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JULY, 1891.

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HORTICULTURIST.

A JOURNAL DEVOTED TO FRUITS, FLOWERS, AND VEGETABLES.
 EDITED BY L. WOOLVERTON, M.A.
 PUBLISHED BY

* THE FRUIT GROWERS ASSOCIATION OF ONTARIO *

Published at Toronto

* Office Address—Grimsby, Ont.

Price \$1.00 per annum (including Membership, Annual Report and Share in Plant Distribution).

Single Copy 10 cts.

ADVERTISING RATES

IN THE

CANADIAN HORTICULTURIST.

Published by the Fruit Growers' Association of Ontario, at \$1.00 a year; average circulation, 3,000 copies per month, among all the leading Fruit Growers and Gardeners of Ontario, and distributed to nearly 1,000 post offices.

Owing to the increasing circulation, and growing demand on its space, it is found necessary to advance the advertising rates, according to the following code, which will be strictly adhered to:

Single Insertion.....	10	Cents per line	Agate.*
Three Months.....	25	"	"
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No better medium can be found for introducing the English and Canadian Commission Merchants to the Canadian Fruit Growers.

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Secretary of the Ontario Fruit Growers' Association,
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Commission Merchants.

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Commission Merchant,
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My business is solely commission. The only plan which does justice to the consignor. I handle everything which the grower may have to send from home to sell. None of my own goods to sell in preference to yours when the market is good. Nothing between you and best prices obtainable except my commission. *For Prompt sales and quick returns.*

Established 1874. Telephone 868.

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 FRUIT AND GENERAL
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 25 Church Street, Toronto.

Consignments of Fruits and Produce solicited. Satisfaction guaranteed; advice of sales daily; returns made weekly. Our facilities for handling fruit are unequalled.

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CHAS. RICHARDSON, Importer.
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 58 and 60 WEST MARKET ST.,
 and 121 and 123 MICHIGAN ST.,
BUFFALO, N. Y.
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FRUIT & MERCHANTS
 AND
COMMISSION SALESMEN,
 Account Sales with cheque weekly, or as desired. Consignments of Choice Fruit (via Glasgow) solicited.
 REFERENCE—The National Bank of Scotland, High St., Edinburgh.
 Oct. 18t. Telegraphic Address—Wood, Edinburgh.

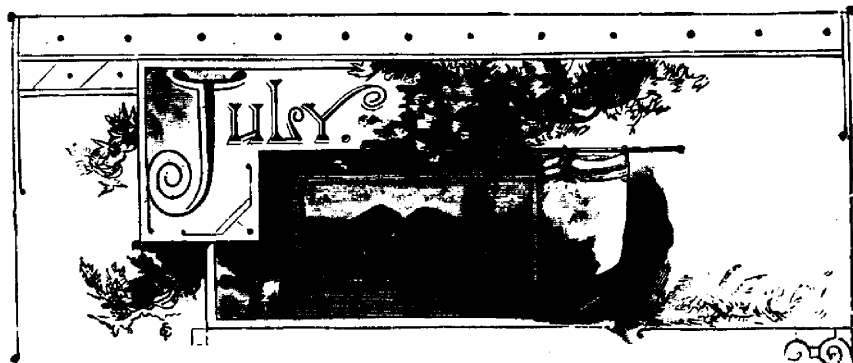


THE
Canadian Horticulturist.

VOL. XIV.

1891.

No. 7.



THE BRIGDEN PEACH.



OUR colored plate for this month introduces to our Canadian fruit growers a peach that was highly commended at the last meeting of the New York State Horticultural Society, but which, so far as we know, has not yet been grown by any one in Ontario.

This peach originated near Auburn, N.Y., with a Mr. Brigden, after whom it is named. An attempt has been made to name it the Garfield, after the late President, under the impression that a great name would give it greater acceptance, but such an attempt seem to us quite uncalled for. It would not only be an injustice to the originator, unless at his own request, but it is also unavailing to produce the desired results. Let a good fruit make its own name illustrious; and, should the novelty prove valueless, its failure will be the less conspicuous. Hundreds of young Americans have been named George Washington by their fond and aspiring mothers, and not one of them has proved, on this account, any more worthy of comparison with his great original. And among the fruits, how many Presidents, Kings, Queens and Governors have utterly failed to command the slightest homage, while the very commonplace Baldwins, Wilsons, Concords and Crawford's have risen to the very highest places among the world's fruit aristocracy, and their names and praises are in everybody's mouth.

The Brigden peach is said to have some points of especial merit; it resembles in appearance and in general characteristics that queen of peaches, the Early Crawford; in some points it quite surpasses it, for it is earlier, more productive, more uniform in size, and superior in quality.

THE FRUIT SEASON.



NCE more we are in the midst of our fruit harvest. The good results of the faithful application of fertilizers and of good cultivation will now be apparent, while it is too late to remedy, to any extent, the ill results of neglect. Hard work, persistent hard work, is the only road to success in our line, for it is the only way to produce fruit of a first-class character.

The great object now is to place the fruit we have upon the market in such a way as to bring the best possible returns. In our desire to make the most we can of our crop, there is great danger of pushing forward into the market much that would be better never shipped. There is no doubt that it would pay growers generally better to dump out on the manure heap all low grade stock, and expose for sale only the better class of fruit. All commission men agree that it is the inferior fruit which causes the gluts, and that first-class fruit will always bring good value, even in seasons of abundance.

