid, and in those affected with yellows, 20.16 per cent. of potash and 12.63 per cent. of phosphoric acid. In branches from an orchard at Magnolia, Delaware, the healthy gave 28.26 per cent. of potash, and 10.45 per cent. of phosphoric acid; those showing yellows, 32.51 per cent. of potash, and 9.29 of phosphoric acid. Branches from an orchard at Still Pond, Maryland, from healthy trees gave 30.18 per cent. of

potash and 12 per cent. of phosphoric acid ; those diseased with yellows 30.76 per cent. of potash, and 16.86 per cent. of phosphoric acid. In all three cases the diseased branches shewed a deficiency of lime as compared with the healthy ; in one case the difference being as great as 14.53 per cent.

It is not necessary to mention the treatment and results in each of the fifteen orchards. They were all supplied separately or in combination with the fertilizers above mentioned, some receiving moderate, and others large, quantities ; to some trees applied in the spring, to others in the fall ; in some cases plowed under, in others harrowed in ; but "these variations do not appear to have sensibly modified the results."

Of 645 trees afflicted with the yellows at the beginning of these experiments, none recovered. A few improved so as to exhibit greener foliage and make more growth than the like trees not treated, especially the tree that received a large quantity of caustic lime, and those that were treated with tobacco dust and nitrogen compounds. "The symptoms of disease, namely, premature fruit, pale-branched shoots, and prematurely unfolding winter buds, did not disappear from any of these trees ; the most that can be said is that they did not pass into the final stunted and dying condition quite as rapidly." But even this poor satisfaction was not to be had in the great majority of those that he tried to cure, even when they were supplied with an overflowing abundance of wood ashes, potash salts, and high grade superphosphates.

Various preventive treatments were tried on about 3,800 healthy trees, which were in fine condition. Many of these were treated three and four times, yet at the end of the third season 1,741 of them had the yellows, and at the end of the fourth season 2,368, which is over sixty per cent. of them, were diseased. The number of these trees shewing the yellows increased with each succeeding season, being greater the second and third season than the first, and still greater at the end of the fourth. In three large orchards the treated portions as a whole developed more cases than the untreated in a given time, and this is especially noticeable in the orchard where the Goessmann-Penhallow mixture was tried for a long time and on a large scale."

We seem to have learned from these experiments which were continued for four years, that the addition of the fertilizers mentioned, in either large or small quantities, separately or in combination, will not prevent peach yellows, nor cure the disease when once begun. We may, therefore, presume that the cause of peach yellows is not to be traced to any want of proper peach tree food in the soil. It can hardly be said that these conclusions are very encouraging to the peach orchardist. They do not seem to throw any light on the means of preventing or curing this most serious disease. The results are wholly negative. We need not waste our energies on soil applications of the nature of fertilizers in the vain expectation of thereby being able to preserve our peach orchards. This much these experiments seem to prove. We need no longer to look in this direction, and may turn our investigations into other channels in the hope that patient study of these may yet disclose some mode of prevention or cure.

D. W. BEADLE.

## NOTES FROM THE WORLD'S FAIR.—IV.



LEST our readers weary of too long a visit even in the Horticultural building, let us stray out to witness some of the wonders which electricity is working in this 19th century. Recognizing its importance the World's Fair directorate spent \$401,000 in constructing a palace for exhibiting scientific and applied electricity. A visit to it in the evening is enchanting, on account of the brilliant effect of innumerable incandescents, enclosed by glass of various colors. In one room with a glass ceiling, the appearance of a constant play of sheet-lighting is kept up, while near by is a column, up which rings of light seem to chase each other, through glass of red, white, blue, purple, etc., and then divide along four lines in the ceiling until they reach great revolving balls, which change to every hue in the rainbow. In another part Edison's phonograph repeats a cornet solo and accompaniment through a tin horn, which renders it easily heard at some distance, and in another the Belknap motors from Portland, Me., under charge of Mr. G. W. Brown, drive an electric fan with such rapidity that the breeze threatens to blow you away. Then there is cooking by electricity, electroplating, and chicken hatching, cutting clothes and transmitting cables; but the most wonderful is the telautograph, to which we referred in our last issue, because by means of it a writer in one town has his handwriting or sketching exactly reproduced in another before the eyes of his friend.

Outside immense electric fountains play in the Grand Court of Honor, the whole spray changing color constantly, to the wonderment of thousands.

Returning through Mining, one is especially attracted by the copper exhibit of Arizona, because of its great beauty. The various colored quartz rock looks like velvet of the richest green, and purple and red tints, which the geologist recognises as indicative of the amount of water in combination with the copper. All the courts are magnificent, and Canada's not the least so, with her little piece of nickel from Sudbury, weighing only five tons! and her rich ores from Quebec and British Columbia.

Through the courtesy of our friend, Mr. Berliner, of Cape Colony, we were permitted a private inspection of the Diamond Washing. One hundred and fifty tons of this valuable earth was brought to Chicago for the exhibition, and about one ton is washed each day. After being well washed, the dirt is placed upon a table, and an expert rapidly turns it over. So rich is it in diamonds, that one is found in almost every peck, and some of them of great value.

Passing through the Japanese Court, the superintendent, Mr. Saki, of Tokio, was very courteous, and pointed out the coal, graphite, and antimony, for which



his country was noted. How enterprising these Japanese people are! Everywhere their nation is to the front with exhibits peculiar to their country, and year by year they seem to approach nearer and nearer to European civilization.

THE WOODED ISLAND and its surroundings are, to the landscape gardener, the most attractive spot of the whole 650 acres, for at every turn the traces of the master hand of Mr. Olmstead were evident. An island, with irregular coast well covered with shrubbery to the waters' edge, and surrounded by lagoons of varying width, which are crossed by several bridges, and specked with numerous waterfowls; its face crossed by tastefully disposed walks bordered by beautiful floral exhibits, and on every side across the lagoons, the beautiful architecture of the White City, all combine to make a picture charming enough to form the subject of a description by the author of the famous "Arabian Nights."

Crossing the bridge from Mining we soon reach the Houdan, or Japanese building, which is really a group of three, each representing a different period in Japanese history. They are very clean and tidy, richly decorated on wall and ceiling, but lacking entirely in those easy chairs and couches which our luxurious country provides. Another bridge or two and we pass the largest State building on the grounds, that of Illinois.

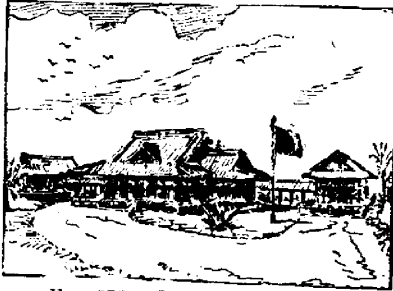


FIG. 579.—JAPANESE HOUDAN.

Its grand dome is so showy that many new comers suppose it to be the Administration Building. Inside it has many fine exhibits; especially those in geology and entomology. In the latter was shown the average food of one robin for one year, and the immense number of larva, beetles, moths, etc., which he destroys, has led us to entertain a greater respect for the robin than ever before. Some wonderfully beautiful fern decorations ornament one part of this building, which will repay inspection, and in another part are cased the standards of the Illinois volunteers, as brought home from the Civil War.



FIG. 580.—ILLINOIS STATE BUILDING.

A little farther on, facing the lagoon, is the Art Palace, to many the most attractive building on the grounds, for it contains the most magnificent collection of paintings ever brought together in any one place. Of the most refined classic architecture of Grecian-Ionic style, the building itself is a study for

the architect. The main portion is 500 feet long and 320 broad, besides which there are two beautiful annexes. The great dome is 60 feet in diameter, 125 feet in height, and is surmounted by a colossal statue of "Winged Victory." The finest exhibits are those of Britain, Germany, France, and the United States; but in the Russian collection there were four very striking pictures, which very much interested the writer, viz., the ship "Santa Maria," on its way to America, when Columbus, during a heavy storm was surrounded by his revolting crew; Columbus landing at San Salvador; Columbus' farewell in Palos; arrival of Columbus' flotilla on America's shore. All these are by Aivazovsky. The French paintings are bright and attractive, the German historic educational, but the English have the highest finish, and bear the closest inspection. This is not the opinion of a professional artist, but only of a humble horticulturist, who only studies trees, fruits and flowers, and knows nothing of the painter's art.

EMINENT HORTICULTURISTS, representing the American Pomological Society and other societies met by invitation in Mr. Samuels' office, on Thursday afternoon, the 18th of August. The Chief of the Horticultural Building, had in store two rich treats, first, fruit from all parts of the country for sampling; and second a delightful ride through all the lagoons—a complete circle of the grounds in one of those rapid electric launches, a distance of nearly six miles. This was highly appreciated by all.

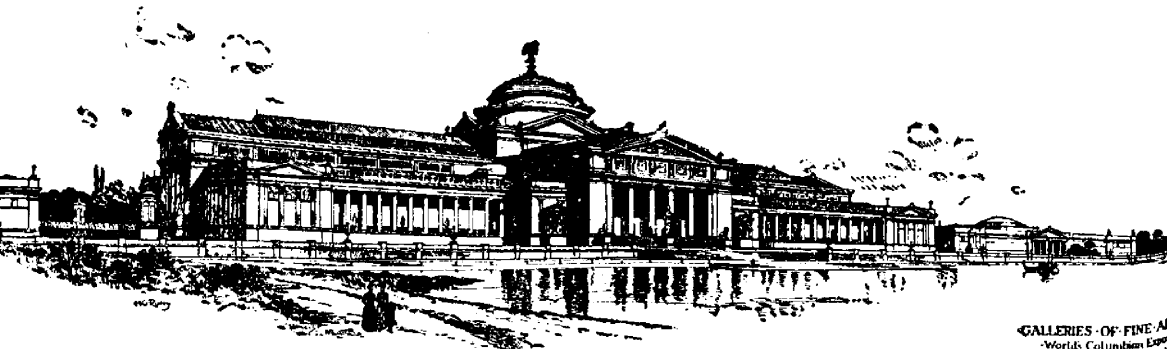


FIG 581 —THE ART PALACE.

GALLERIES OF FINE ART  
 World's Columbian Exposition  
 C. B. Alwood Architect

## MARKET GRAPE GROWING.



Other fruit will in the future ever supplant the grape for table dessert use. Grapes will be bought for their own intrinsic merit and value, and not because people can not get other fruits. The assertion made a year ago by a St. Louis firm, namely, "That when nine-pound baskets of Concords can be retailed for twenty-five cents per basket the consumption will be practically unlimited," seems to hold good.

The freeze of October 12th, if it taught anything, clearly showed the firm hold which our grapes have upon the popular taste and consumption. There was no doubt as to the loss in fine quality from that freeze. It seemed wise to at once stop heavy shipments of such damaged goods, and for a time there was an almost entire cessation. When a few days later, some of our heavy growers shipped off a few hundred baskets, just as an experiment, and the returns came back, they were the most surprised men in the county to find those off quality grapes bringing the highest prices of the season. The reason is easily stated. For a time the demand far out-ran the supply, and, as a consequence, prices went up.

While as a rule up to October 12th, the quality of the fruit was good, and the weather and roads almost perfect, everything favoring economic marketing, and large consumption, as usual the shippers of first, early, sour grapes, the growers and sellers of the wretched Champion, and unripe Concord and Hartford, got in their damaging work, although perhaps to a less extent than in some former years. This year the Worden more than sustained its former high reputation. It is indeed a noble variety, and without controversy the best black grape we have.

While some improvement has been made, our whole system still remains crude, ineffective and vastly expensive. What would the dairymen of Stockman, Ellery, Sherman and other dairy towns say, if when butter was bringing twenty-five cents in New York, it only brought fifteen cents in the home market, and yet that is the precise grape situation. In the open market in towns less than one hundred miles distant, hundreds of baskets were daily sold at twenty-five cents and upward, while at home they were only bringing fifteen and some days slow at that.