The importance of a tidy package has often been emphasized by us, and little more need be said here on this point. We notice that the old fashioned 54-qt. berry crate is still in use in some sections, and some dealers, even in Toronto, go so far as to furnish their patrons with such crates, free of charge, in order to insure consignments; while at the same time these very dealers assure us that a 24-qt. gift crate is the most saleable. The reason is that it holds just about the quantity usually wanted in a family for preserving purposes; it is more easily handled, and so reaches the market with the fruit in better order; and, being a gift package, it is much more convenient to re-ship to outside country dealers. The accompanying Fig. 40, shows one of these crates; it is strong, convenient to handle, and withal quite economical, being supplied by almost any basket factory for about ten dollars a hundred. They are easily put together, so that, for those not near a factory, the best plan is to buy them in the flat, in which shape the freight is very little, and the first cost proportionally less; the nailing of them together will then be an easy job for rainy days. The same plan may be carried out with the berry baskets.

We notice in *Popular Gardening*, a basket nailing bench, illustrated as here given. It is thus described:

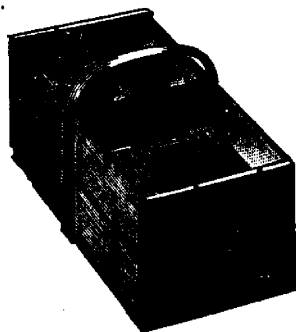


FIG. 40.—BERRY CRATE.

Upon a standard (*a*), which is a piece of scantling two and one-half feet long, another piece nine inches long (*b*) is mortised and bolted. An iron plate (*c*), one-quarter inch thick, screwed upon (*b*), serves a good purpose in clinching nails. The seat (*d*) is two and three-quarter feet long, and made of two-inch plank, a foot wide. This is mortised and bolted to (*a*), and has two legs at the back end, which are 18½ inches long. The holes through which they are inserted into the plank seat from below, should be bored nearly but not quite through. Upon the plank seat, next to the standard, is a little tin box made of an old oyster can, for receiving nails.

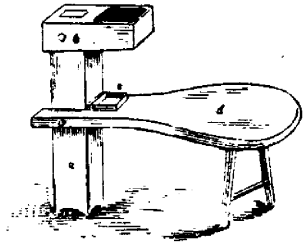


FIG. 41. BASKET NAILING BENCH.

In the same journal, we noticed some years ago a cut of a berry packing shed, slightly differing from the one given by us on page 150, volume XII. This one is rendered portable by two runners, so that it may be easily removed from one patch to another. It should be made of seven-eighths inch planed lumber and painted externally. The engraving (Fig. 42) will sufficiently explain its construction.

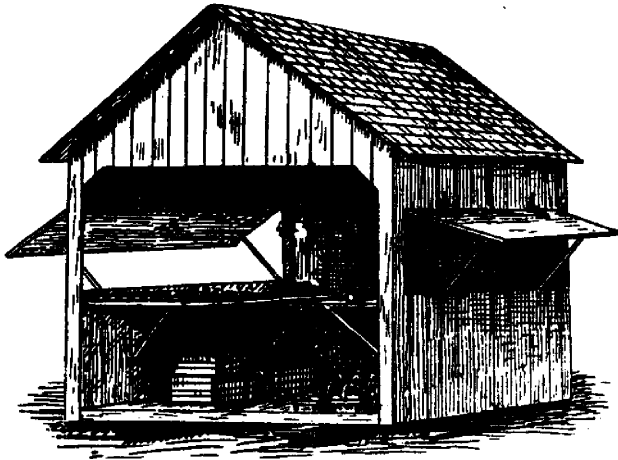


FIG. 42.—BERRY PACKING SHED.

For currants, cherries, early apples, early pears, peaches and plums, no package is so popular in Ontario as the 12 quart handle basket. It has been growing in favor for years, and has now wholly displaced the American round peck and half-bushel baskets, kinds which, it is true, had the advantage of easy nesting for return to the shipper, but since these can be purchased at three or four dollars a hundred, their safe return is not a matter of so very great importance.

The chief complaint with the twelve quart basket has been the jamming of the fruit, which results from the piling of the full baskets upon one another on board the trains; but this has been obviated by a new cover, shown in Fig. 44, which is quickly attached, costs little more than the simple leno, and is a perfect protection to the fruit within. We say this after having given it a season's trial. The same cover has also been provided for the various sized grape baskets, and it makes the neatest and tidiest package imaginable.

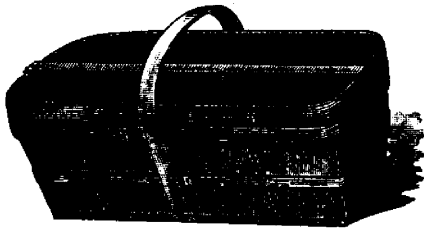


FIG. 43.—12 QUART BASKET.



FIG. 44.—GRAPE BASKET.

A sensible warning to shippers is contained in a circular just to hand from a prominent commission house. It is "Avoid shipping on holidays." The reason is that they are poor market days, and, as a rule, arrivals on such days have to be cleared out to pedlars at ridiculously low prices. Many growers make a mistake in this very particular, thinking that holidays must be the best of all days for the sale of fruit; therefore this warning comes quite opportune.

CULTIVATE MORE DAHLIAS.—While reading recent articles on the dahlia, the thought occurred to me why do sensible people neglect this, one of the most popular flowers? There are very few people who do not cultivate more or less flowers; but the majority, if they grow any dahlias at all, have the common red and white ones, which the lover of this beautiful flower would not give garden space. The dahlia, like all other choice flowers, needs generous care and treatment, but even when neglected it often becomes the queen of the garden. It is no more trouble to raise choice flowers than common ones, and the same soil will answer for both. My dahlia collection now comprises 45 distinct varieties, and my garden room is very limited, but the space I devote to dahlias is the choicest in the garden. Among my choicest varieties are the following: Prof. Fawcett, Goldfinch, Mrs. Stancourt, Oriole, Jewel of Austerlitz, Floral Park, Jewel, Sapho, Startler, Magnet, Snowdrift, White Dove, Guiding Star, Leila, Lady Arlington, Lucy Fawcett, Electric, Margaret Bruant, Fanny Purchase, and others. Many hundred distinct varieties exist, and are catalogued every year, but those who are unacquainted with the different habits and colorings of this flower cannot fail to be more than pleased by planting the above-named varieties.—H. C. TOWNSEND in *Popular Gardening*.

SMALL FRUITS.

STRAWBERRIES.



BIG strawberry will always sell, however glutted the market may be ; and at an advanced price. What you want above all things is a quick sale. Time is worth money, and in the picking season it is worth a great deal of money. Then for picking you see that you can get along with half the pickers if your berries average double size. I have picked a great many quarts that did not take over thirty berries ; and I have seen quarts that held a great deal nearer one hundred, and perhaps more, fair berries.

There is always more risk of mashing or mussing when the berries are small. My large berries go as quick as I can furnish them ; and ten times as many if I had them. "No," answered our merchant, "I dont want any more strawberries ; but if you have any of those small pumpkins I want some ; half a dozen crates if possible."

The Sharpless revolutionized our notions about a good-sized berry. It is one of the very best yet. Ontario I have tried to think is a different berry, but to all purposes it is the same. It may be a seedling closely resembling the parent. Haverland is another of the very large berries and a very great cropper, too. Bubach No. 5 is quite as good, and, in flavor, better. Crawford is another splendid berry, and Lida also, so far as I can judge from a poor test of it.

Of berries not quite as large, I select Cumberland, Manchester, Pearl, Eureka, as very fine. I believe one of the best of the new ones of very large size is Saunders, and I shall also give Tippecanoe, Parker Earle and Middlefield a full trial.

It does not pay us to try a very large number of berries unless we care more for experiment than for profit ; as I confess I have always done. Even then the reports sent out by Crawford, Thompson, and some others, are so reliable that we can leave them to sift the list very greatly. There really is, however, so much good education from intelligent, careful tests, that I recommend every planter to have his trial plot or trial garden.

Here, besides strawberries should be a fair assortment of new raspberries, grapes, etc., before large fields are planted with them, only perhaps to prove a total loss. I have hastily planted such strawberries as Itaska, Bourbon, Vick, Belmont, May King, Ohio, etc., and had to lose the ground for two years and waste work on them.

I believe that if any one does not care to experiment, but wishes a field of superb reliable berries, and no mistake, that he cannot do better than plant Bubach No. 5 and Haverland with Sharpless and Saunders for bi-sexual sorts to

fertilize the field. Say one row of bi-sexual to one of pistillate. Lida might be added to the first list and Crawford to the second.

I do not know what simpleton it was who started the advice never to stir a strawberry bed until after the picking season, to let the weeds grow till then and after that hoe in. I followed the advice long enough to ruin my beds, wear out my comfort and spoil all the fun of growing berries. Now I keep the weeds out all the time.

A friend, in looking over my beds early in April, said, "But when will you take off the covering?" I answered him, "Never, that covering is all right in winter for protection, and in summer for mulching." I obtain horse manure from a neighboring stable and thinly cover the whole ground in November. If this is not procurable, I obtain sawdust and cover thinly as with manure. This is admirable protection, as strawberries do not need to be entirely covered.

In the spring the hens work this over, collecting all hiding worms and bugs. I do not disturb it further except in cultivating. The hens work in a part, the rest lies about loose and dry, and entirely innocuous of odor. It is, in fact, as clean as straw. It enriches the bed and saves a vast amount of work uncovering beds. Of course, if one cannot get manure free from seeds it will be better to use sawdust. That which I use is badly burned and the value much lessened for a fertilizer; but is all the better for cover and mulch.

I have never seen any market over-stocked with fine fruit, especially with berries. It frequently happens that inferior sorts are sold and customers made shy. In the grape season this is a serious injury to the market. No one should sell a Champion grape. I do not think much better of a Wilson strawberry. It will never teach people to crave more berries. It will not educate taste. People will buy it for a while and then get "tired of strawberries." But let them get hold of Bubach or Cumberland and see. It pays in the long run to grow the best and only the best.

BLACKBERRIES.

I have tried with some impatience a large number of blackberries. Wilson was tender, and Wilson, Jr. worse, so tender in fact that no fruit was sure after a good covering. Lawton is tender and sour. Kittatinny firm, but so tender that fruit could be counted only one year out of three. These I dug out with great labor, and what is the worst of such experiments you will see the last of a blackberry patch after ten years. Then I tried Wachussetts and Snyder. The first of them is all in all of no value. It is not thornless; it is small and so easily affected by dry weather as to be very small indeed.

The Snyder, if in rich low land, does nobly, but is really not a first-class fruit. It is hardy as an elm. I suppose, when I say low land, I must qualify by saying I live on a hill side. Blackberries are easily affected by drought, and so with me they are planted in my moist but not wet swale. I still hold on to Snyder.

The next to be tried were Taylor and Agawam. These two are every way satisfactory. They are not very large berries but are fair-sized, and very prolific. They are also of delicious quality. I do not care to decide between them.

Erie has not given us fruit enough to pay. It is not entirely hardy; and yet is a very large and good berry, very round in form. Minnewaski comes out this spring badly killed back. I hoped it would be all right. Till further sorts are proven to be better, I shall plant Taylor and Agawam, and not give up Snyder.

Do not go very heavily into blackberries, as it is now quite a rage to plant them. The policy with small fruits is to divide your work between strawberries, raspberries, currants, blackberries and grapes. Then you can stand the loss of one or two sorts for a year or more. Something fails to be remunerative each year, but something always pays.

I find the blackberry a very popular home fruit. It is relished by the young in marmalade, jelly and canned, above almost all fruits. It is also very wholesome. After sour cherries and currants I prefer all the blackberries I can eat. If you do not choose to grow them for market, select a clean, cool corner for a row of Agawam and Taylor for home use.