Of course it will be said that fruits are more perishable, and less easily handled than dairy products, and that we must expect a wider margin between what the consumer pays, and the grower or producer receives. This is all true where only a limited amount is being handled, but here is a product easily the first agricultural industry of this great country. It is being shipped by the

hundreds of cars, and thousands of tons. Will any good business man for a moment affirm, that it need cost ten cents per nine-pound basket to move this product one hundred, two hundred, or even one thousand miles?

After deducting the cost of baskets and labor employed in picking and packing, estimates from several vineyards indicate a net profit per acre of from fifty to one hundred dollars. Doubtless some exceed the latter, and some may fall below the former figure. The demand for roots for spring planting goes steadily on, and everything indicates a prosperous outlook for the grape, and on a basis as substantial as that underlying any other agricultural industry.

In the improvement of farm buildings, the erection of fine packing houses, and the use of the best tools, the swift progress made in this department in the last ten years, stands unequalled in the entire history of Chautauqua County.—Chautauqua Co. in Vineyardist.

The Ontario, a hybrid resulting from the crossing of the Northern Spy and the Wagner, I consider the most valuable apple I have among 80 varieties. It was distributed by the Ontario Fruit Growers' Association, in 1879 or 1880, and is rated in Ontario at 39 points in a possible 40.—higher than any other, except Northern Spy. It is a strong grower and perfectly hardy, it bears early and annually; fruit above medium, and of remarkably uniform size, without waste from imperfections, that keep with ease in an ordinary cellar until May or June. I have reported favorably of the Ontario for the last ten years, and have given away thousands of scions but have not succeeded—and I do not know why—in getting it placed in the columns of desirable apples in the reports of the American Pomological Society.—CHARLES E. BROWN, *Yarmouth, N.S.*

FOR peppermint soil should be rich, mellow and moist. Divisions of the roots are dropped about six inches apart in rows two feet distant. Keep clear of weeds. Plant in May. When the plants come in blossom cut and carry immediately to the laboratory and distil. If dried for use, it must be done in the shade and branches must not become wet in drying. A plantation will last for years, but it is usual to renew it every three or four years. If Bert Walker's neighbors raise it, buy a few roots or cuttings from them. Expense of raising is light. Get your neighbors to try a mill on the co-operative plan.

STRAWBERRY LEAF BLIGHT may be prevented by the use of the Bordeaux mixture. This is our best known fungicide. The mixture is made by dissolving three pounds of sulphate of copper in three gallons water and mixing with it lime water made by slaking two pounds of quicklime in three gallons water. To the mixture add ten gallons water, then strain and it is ready for use.

PEACHES and apples have been seen in Eastern markets in small quantities. Peaches were too green to be desirable and the apples were small and common.

## EVAPORATING OUR APPLES.



WHEN properly applied, evaporation produces but little change in the fruit beyond the removal of a large portion of the water originally present, and, of course, a corresponding reduction in weight and bulk. It follows, therefore, that if the proper quantity of water be added to the evaporated fruit it is practically fresh fruit. Why, then, is it that evaporation is not more extensively employed? The reason is not far to seek. On account of the amount of water removed in evaporating fruit, considerable time and care are required to prepare the evaporated fruits and vegetables for the table; whereas, in the case of can goods the cooking is done in the factory on a large scale, and the goods come into the consumers' hands quite

ready for the table, or at best merely requiring to be warmed. This it is that prevents the wider application of our process of fruit preservation. The question of fruit evaporation is thus practically limited to apples, and in this connection the industry has assumed somewhat large proportions, and is yet capable of considerable development.

The apples sent to the evaporating factory are such as are not suited for shipping; that is, such as are not possessed of keeping qualities, windfalls and the culls of winter fruit. At the factory the apples received are divided into two grades; first, those of good flavor, size and shape, and so suited for peeling by machinery; and second, all inferior, badly bruised, mis-shapen and small fruit. The first grade is peeled, cored and sliced by machinery, often in one operation. The sliced fruit is at once exposed for a few minutes to the gas produced by burning sulphur. This prevents discoloration, and in no way injures the fruit; at most only a mere trace is left after evaporation is completed. After being "sulphured," the slices are spread on trays of galvanized iron netting, or of cloth, and heated air passed over them, the result being, as already mentioned, that a large portion of the water is withdrawn, and at the same time certain chemical changes, akin to increased ripening, are produced in the fruit, resulting in an increased percentage of sugar, and diminished acidity. The length of time the apples are exposed to the heated air depends

upon the temperature employed. Considerable skill is required to obtain a satisfactory article ; if the temperature of the evaporating chamber be not right at the beginning of the process there is danger that the slices will become damp, whereas a properly evaporated apple is dry and spongy. After withdrawal from the evaporator, the apples are usually allowed to lie in a heap for several days, to equalize the moisture that may be in different batches. They are then packed in boxes usually containing 50 lbs. each. The cores and peelings of the first grade of apples are not wasted. They and inferior apples that reach the evaporating factory may be classed together, as they usually undergo the same treatment, although worked up separately. According to the market, these two materials are used as a source of cider, or are evaporated, and shipped to jelly makers on this continent, or sent to Europe, where they are used in the fabrication of certain grades of wines. Sometimes the apples are quartered before being evaporated ; sometimes they are treated whole.

Let us glance now at this process in its relation to the fruit grower. In the first place an evaporating factory presents a means of rendering marketable fruit which otherwise would be unsalable, and in the second place it gives employment for several months of the year to a large number of hands, thus giving an increased home market for fruit growers' products. These benefits have been recognized by fruit growers in places where evaporating factories exist, and the inhabitants of such localities have been willing to offer inducements to companies to locate in their midst.

If it be granted that an evaporating factory is of advantage to fruit growers, the question arises : What is to be done in the fruit growing districts where no such factories exist ? Can the individual fruit grower evaporate his own apples ? There are small machines made for this purpose and widely advertised. Experience has shown, however, that they do not give as good results as they should, and as are claimed for them, and there is difficulty in finding a market for the small lots, and, of course, working on a small scale the expense of manufacturing is greater than in a large factory. In the opinion of the writer, evaporation on the large scale should be the object of those who would derive benefits from the process, and he would suggest that the fruit growers of a district combine, and agree to support a factory, as they do in the case of cheese factories and creameries, and it is altogether likely that someone could be found who would be willing to erect the not very expensive plant required and conduct the manufacture.—Report of Montreal Horticultural Society, 1892.