The Lucretia Dewberry I like very much as a fruit. It is large, early, and delicious; but I am obliged at last to give it up, as being not worth the immense trouble it causes. It is not hardy and it is a sprawler of the worst kind. If quite hardy, however, we could afford to spend on it a good deal of time and care.—E. P. POWELL, in *Popular Gardening*.

PEGGING DOWN ROSES.—This is another way of making our gardens more interesting, and may well be done in the case of all vigorous growing roses. Beds, borders, or groups of roses so treated are among the most delightful things in a garden. If the long shoots of the last season's growth are pegged down to the ground they will flower their whole length; whereas, if left standing, only the upper buds will break, and if pruned hard back, beauty is literally and needlessly sacrificed. A strong shoot is usually thrown up from the base of the one pegged down, so that when pruning time comes, the operation here is simply to cut away the old shoot and peg down the new one, and so on year after year. One season of growth, another of flower, and then the shoot is cut away; thus the roses are ever being rejuvenated, and the youthful vigor brings abundance of bloom.

A bed of moss roses treated in this way has certainly been one of the prettiest things I have seen this summer. But all roses that make a vigorous annual shoot can be similarly treated. Gloire de Dijon, Boquet d' Or, Reeve d' Or, Madame Berard, and others of this class, often make shoots six or eight feet long in one year, and what could be more beautiful than to see them bearing flowers their whole length?—*Vick's Magazine*.

MISTAKES IN PACKING.



It is not too much to say that perhaps not one-third of the farmers of this State who pack their own apples, use the legal (flou r) size of barrel. Let us see how it pays. The apple crop of 1889 was a large one, probably larger than in any other State, and proved to be the financial salvation of Michigan farmers. It was also one of the very best years to learn facts regarding the trade. During that summer and fall, I made it a point to learn, as nearly as possible, what the difference in price was between the full standard barrel and the "snide," in Chicago. I found the range of prices for the season to be \$1.25 to \$3.50 per barrel, and by inquiring at different times, and of a number of dealers, I found that the amount of difference in fruit amounted to a little less than one-half a bushel, and the difference in the selling price was from 50c. to 75c. per barrel, or an average of 60c. per barrel, after paying a slightly increased cost on the barrel. Or, in short, the Michigan grower received \$1.20 per bushel for all the extra apples required to pack full standard barrels. And further, it is the large barrel that sells promptly, while the small barrel often suffers loss, in the case of a glut, by rotting down. This makes the difference still larger. The shippers in the city are the largest and best buyers, and they always want a large barrel with ten hoops, and are willing to pay for it.

The same rule applies to the whole line of small fruits, as the case in common use is supposed to hold 16 quarts, but in reality holds only 14 to 14½ quarts. We frequently hear men state that they do not represent them as quarts, but only as 16 boxes. Such statements are unworthy and suspicious, and we would expect the same man to ease his conscience from any little dishonorable act by the plea that he had not promised not to do it. Our package manufacturers come in for a share of the blame, as they have, to a certain extent, added in the deception by manufacturing the "snide" package. They will say that they can not control the people's wishes in the matter, and they are in the business to make anything the people want. This is, to a certain extent, true, but the best information we can get is to the effect that nearly every change in the size or style of package is first made by the manufacturer, and offered for our adoption, even without a demand, and we all know they are constantly making changes in the style and form of packages; and one idea seems to run through all the work, and that is to make them a little scant measure, and the majority of our farmers seem to think that a barrel is a barrel, even if it is not more than two-thirds grown, and the same with a quart box.

Appeals have been made time and again to the honesty and good sense of our growers to discontinue the use of such packages, and the practice of "stuffing," or dishonest packing, but so far it has accomplished but little. It pays to

be honest in fruit growing and packing, for the slightest trickery is detected instantly by the shrewd buyer, and he promptly knocks off enough from the price to protect himself, and the grower has to stand it.—R. MORRILL, *before West Michigan Fruit Growers.*

CARE OF THE VINEYARD.



As the weather becomes warm, vines will grow very fast and should be tied up and pinched back promptly, or they will soon become a confused and unmanageable mass.

The most vigorous canes, those that start near the lower wire, should be selected for fruiting canes next season, and pinched off at about twenty inches in length. These canes will then throw out new shoots or laterals, which will be shorter-jointed and better than if not pinched at all. They should be tied up carefully to the upper part of the trellis and allowed to grow unchecked. All suckers and feeble fruiting shoots should be removed to give more vigor to those remaining, and so produce larger and better bunches. Strong, rampant shoots that are bearing should be pinched off beyond the last bunch of fruit. Very weak shoots do not require pinching back at any time. The remedy for such is short spring pruning.

If vines have been properly pruned and trained, more fruit will be set than should be permitted to mature, therefore all imperfect and small bunches should be removed and this will improve what is left and give finer fruit. Never allow vines to overbear, as this is the main cause of grape failure. Vines that once overbear, will not soon, if ever, recover. It is an old and true maxim that haste makes waste.

Cultivate and keep the vineyard clear from weeds by frequent plowing and hoeing. No fruit suffers so much from neglect as the grape, and none rewards so bountifully for extra care and cultivation. In fact fine grapes of high quality can only be raised on a suitable location with high cultivation. The difference in location on similar soil not two miles apart often amounts to 25 per cent. difference in the quantity of sugar the grape contains, which is the standard of excellency. No other fruit shows this great difference; and this is the reason so few succeed in growing fine grapes.—*Orchard and Garden.*

VALUE OF MUCK.—Every owner of a swamp should realize the fact that a ton of the air-dried muck may be worth from three to five dollars for its fertilizing value, as estimated for its nitrogen alone and as compared with the same element in artificial fertilizers. Those who have used it as a litter in stables have found each ton of it to double the value of the manure. Thus it becomes to the owner worth precisely as much as the manure.—*Southern Floral Magazine.*

MANAGEMENT OF HARDY GRAPE VINES.



THE summer management of hardy grape vines includes planting, pruning and trellising, cultivation, picking, packing and marketing, together with several items of occasional work, as fertilizing, destroying injurious insects, warding off fungus diseases, etc.

The introduction of the Concord grape, the invention of the Climax basket, the ability to ship to distant markets, in full car lots, at low rates and with quick time, have made grapes our leading, most reliable and by far the most remunerative farm crop.

QUALITY FIRST.—Will the business be overdone? is the universal question. We believe the answer to that question hinges on the one point of quality. We shall not fail for want of consumers. Sixty-five millions of people make a tolerably large market. The externals of good quality are easily named. When a 9-lb. basket of Chautauqua ConCORDS reaches St. Louis, Minneapolis or Denver, it should be of full weight, of which $1\frac{1}{4}$ lbs. are the weight of the basket and $7\frac{3}{4}$ lbs. the fruit. The basket should be dry, clean and of neat appearance. The covers, preferably of white Basswood, should be of sound timber, free from holes, knots or decayed spots. The grapes neither too green, nor too ripe, should be free from crushed, mouldy or imperfect berries, and the clusters have just enough stems to handle with. Plainly stenciled on the cover should be the name of the grower, and the brand or trade mark of the Association. Accompanying each basket with these words: "These grapes are warranted of No. 1 quality. If not found as represented, will the consumer please report to the dealer from whom bought."

So much for the externals. The real quality, however, lies beneath the surface. The best grades have the clusters full, compact, handsome, highly colored, the berries large, plump and meaty to the taste, with a fresh, sprightly, vinous flavor. Soil, climate and cultivation unite to secure this perfect result. Fine quality is secured in the vineyard, or it is never secured. Failure there is failure all the way through.

The grape vine is the child of the sun. The wild vine climbs to the top of the tallest tree that it may bathe its foliage in the upper sunlight and air. Abundant light, air and cultivation. In that trio you have the secret of health and vigor for the vine and the highest quality for the fruit.

The baneful effect of weeds are two-fold, diminution of quantity and deterioration of quality. If you have the weeds and thistles up even with the top wire of the trellis, you will get none but second quality of fruit.

PLANTING AND PRUNING.—We use good, one-year-old number one vines, grown from heavy, well-ripened cuttings, in rich soil, in the open air. The rows are nine feet apart, and vines eight, nine and ten feet apart in the row.

Insufficient pruning means over production, and overproduction means poor quality. At the close of the season one acre of good Concord vineyard, in rough numbers, will have 150,000 buds on the new wood. The capacity of the soil will, we will say, mature five tons. This requires 25,000 buds, or one-sixth of the whole. So you see our vineyard is loaded up with buds enough for 30 tons. It will only carry five. Hence we must prune away five-sixths of the bearing wood. If we have too much, the soil is taxed beyond its capacity, and the result is a lot of second quality and refuse grapes. The amount of bearing wood left in pruning varies with different varieties. With Concord leave five canes of nine buds each, with Delaware, leave three, and Catawaba only two. Prune and train to secure the fullest and most even distribution of fruit. Because it more perfectly enables you to do this, a three-wire trellis is better than two, and four wire better than three.

CULTIVATION.—This extends from May 15 to August 15. In large vineyards the best tool is the two horse riding cultivator. Cultivate about twice in three weeks, or eight times during the season, each time of uniform depth, and don't be afraid to go down four or five inches. Vineyards thus cared for maintain throughout their dark, glossy green, and are as a rule absolutely drought proof.

HARVESTING.—Have all your baskets on hand and good help engaged before the first cluster ripens. Picking and packing grapes is the most healthful and delightful out-door and in-door work known to this latitude. Invalids forget their ailments, the weak become strong, the lean grow fat. Women are the best help. Their gentle touch just suits the need in handling a fruit exceedingly susceptible to injury.

REFUSE GRAPES.—What shall we do with them? Don't have any. It don't pay to raise grapes for vinegar. Refuse grapes comes from two sources, first from over-production, which calls for closer pruning; second, from bringing into the vineyard the manners and roughness of the coal yard, or from careless handling when first picked. Of course in the last half of the season there will daily accumulate some cracked berries, say about one pound in one-hundred. But if in 20 tons you have over 200 pounds of cracked or refuse grapes, or one-half of one per cent., you are not up with the practice of the best vineyardists.—S. S. GRISSEY, before *New York State Farmers' Institute*.

SALSIFY, or vegetable oyster, is a neglected vegetable; is as easily grown as parsnips and should be in every garden. There are many months in every year that have no "r" in them, and our Puritan or some other ancestors have long since prohibited the use of real oysters in those months. I have never known a family that some member did not wish oysters were good the year round, and salsify comes in to fill the place. It is easily prepared for the table and universally liked by the people.—*N. E. Farmer*.

GOOSEBERRY MILDEW—HOW PREVENTED.



HIS fungus has for the past three years been successfully combated. At the N. Y. Agricultural Experiment Station, Geneva, fine crops of this fruit have been grown entirely free from mildew. The success has been so marked as to attract the attention of a number of leading fruit growers, and this station is in frequent receipt of inquiries in regard to the application made.