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THOMPSON'S EARLY is one of the most prolific of the red raspberries. It is also early and of the best quality for table use. Its flavor is sweet and will command the highest price in the market. The vines will not ordinarily winter-kill or rust, which enables it to make a strong, hardy growth.

## CIDER VINEGAR.



UNLESS near a large market it is often difficult to sell the surplus of summer and fall apples owing in great measure to their lack of keeping qualities. One good way to dispose of them is to work them up into vinegar. It will not be long now before apples begin to ripen and those who have a large number of early apple trees will find the following article from the *Homestead* suggestive and of value :

Good wholesome cider vinegar is seldom met with nowadays in a grocery. The product called cider sold everywhere in groceries is manufactured on a large scale directly from alcohol by diluting it with water, adding a little yeast, and exposing the mixture to the air. The last operation is best effected by causing the liquor to trickle slowly through a cask filled with beech or oak shavings which have been previously soaked in vinegar. The process is known as the quick process of making vinegar, and it is very sharp. It is reasonable to suppose that good vinegar cannot be made in this way. The best vinegar, therefore, can be made on every farm from the sugar contained in the juice of apples, and is the one in the manufacture of which farmers are interested, and which is the best for general domestic use.

When cider is exposed to air the yeast principle soon begins to operate and causes the first fermentation by which a little starch is converted into sugar, but almost simultaneously the stronger fermentation begins by which the sugar is converted in to alcohol. If the temperature is low, and the cider undisturbed, it will rest here for weeks and perhaps months. With a rise of temperature, or stirring frequently, the third fermentation begins called the acetic acid. The change will be slow or rapid, according to the atmospheric exposure.

If the cider fills the barrel the change will be slow ; if the barrel is full the exposure will be greater, and the change will consequently be more rapid. If this amount be stirred vigorously once a week it will be more rapid still. These very rapidly-made vinegars are always of inferior quality, having a stinging taste. No vinegar can be called a good article that has not a rich "body" and a fine aroma. It cannot be made in a hurry. A certain amount of old stocks in casks thoroughly impregnated with acetic acid is necessary for its production. The cider after having passed through the fermentation which converted the sugar into alcohol and precipitated all solid matter to the bottom, or threw off when the cask was full and the bung open, is racked off into other casks. A certain quantity, say five gallons more or less, is weekly through the summer season drawn out and added to the half filled hogshead containing stock.

After the cider is added to the stock the whole is stirred vigorously. This operation may be repeated once or twice a week, or not so often during the

summer, just owing to the temperature. Good vinegar cannot be made from poor watery cider. Sweet apples make the best. Unfortunately your city markets are full of poor stuff quickly cheaply made from whisky and water. A little of the former mixed with a large quantity of the latter produces acetic acid very rapidly. This now greatly injures the market for pure cider vinegar.

A barrel of pure cider vinegar was offered on the market by a farmer. The grocer after tasting the vinegar would not buy it, saying that he could not sell it, as his customers wanted sharp vinegar (made out of whisky,) and consequently no sale. Hence we do not see why every farmer who owns an orchard should not only have for his own use the pure cider vinegar, but can sell to those less fortunate in the ownership of an orchard.

### HOW TO HANDLE FRUIT PROFITABLY.

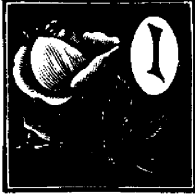
EVERYWHERE properly grown and prepared fruit is what gives a margin, especially so in time of plenty. The disposition of the fruit is no less important than either of the foregoing. Growers should, as much as practicable, avoid the concentration of too much fruit at any one point. It should also be the aim of every one to get all perishable fruit from the plant, vine or tree to the consumer as quickly as circumstances will permit. My fruit is nearly all sold direct to the consumer. Commission business for the grower is unprofitable, although it cannot always be avoided. I am situated so that I can reach about a dozen towns, the most remote not over fourteen miles, one a city and some of the others large towns of great enterprize. A team will reach any of these points and deliver fine fresh fruit direct to the consumer at a price not easily obtained in any other way.

In this way the fruit, if as before designated, will get a reputation which is of itself a great seller. Could I not do this I would hire some person in each town to whom I would ship as much fruit as he could profitably handle, or I would ship my fruit to different points and follow it up myself or send a good man and sell to dealers, in this way creating a demand for it. One of our men sent nearly all of the berries he received to points back in the coal regions, and received more for them than he could at home, thereby lessening the glut at home and maintaining a better price for those sold there. Avoid as much as possible sending a large amount of fruit to market on Saturdays. Many growers rush the fruit out for fear it will perish before it can be handled on Monday. I prefer to let such fruit remain where it grew, as it holds better there than anywhere else, cold storage excepted. If some does perish I claim it financially better than overstocking a Saturday's market and selling at a non-paying figure. Some practice picking on the Sabbath in order to be in market first on Monday. This I detest and will not practice.—C. BRINSER, Dauphin County, Pa.



## \* The Apiary \*

### HOW TO SELL HONEY.



It is one thing to raise a crop of honey, but quite another thing to sell it. The progressive beekeeper of to-day must be posted in regard to the markets and manner of putting his honey on the market, as well as the more modern methods of producing it, if he would make beekeeping as profitable as it should be. There are two things that tend to and do depress the honey market, which can and should be avoided. First, the great bulk of honey which is put on the market in a poor shape. We must have our honey put up in small sections and in the most attractive style. In order to have it thus it is important to attend to it properly, just as soon as the harvest is over, and get at least a part of it on the early market, as it always commands a better price than later.