The practice at this station is to begin spraying so soon as the young leaves unfold, and continue the sprayings at intervals of from eighteen to twenty days. In case of frequent, heavy rains, it will be necessary to spray more often. The fungicide used is potassium sulphide; liver of sulphur. Formula: one-half ounce dissolved in one gallon of water. If hot water is used the sulphide will dissolve more readily. As commercial liver of sulphur costs but little, from fifteen to twenty cents per pound, and one gallon will spray ten or twelve large bushes, if applied with a force pump and spraying nozzle, it will be seen that the largest cost will be that of labor. If spraying is done with a syringe on a small number of plants, the amount of liquid necessary will be increased, of course, but, however lavish one is with the solution, the beneficial results will more than compensate for the outlay. The few fruit growers who continue to grow gooseberries claim that they are one of their most remunerative crops, as the markets are almost always destitute of them, and buyers are willing to pay almost any price for bright, clean fruit. To test the matter of prices for superior fruit, a five pound basket of several varieties was picked at fruiting time last year and taken to a leading grocer of Geneva, who sold them as follows: the basket containing the large varieties bringing fifty cents, those containing the medium and small varieties bringing forty cents. The grocer stated that he could dispose of a large quantity at those prices. The average yield of three-year-old plants was over five pounds per plant, and as by setting plants four by four feet, two thousand seven hundred and twenty-two (2,722) can be grown on an acre, the results would have been a yield of thirteen thousand six hundred and ten (13,610) pounds; which, if sold at twenty-five cents a basket, would have brought the sum of six hundred and eighty-five dollars. Surely there is money in gooseberries when taken care of and kept free from mildew. In conclusion, it may be well to say that it is often claimed for certain new varieties, that they are mildew proof; but experience goes to show that, while some varieties are better able to resist the attacks of the mildew, sooner or later they will become afflicted as badly as older sorts.—*New York Agricultural Experiment Station, Geneva, N. Y., May 1, 1891.*

To FREE STRAWBERRIES from sand, in a way less injurious to their fragrance and delicacy than washing, it is recommended to gently shake them in a piece of damp muslin. The sand will remain attached to the muslin.

THE ROBIN, THE ORIOLE AND THE CROW.



AT the meeting of the Massachusetts Horticultural Society, Mr. Thos. C. Marlow, of West Newbury, read an interesting paper on "The Protection of our Native Birds." Speaking of our familiar birds, he said :

The idea prevails widely, that our more familiar birds do more harm by eating small fruits, than they do good by destroying insects. The writer had met at a "Fruit Growers' Convention," men who were apparently intelligent and observing, who declared that the robin was "a thief and deserved extermination." It is true that a flock of birds will quickly despoil the crop of a single tree of a favorite fruit, but the large grower of small fruits who does it for profit, while offering a larger temptation, counts his loss in this way as trifling. Mr. Samuels, in his "Birds of New England," says, "the prejudice against the robin is unjust and unfounded." Professor Treadwell, of Cambridge, say, "The food of the robin while with us consists principally of worms, various insects, their larvæ and eggs, and a few cherries ; of worms and cherries they can procure but few, and during a short period. Therefore they are obliged to subsist principally on canker worms, some kinds of caterpillars and bugs." Wilson Flagg writes, "I am now fully persuaded that the robin is valuable beyond all other species of birds ; that his services are absolutely indispensable to the farmers of New England. The truth is, the robin is almost exclusively insectivorous, using fruit as we do, only as a dessert, and consumes probably a greater variety of species of insects than does any other bird."

This prejudice extends—although in less degree—to many other insect-eating birds, besides the robin. The oriole is accused of eating green peas ; the cat-bird and thrush are known to have eaten raspberries, and some farmers shoot the red-winged black-bird, and hire boys to break up their nests because, as they say, they have been caught in the act of pulling up corn. But alas for the poor bobolink ! It has been positively asserted that these birds would destroy the whole rice crop of the South, unless active measures were taken for their destruction. That large flocks of these birds hover over the rice fields and often light down upon them, is no doubt true, but the writer believed the amount of damage done by them was greatly exaggerated. He would kindly suggest to the rice growers that this matter be carefully examined, and furthermore, to find if the damage by the increasing host of insects was not far in excess of that done by the birds. He feared that if something is not speedily done to prevent the wholesale destruction of this and some other species of birds they will become extinct in a few years.

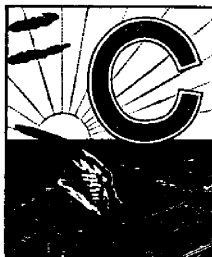
Among the enemies of our small, insect-eating birds, he thought the common crow did more damage by destroying the eggs and young of these useful species than he did by destroying the few insects he devours. This fellow had

been watched for years by the essayist, who had seen hundred of nests of robins and other small birds destroyed, the eggs eaten and the young carried away. Hence the robin seeks shelter by building its nest near to houses. He would recommend that all crows' nests near to farm houses be destroyed, and that this State offer a small bounty on his head. He was sorry to believe that the beautiful jay is often guilty of this mean business. Cats are useful animals if well treated and well trained, but a superfluity of uncared for, hungry cats, are a nuisance, and often destructive of small birds, hence they should be kept at a distance. The red squirrel is destructive of many species of young birds. The improvement in firearms and reduction in cost has proved a temptation to many a man and boy, who, for a few dollars, can buy an improved breech-loading gun. Unless educated to the contrary thousands of school-boys will thoughtlessly be led to destroy vast numbers of our most useful birds. But, saddest of all is that in this enlightened Christian age thousands of beautiful singing birds should be slaughtered to ornament ladies' hats and dresses! What a blot upon our times for the future historian to record! The essayist was glad to learn that the Princess of Wales had issued orders "that nothing need be submitted for her inspection or that of her daughters, in which birds are used as trimming," and hoped that her noble example might be followed everywhere, and especially in our own country.

SUPPORT FOR GARDEN PLANTS.—I am using this year 1,000 lineal feet of galvanized wire netting, four feet wide. This cost, delivered, a little more than one half cent per square foot, and will last indefinitely if cared for. It is the cheapest of all material for peas, beans and tomatoes. Last year I made a comparison between this and brush for peas. The only expense of the brush was the cutting, hauling and setting. Allowing for the time of two men and a pair of mules and wagon getting the brush, the cost of the brush, good only for one year, exceeded the first cost of the wire, good for ten. This wire throws no appreciable shade, and for training tomatoes is admirable, since there is always a place to tie to. In fact, but little tying is needed after the plants get well up, as a little attention to directing the shoots to and fro in the meshes supports them perfectly. Climbing beans fairly riot over it, and there will be no bother about Limas failing to catch to poles. Light stakes, well set, about ten or twelve feet apart, are all that is needed to support it, and short pieces of wire are better than the more permanent attachment of staples.—PROFESSOR MASSEY in *Orchard and Garden*.

THE apple buccatrix is easily recognized by all fruit growers, from the small white cocoons thickly plastered over the branches. A heavy spraying of soap and kerosene emulsion will destroy many of them when done before the foliage starts; after they hatch and begin to eat the foliage in June, Paris green spray will check their work. A parasite often follows them.

HOME-MADE FRUIT EVAPORATOR.



CONSTRUCT a frame-work of scantlings, the edges of which should be dressed so that all the scantlings will be exactly the same width. Cut them four feet long and fasten together with strips of plank three inches wide and of sufficient length to place them exactly three feet and one-fourth of an inch apart.

These strips should be fastened to the side of the scantlings near their ends. Make seven of such frames and place them two feet apart, and fasten together by nailing on the ends of the scantlings strips of plank for plates and as wide as the scantling, and twelve feet two inches in length. Side up with weather-boarding, or what is much better, flooring, shiplap or boxing, which should be placed on perpendicularly. At each end there should be a door.

The roof should be made in the ordinary way, except a vent at the top two inches wide the entire length of the evaporator. A trough-like covering should be made for this opening and placed one inch above the roof. Strips of moulding to support the trays should be tacked to the inner edge of the studding. These strips should be at least one-half an inch thick and not more than one inch in width. Begin six inches above the lower end of the studding and tack these strips three inches apart.

The trays or frames upon which the fruit is to be placed should be just two by three feet and one inch in depth. The tray frames should be made of strips one inch square. The bottom of the trays should be made of plastering laths two feet in length. They should be placed about one-fourth of an inch apart, except in the centre of the trays, where there should be a vacancy of two inches to give proper ventilation.

The laths at each end of the tray should have their outer edge dressed, and they should be placed on in such a way as to give the tray a play endwise in the evaporator of one-eighth of an inch. There should be seventy-two of these trays.

The evaporator, when completed, should be placed over a furnace of stone or brick, made similar to a Sorghum evaporator furnace.

Dig a trench ten feet long and as deep as desired for a fire-pit, and wide enough when lined with brick or stone to be fifteen inches from wall to wall. Cover the front end of the furnace with a wide flat stone, and the remainder of the furnace with of heavy sheet iron or pieces of old stoves.

Around this furnace build walls two feet high. The distance between the side wall should be three feet, and that of the end walls twelve feet. Upon these walls rests the evaporator.

There should be two or three openings the size of a brick left in the side walls near the ground for the entrance of cold air to drive the heat rapidly upward. Close these when necessary. Attach to the rear end of the furnace a stove pipe and let it pass through one of the side walls and up on the outside of the evaporator to the height of eight feet. Beneath the trays and above the furnace suspend by wires a strip of sheet iron three feet wide and ten feet long. Bend this in a semi-circle so that the edges of the sides will be two feet apart. Place this sheet iron as near to the trays and as far as possible above the furnace, with its convex side downward. It will then direct the currents of hot air into the air chambers on either side of the evaporator. From thence the heated currents pass underneath and over the trays to the opening in the centre of the trays; from thence upward and out through the ventilator at the top of the evaporator.—S. A. LATIMER, *before Missouri Horticultural Society.*

MARKET GARDENING.

An excellent article, contributed by W. W. Rawson of Massachusetts, a well-known cultivator of successful experience, answers the question, how to learn the trade to the best advantage. He would advise young men who are thinking of taking up market gardening as a business, instead of rushing into it at once, without preparation and experience, first, to carefully study all the requirements, to complete the grammar school course, to spend one or two years at a commercial college, then go to the agricultural college, and after that course is completed spend one year at the Experiment Station. Then hire to the best market gardener for three or five years. "Then," says Mr. Rawson, "you will be fitted to take a position as foreman, or you may carry on the business yourself." He says he has pursued the business twenty-five years, has been unusually successful and yet he finds many things to learn, and that the business is yet in its infancy. Among other things, the main requirement depends more on the *man* than on anything else. He must understand the nature of growing plants; the different qualities of soil for each; the best time for planting; the mode of cultivation; the use of glass; he must be a practical engineer; understand something of chemistry and botany; be familiar with the laws of nature; and added to all these requirements, the more common sense he has the better. Many young men have come to Mr. Rawson and would like to work for him for one year that they might learn the trade. He has told them that five or six years would be short enough. For an advanced establishment a special superintendent must be employed, a salesman, a machinist to look after the machinery and tools, a night man to look after fires in winter, a painter to keep wood work in order, a harness maker, a man to take special care of horses and prevent sore shoulders, a vegetable packer to see that all are in a saleable condition, and a foreman for each department.—*Country Gentleman.*

FRUIT PROSPECTS IN ONTARIO.



JUDGING from the reports which have been sent from various quarters of the Province up to the present date, the fruit crop will, for the most part, be considerably under the average. Yet the prospects for growers seem to us to be unusually encouraging on account of the exceptionally good quality of the fruit itself.

Apples are very light, many varieties scarcely fruiting at all ; but not a sign of scab has appeared, an evil which, in previous years, has rendered so large a part of the crop unmarketable, while the codling moth has also been less active than usual.

About the same remarks may be made of the pear crop. The yield, generally, appears to be very light, but all the fruit that is set is beautifully clean and well shapen, the foliage looks healthy, the trees themselves are growing vigorously, and, therefore, all things considered, we may expect fruit of a large size and fine appearance.