Take the honey from the hive as soon as the main white honey season is over, and place it in a warm room with the temperature at 95° or 100°, and it will ripen just as well as if left in the hive. If left in the hive until late in the season, the bees begin to prepare for winter by filling every crevice and opening with propolis. The sections become travel stained and the honey gets dark, and no amount of work will make it as attractive as it otherwise would have been. The sections should be thoroughly cleaned, and labeled or stamped with the producer's name on them, and crated in neat crates with glass fronts, so it will present a nice appearance. Such a crate of honey will sell at good prices. The lack of knowledge in regard to the price in the different markets is more prevalent among the farmers and small producers. Many farmers will go to market, says a writer in *Practical Farmer*, and take what the merchant chooses to give them, when, with a reasonable knowledge of the markets and demand, they could in many cases get much more for their goods. This not only does them an injury, but injures all other people who are engaged in the same occupation. A goes to market with a few pounds of honey. He asks the grocer the price. The grocer replies: "I just received a very nice lot yesterday for 12½ cents per pound, and I guess that is about what it is worth in the market here." He is not pleased with the price, so he tries another grocer and gets a similar answer. So you see A is compelled to sell his honey under its real market value, simply on account of those ignorant and inexcusable ones who are not posted about the market. I find this the case quite often, even this year when the crop is away below the average. Always sell it in your home market if possible. It is risky to ship. Honey is an excellent article to retail and I have adopted this way largely in disposing of my crop. The retailers won't pay as much as they will to commission houses, besides freight, drayage, and the risk in shipping. They

want five cents per pound for selling, which is too much. If you have honey to sell watch these points. It will pay you. I can retail my honey at a little less profit than the grocers and make good wages. This cuts out the middlemen's profit and brings the producer face to face with the consumer. You can create a better demand and soon establish a firm trade. But you must produce a fancy article ; try it.

### BEEES AFTER THE HONEY FLOW.



**A**FTER the honey flow has passed, bees sometimes become somewhat troublesome. These troubles are often augmented by a lack of correct information upon the habits and natural tendencies of the honey bee. A little mistake may cause a great commotion, and a little foresight will generally entirely prevent any difficulty.

When bees are unable to gather nectar in the fields, and especially in the beginning of such a period, they are liable to make every effort to secure from other sources those sweets they are unable to gather from the natural. They will attack a weak colony—one unable or unwilling to defend itself. Amongst the former we find weak colonies and colonies largely black, amongst the latter, colonies which are queenless. If bees must be handled, it should be done under cover of a tent made for the purpose, or towards evening, and combs exposed for as brief a time as possible.

The advantage to be derived from an examination towards evening is this : if the bees get a notion and opportunity to rob they keep right at it until night, or even longer, and the longer they have to work before night the more liable they are to continue the attack next morning, and the more harm they are likely to do.

When the bees get excited through robbing they become irritated ; they are more inclined to sting, and attempt to get into houses, and especially the kitchen department. There is really no necessity for such discomfort, and the bee-keeper who thus causes unnecessary discomfort to himself and his neighbors should be corrected.

As before stated, at such a time handle only towards evening, the later the better, as long as the operation can be completed before night. Do the work under cover of tent, if possible, but if the former condition is watched this latter is not an absolute necessity. Expose no sweets at any time ; this will begin the trouble. If bees are kept close to the house, it is well, if much canning or preserving of fruit has to be done, to do it in the afternoon.

To the bee-keeper who has not much experience, I would say : see that all colonies have queens ; the bees lose courage when without a queen, and fall a ready prey to those with more energy. The black bees are peculiarly liable to thus become discouraged.

Should the attacking bees once get into another hive, it is a difficult matter to stop robbing. A great many ways have been recommended, and yet, I know of no sure means of stopping this. First of all, there should only be one way of getting into the hive, and that by means of the entrance, that should be made no larger than the bees can defend. If a full colony, two inches or less will answer, unless the heat is excessive. The blocks should be nailed, or of heavy material, otherwise the bees can crowd it away. If this does not stop the robbing, grass thrown loosely and plentifully over the entrance makes it difficult for the bees to pass through it, and the bees in the hive have a chance to renew their defences. This failing, coal oil poured about the entrance may stop the bees. In conclusion, it may be well to say the first indication of robbing, to one not experienced, is a great commotion about the hive and dead bees about the entrance.

*Brantford, Ont.*

R. F. HOLTERMANN.

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### HOW TO PACK GRAPES.

It pays to put up grapes in a careful and attractive manner. They should be cut two or three days before they are to be packed and allowed to stand. The stems will become limp and pliable, the skins will toughen a little so that the bunches will pack closer and with less bursting of the berries. Every bunch should be handled and the green, decayed and cracked berries removed with a pair of scissors. Five or 10-lb baskets are best and handiest, although many use gift crates. A new spring crate is rapidly coming into favor. It is about as cheap as baskets, and a wire serves both as a handle to the boxes and a spring for the grapes to rest on.

Many growers who handle tons of grapes every year find it pays to look over every bunch and take out the bad ones. Women are generally employed to do the packing and pruning, as they have a lighter touch than the common man laborer. One woman should pack 300 10-lb baskets a day and two good cutters will fix up the bunches as fast as she can take them. This means only 1c. more on a basket and they will often bring 5c. to 10c. more because they look nice.—*Farm and Home.*

SMYTHE: "I hear you are having a delightful time in the suburbs—raising vegetables and keeping chickens." TOMPKINS: Not exactly. I simply keep the chickens; they raze the vegetables."—*Truth.*

SIMSON (sternly): "Willie, where are those green apples gone that were down cellar?" WILLIE: "They are with the Jamaica ginger that was in the closet."—*New York Sun.*



## The Canadian Horticulturist

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### Notes and Comments.

THE AMERICAN POMOLOGICAL SOCIETY held a reunion here in Chicago in the Art Palace, lake front, on Wednesday evening, the 17th inst. Owing to the great World's Columbian Exposition, it was decided to postpone the meeting one year, and then accept an invitation which has been received from San Francisco.

THE POMOLOGICAL SECTION of the World's Congress Auxiliary met the same evening, and listened to able addresses from Mr. G. B. Brackett, of Iowa; T. P. Lyon, of Michigan; and Geo. T. Snow, of New York State.

RED ASTRACHAN IN CHICAGO.—Were it not for the duty of seventy-five cents per barrel, it might pay Canadian growers to send some of their summer apples to Chicago. The Red Astrachan is worth \$3 and \$4 here (Aug. 8th); and Canadian stock seems to have the precedence here

PAMPAS GRASS FOR DECORATION.—Mrs. H. W. R. Strong, of Whittier, Los Angeles Co., California, is a lady of wealth and enterprise. She has a large ranch on which she makes the growth of pampas a prominent industry, and this beautiful pampas palace is a specimen of pampas decoration. The rugs on the floor, the panelling on the ceiling, the lattice work of the windows, even the tea kettle hanging in the fireplace, are all made of this king among grass. In England it is much in demand for decorative work, 30,000 plumes per annum being the present rate of the export, and this is rapidly increasing.

VISITORS TO THE CANADIAN COURTS all seem to unite in one voice that Canada is doing herself great credit before the world with her exhibits. Great

Britain is not so prominent as she should be, especially considering the fine showing made by France and Germany; but Canada stands out quite at the front. Mr. J. J. Long, President of the Board of Trade of Collingwood, called to-day; he said, "I am much pleased with the exhibits of Canada throughout, and I think the fruits we grow—notably our apples and peaches—compare favorably with any others; and are only excelled by California."

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TRADE BETWEEN BELGIUM AND CANADA.—On the 27th inst., Mr. A. J. Shoenfeld, of Antwerp, called at our office at the World's Fair. His object in interviewing the Dominion Superintendents was to learn what prospect there might be for Belgian settlers in Canada, and what articles might be interchangeable between the two countries. He believes that Belgium could use a large quantity of Canadian apples, both in fresh state and evaporated; also canned goods, especially tomatoes, sugar corn, and pickled onions. He also thought that the best brands of Canadian flour might find a market in Belgium.

On the other hand, Belgium could furnish Canada such products as linen, glass and marble. The following are the names of two houses in Antwerp with whom business might be opened experimentally, viz., Louis Strauss & Co., 120 Boulevard Leopold, and Jacob Shoenfeld, 10 Rue de Nerviens, Antwerp, Belgium.

Further information may be obtained by communicating through Mr. Arthur J. Shoenfeld, 2221 Calumet Ave., Chicago, Ill.

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CANADA'S WINE EXHIBIT, which forms the third Court under the charge of the editor of this Journal, is shown to good advantage by means of a unique and artistic trophy. Many foreigners, interested in viticulture and wine-making, express their surprise that we can ripen vine grapes in Canada, and on testing the quality of the wine, testify to its good qualities. The last caller was Mr. Victor Latorez, of Wartburg, Tennessee. He said he was not surprised that we should produce good wine, for the farther north a wine grape would ripen, the better the quality of the wine made from it. He was himself planting vineyards in higher altitudes than formerly in order to get similar results.

He advised Canadian wine makers to try Jaegars 70, a variety originating with Hermann Jaegar, in Maryland, a cross between the Post Oak and a Rupes-tre's, and maturing before Norton's Virginia; also the *Old Hundred*, a new variety originating with the Roanoke Nursery Co., Salem, Virginia, both excellent wine grapes.

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To ripen the Isabella grape before frosts, clean up the ground and let the sun pour in and dry and heat it. One of my vines which has not ripened any fruit for years is doing nicely under this fall treatment. To clip off part off the leaves is also recommended.—A. C. WEST.

## THE BRITISH APPLE MARKET.

## LIVERPOOL.

STR.—We beg to hand you the annexed annual report of the apple crop in the United Kingdom for 1893. The early promise of an abundant crop has, up to the present, been realized, and should the weather continue favorable during the next two months the quantity will be the largest for many years past. Out of 270 reports obtained this year, 79 are over average, 134 are average, and 57 are under average, and prospects are best in the most important districts.

The import from America and Canada last season was 1,203,538, as against 1,450,335 in 1891-92, which was the largest on record. The experience of the past season has been anything but satisfactory, the bulk of the Canadian crop was secured by a few operators, who must have lost heavily, and the season from beginning to end has been one of disappointments. The crop generally was of poor quality, size, and color, the exact reverse of the previous year, which was the finest in quality and condition ever received, and no doubt this, in conjunction with badness of trade, had much to do with the unsatisfactory results. The prospects for the coming season cannot be considered brilliant; the depression in trade still continues, and there is no indication of any immediate improvement. Should the English apple crop be all safely harvested, it will be ample to supply the demand during the early part of the season, and, consequently, none will be wanted from America and Canada before good, well-matured winter stock can be shipped, at which period the English crop (which is fully one month earlier than usual) is mostly disposed of, an insignificant quantity only being of keeping quality.

The total imports to Great Britain during the past season, from United States, Canada, and Nova Scotia, were as follows: Liverpool, 799,000 barrels; other ports, 405,000; total, 1,204,000. Against same period 1891-92, 1,450,000 barrels; 1890-91, 451,000; 1889-90, 650,000; 1888-89, 1,435,000; 1887-88, 629,000.

Yours truly,

WOODALL & Co.

Liverpool, July, 1893.

With the approach of another season, we desire to place before our friends the following information regarding home and continental crops, also what appears to us the probable prospects for American and Canadian, as viewed in their present aspect.

ENGLAND.—Owing to the exceptionally fine weather, the trees have borne remarkably well, and, after allowing for the falling off of many apples through the prolonged drought, the crop is more than an average one, while on all hands the quality of the fruit is said to be good. The Gardeners' Chronicle of this date publishes reports received from correspondents residing in the principal growing districts throughout the country, and, summarizing them, we find whereas fifty-three record an "under average" yield, sixty-nine give the crop in their respective localities as being "over," and one hundred and twenty-seven fully up to the average.

CONTINENT.—Climatic conditions have been equally favorable there as with us, and reports to hand show good crops all around. France has a very plentiful supply, and will undoubtedly send us large quantities, while Belgium and Germany are not much behind, their crops being estimated as of a good average. From Portugal we have been getting large quantities for the past month, and although prices now ruling are very low, it is not likely that supplies will be totally stopped, even from this source, for some little time to come.

Altogether, it will be clearly seen that for the next two months or so our wants will be fully supplied from the above-named sources, without any Falls from your side, though, after the unfortunate experiences of last year, we doubt if many would, under any circumstances, feel disposed to risk sending any forward. Should, however, an outlet be wanted for some of this class, we advise the sending of *colored varieties* only, as while not wishing in any way to mislead, it is just possible some few may do fairly well, owing to the preponderance of green among own and continental varieties. Of course, if any of these are sent forward, particular care should be given to the grading and packing, with a view to their reaching us in good order, as we feel sure if shippers had attended to this more last season, results of their earlier shipments would have proved more satisfactory to them.

About *Winters*, we feel we cannot say much, not knowing what the crop is likely to be, but if the quality is good, and quantity not over large, we shall be disappointed if a fairly good demand is not experienced. It will be remembered that the depression in trade spoiled the market completely last season, and it must be admitted that things now are not by any means so bright as they might be, a strike of most serious import being now imminent among colliers. At any rate, prospects do not favor extreme prices, and it is to be hoped dealers will not be induced to pay too much in the orchard, as was the case last season.

Liverpool, Eng., July 22nd, 1893.

JAS. ADAM, SON & CO.

SIRs,—It is our custom to annually ascertain as correctly as possible the prospects presented by the apple crops of the United Kingdom. We do this in the belief that such information may be useful to our friends, who intend shipping American and Canadian apples during the coming season.

We are led to expect a home crop much superior in extent and quality to recent seasons. This fact is likely to be unfavorable to shipments of the inferior descriptions of Canadian and American apples, but it is fair to mention that the very advanced state of the home crops will most likely throw the bulk of supplies earlier than usual for consumption on the markets, and consequently foreign supplies, which arrive later, will not have to compete with the full weight of the crop.

As regards the *superior qualities* of the winter stock of Canadian apples, we do not hesitate to expect a good demand.

We repeat our warning of last year that *very small and common qualities* are not likely to result favorably to shippers, and are better left alone. This, in face of plenty of English apples, is more than ever likely to prove wise advice.

At foot we give you the names of our representatives at the three principal shipping ports, who will be pleased at any time to give you information respecting freights, state of the English markets, etc., as we are in constant cable communication with them.

Yours truly,

Liverpool, 29th July, 1893.

J. C. HOUGHTON & Co.

## LONDON.

SIR,—The time having now arrived when those interested in apple shipments from America, Canada, and Nova Scotia, should be able to form some idea as to the probable amount of business with Great Britain during the coming season, I submit for your information a digest of reports to hand as to the condition of the apple crop here, as well as on the Continent.

The almost phenomenal early summer, with continuous fine weather since the month of March, has had a remarkable effect on our fruit, as well as other farm crops, and in the result our season is from four to six weeks earlier than usual. The continuance of the drought such a long period has not had such dire results as might have been anticipated, and with the exception that there is a large percentage of apples falling from the trees, our crop will be more than an average one for early sorts. Later kinds have suffered most from the drought during the setting period, and fallings continue to be heavy.

GREAT BRITAIN.—The reports received from the Counties, from which London derives its principal supplies, may be summarized as follows: That the early apple crop will be more than an average, and the condition of the fruit generally very good. Later sorts may improve, but this will largely depend on the weather; present appearances are favorable for an average yield, provided fallings do not continue so heavy. The Western and Midland Counties report heavy early crop, but lighter yield of the later sorts; condition of fruit trees not very healthy, stated to look "scrumpy" for want of moisture; and in a few important districts the red spider and other insects have attacked the orchards to some extent.

HOLLAND AND BELGIUM.—Reports indicate a full crop of the early sorts; but some of the later kinds do not show so healthy; owing, no doubt, to the early drought.

GERMANY.—The apple crop here will not be so good as was originally expected, fallings being exceptionally heavy; the dry period during setting time has had a worse effect on the fruit trees than in neighboring countries. There has, however, been some rain lately, which may modify present anticipations.

FRANCE.—The long drought has caused a large proportion of the fruit to fall, and the apple crop, which originally promised to be abundant, will only be a medium one. This refers to all kinds. Renet de Canada will be ready by the end of this month, which, for this apple, is exceptionally early.

The conclusions to be derived from the above reports are: That the home crop will be abundant for supplying the wants of our markets during the early part of the season, and the later sorts, even with a loss from "fallings," will be sufficient to fully supply the demand for South of England until end of October. Shipments ought, therefore, not to commence till the end of October or beginning of November, when our markets should be open for choice samples.

*London, England, July, 1893.*

J. B. THOMAS.

## FRUIT PROSPECTS.

WATERFORD.—*Sir*,—The apple crop will be about ten per cent. of an average. The foliage is very fine; the fruit is likely to be large, and of fair sample. Pears, thirty per cent., and the trees almost free from blight; peaches, eighty per cent.; plums, forty per cent.; blackberries, one hundred per cent.—J. H. McMICAL.

MIDDLESEX COUNTY.—*Sir*,—Blackberries, grapes and plums are a heavy crop. Peaches good, but few grown in this district. Apples are light, and pears average, or rather heavy.—GEO. H. DIXON, *Hyle Park*.

VICTORIA COUNTY.—*Sir*,—Estimate of probable fruit crop for present season, on basis of 100 per cent. for average yield: Apples, 50; grapes, 100; pears, 30, and very much spotted; Plums, 100, not much curculio.—THOS. BEALL, *Lindsay, Ont.*

## Question Drawer. ❧

### Diseased Peaches.

581. *SIR*.—What is the cause, and the best cure for mildew on the peach, and what injury is done by it? I have quite a number of trees that the top seems to be affected with it. Would spraying with Bordeaux mixture, made just strong enough so as not to affect the foliage, be of benefit?

H. W. COTTE, *Salem, Oregon.*

*Reply by Prof. John Craig, Central Experimental Farm, Ottawa.*

Supposing the above disease to be "monilia," one of the commonest fungus enemies attacking the peach and the plum, the following course of treatment is recommended for trial: Spray as soon as the fruit sets with sulphate of copper, two ounces to 45 gallons of water; follow this with diluted Bordeaux mixture, to which Paris green has been added, for the purpose of checking attacks of the curculio. If rot develops late in the season, as sometimes is the case, just before the ripening of the fruit, spray again with sulphate of copper solution, or ammoniacal copper carbonate. No diseased fruit should be allowed to hang upon the tree, as it only serves to spread the malady.



## \* Open Letters. \*

### Report on Strawberries.

SIR.—The spring of 1893, was the most favorable for a good crop of the strawberry for many years past. No frost in the ground, the weather mild and warm, and rain sufficient to make strong healthy plants; the forerunner (weather being favorable) for a fairly good yield of berries.

The varieties that have done well here this season, are as follows:

Woolverton.—Notable for size of berry and productiveness and long bearing with no small berries.

Saunders compares favorably with Bubach in size and productiveness. A deep red color is good in this respect. I think it excels Bubach.

Bubach still maintains its reputation as a market berry, although its quality is none of the best.

Haverland is another of those early berries that take the eye, if it is a light red; it is a good home market kind, so is Lovett, Warfield, Barton's Eclipse, Princess and Shuster's Gem.

Some of the newer varieties have done well here and are worthy of trial among strawberry men generally, and are an acquisition to the strawberry plot that will drive the number of small berries now offered for sale out of the market.

The new varieties I have fruited this season are large—Beverly—the plant is healthy, making many crowns; fruit large and good color, late in ripening, and a long time in bearing, giving berries to the last of the season.

Iowa Beauty—The berry is perfect in form and shape; it ought to have a place in every garden; it reminds one of the old Jucunda, also Beebe, Dayton, Muskingum and Regina.

Arkansas Traveller—Tall and vigorous vines, fairly prolific, berries medium size, medium to late in ripening. I can see no difference between it and Judsonia.

Van de man—I like both plant and berry, which is a medium size, with prominent golden seed, fairly prolific, flavor none of the best. I have been disappointed in it from the reports of many experimental stations about it.

I have added several varieties to my testing plot this spring, namely: Timbrell, Leader, Gen. Putnam, Ona, Oscar, Ostego, Robinson, Edward's Favorite, Chesapeake, Topeka, Stewart, Californian, Cowan, Idaho, Miller's Seedling, Chou's Favorite, Oregon, Everbearing, Alpine Seedling, with seven seedlings and the R. N. Yorker's great seedling—the Brandywine—these eight are under restrictions.

JOHN LITTLE, *Granton, Ont.*

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### Potash for Peaches, Orchards, Gardens.

SIR,—I am a great believer in potash for fruit trees. There may be no cure for Yellows, Black-knot, etc., but there is no doubt a strong healthy tree or plant can resist and throw off disease better than one run down, weak and sickly, one that has been bled to death for season after season. I advise potash in any form that it can be had, but for peaches, vines and small fruits I think the Muriate is best. Mr. D. Kerman, of Port Dalhousie, had some Muriate of Potash this spring to test. I enclose his letter which I shall be glad if you will publish for the benefit of our fruit growers. I am a great believer in testing and trying experiments. I don't think Mr. Kerman regrets his outlay for his experiment with potash this spring. We have such clever fruit growers in Ontario that it surprises me that they don't all test for themselves the different foods that they know the trees need—Nitrogen, Potash and Phosphoric Acid. Potash is very important, but to get the *very best* results Phosphoric Acid is needed as well. These two things should go on in the fall; though wonderful results have resulted to Mr. Kerman after putting potash on in the spring and summer. I also experimented this summer on some corn and asparagus in Toronto; the result is very marked. The corn is 12 to 18 inches higher and much stronger, and the asparagus much thicker and foliage much darker than the portion untreated with the potash. Nitrogen I should put on as early as possible in the spring. It is only by many experiments and often failures that we get at anything like perfection. I therefore strongly urge your readers to test these things for themselves.

ALFRED BOYD, *Toronto.*

**Mr. Kerman and Muriate of Potash.**

SIR.—The Muriate of Potash which I got of you in the spring has far exceeded anything I have seen in the way of fertilizers. The first thing I applied it to was my asparagus bed; the result was really astonishing. Owing to my being ill and confined to the house for some weeks about the end of May, I had a small block of peach trees which were omitted to be cultivated. I did not get round until the 10th of July, there were a large crop of fruit on them, but the trees looked very sickly and the leaves yellow. On the 13th of July I put on round the trees about 3 feet from the stem, 3 lbs. of Muriate of Potash per tree. The effect in even 10 days was extraordinary (they were Alexander peaches), and there were not near the rotten ones on those trees that there were on other trees that had not been dressed. I am very pleased you recommended it me, and cannot speak too highly of it. Should you at any time wish to make any use of this letter, you are at perfect liberty to do so.

29th Aug., 1893.

D. KERMAN, *Port Dalhousie.*

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\* Our Book Table. \*

BOOKS.

ANNUAL REPORT OF THE FARMERS' INSTITUTES of the Province of Ontario, 1892. President, Thos. Lloyd Jones, Burford; Secretary, A. H. Pettet, Grimsby.

REPORT OF THE POMOLOGIST for 1892, by H. E. Van Deman. Issued by the U. S. Department of Agriculture, Washington, D. C.

EXPERIMENTS WITH FERTILIZERS for the Prevention and Cure of Peach Yellows, 1889-92, by Erwin F. Smith, U. S. Department of Agriculture.

ANNUAL REPORT of the Maine State College Agricultural Experiment Station, Orono, Me., 1892, Part IV.

35TH ANNUAL REPORT of the State Horticultural Society of the State of Missouri, 1892. L. A. Goodman, Secretary, Westport, Mo.

SECOND REPORT of the Department of Agriculture of the Province of British Columbia, 1892.

ANNUAL REPORT of the Minnesota State Horticultural Society, 1892. Secretary, A. W. Latham, Excelsior, Minn.

CATALOGUES.

SUMMER AND AUTUMN, 1893. Catalogue of Strawberries, Holland Bulbs and Specialties, Ellwanger and Barry, Mount Hope Nurseries, Rochester, N. Y.

NO. 1 FRUITLAND NURSERIES, Augusta, Ga. P. J. Berckmans, Proprietor, Fruit and Ornamental Trees, Roses, etc., 1893.

CALENDER OF QUEEN'S COLLEGE AND UNIVERSITY, Kingston, Ont., for the year 1893-4.

ILLUSTRATED CATALOGUE AND PRICE LIST OF SILVERWARE, Imperial Silverware Co., Windsor, Ont.