We speak of this state of affairs as not a little encouraging, because fruit of a high grade will sell rapidly at top prices, and often brings the grower better returns than a full crop ; for this is sure to consist of a large amount of inferior fruit, which gluts the market and causes low prices, and which is also very expensive to handle.

In all peach sections there is a promise of a heavy crop of early peaches, especially upon young trees, but late varieties will be less than half a crop.

The drought during May and the early part of June has greatly damaged the strawberry crop, and even weakened the growth of the canes of the raspberry plantation, while the crop of grapes in some parts of the country has been almost entirely cut off by the late frosts.

Altogether we may expect that all fruits will bring high prices in the markets this season, for, owing to the failure of last year, the stock in the hands of the packers is low, and they will consequently need to draw largely for their supplies this season upon the growers. All the markets are very hungry for fruit, owing to the great scarcity of the apple crop of last year, and the high prices of apples which have prevailed during the whole winter.

In response to enquiries sent out to every county in Ontario concerning the crop, we have received a good many replies, from which we cull the following notes :—

SIMCOE COUNTY—Sir,—This has been a remarkable year so far, not only on account of the drought which continued from the beginning of April to the first week in June, but also on account of the cold backward winter and the severe frosts. Through the month of May we had frosts at least three or four nights every week, often forming ice from an eighth to a quarter of an inch in thickness. In fact, it is a wonder that all our fruit was not ruined. However, apples have set well and promise an abundant crop. Pears were badly damaged, mine were all frozen off. Plums have set well. Those top grafted on native stock have done better with me than those purchased from nurseries. Grapes are very backward, will probably be too late to ripen this year unless weather is very favorable in the fall. Raspberries look well.—G. C. CASTON, *Craighurst*.

PETERBORO' COUNTY.—*Sir*.—Prospects of fruit crop very good, so far as the larger fruits are concerned, especially apples and plums.—E. B. EDWARDS, *Peterboro'*.

PRINCE EDWARD CO.—*Sir*.—The prospects for a crop of fruit are somewhat gloomy here. Small fruits were injured by the frequent frosts. Raspberries suffering from drought, on light land they have almost completely failed. I think that small fruits will be less than one-half the average crop. Apples will be confined to sections where favorably situated. They have been later in blooming than I have ever known them to be before, by at least ten days. Many varieties have set very thin, but so far there is not the slightest indication of spot. Pears bloomed very thin, and many varieties have not set one pear that I can see. *Beurre Superfine*, *Urbaniste* and *Flemish Beauty* had few blossoms, but have set well and are perfectly clean, so that the crop will be more profitable than in former years, on account of their excellent quality; but there will certainly not be one-third of an average crop. Plums and cherries light.—P. C. DEMPSEY, *Trenton*.

PERTH COUNTY.—*Sir*.—Strawberries scarcely half a crop. Raspberries, currants and gooseberries abundant. Plums throughout the county very heavy, but are beginning to drop from the ravages of the curculio. Cherries in the southern part of the county, heavy. Apples promise well. Though the bloom was not as abundant as usual, considerable fruit has formed and the crop promises to be an average one. Pears will be scarce.—T. H. RACE, *Mitchell*.

NORFOLK COUNTY.—*Sir*.—Fruit trees vigorous and free from fungus, but large fruits are scarce. The severe drought nearly ruined the fruit crop. Taking 100 as a full crop, apples will yield 20 per cent., pears 15, plums 60, peaches 70, cherries 100, strawberries 10 and raspberries 60.—J. K. McMICHAEL, *Waterford*.

ESSEX COUNTY.—*Sir*.—The prospects for fruit in this district are not promising. As there is more fruit set within the mile belt, adjoining the water, than in the interior, I would naturally expect that the percentage of fruit in Kent and Lambton to be below the average crops. Taking 100 as a full crop, apples will rate about 35 per cent., pears 40, peaches 50, plums 40 and grapes 30.—N. J. CLINTON, *Windsor*.

WELLAND COUNTY.—*Sir*.—The prospects in this county are about as follows: Strawberries, half a crop; raspberries, blackberries and grapes, full crop; apples, healthy but crop light; pears, crop fair; cherries and plums, good; peaches on high dry land, good, except *Crawfords*.—E. MORRIS, *Welland*.

OTTAWA VALLEY.—*Sir*.—Apples. Fruit set fairly, but damaged by bud moth and leaf roller. Medium crop. Cherries light. Plums fair. Small fruits outside of strawberries promise well, the latter much injured by cold wind and drought. (Eastern Townships—Apple crop promises well).—JOHN CRAIG, *Essex Farm, Ottawa*.

MIDDLESEX COUNTY.—*Sir*.—Apples about half a crop; some orchards full crop; some very light. Pears a very light crop, killed by frost. Plums, very light crop, killed by frost. Cherries, a fair average crop. Peaches, a light crop; they are not a success here generally, except in a few very favored localities. Strawberries, a fair average crop, early blossoms were killed by the frost; other small fruits, fair prospect.—WM. DICKSON, *Park Hill*.

EAST ESSEX.—*Sir*.—Apples are below an average crop. Plums not grown extensively, but promise about an average crop. Cherries injured some by frost, nearly average crop. Peaches on the high land promise a very large crop, the best for years. Strawberries are not an average crop, owing to injury by frost. Raspberries, grapes, etc., promise a heavy yield. Currants are light.—W. W. HILLBORN, *Leamington*.

LAMBTON COUNTY.—*Sir*.—The fruit of every kind in this county has been destroyed by the May frosts. Being more forward than usual, the heavy frosts in May caught the trees in bloom and destroyed nearly all. There will be some cherries in places, and some grapes, but no apples, pears or peaches.—J. A. MACKENZIE, *Sarnia*.

SIMCOE COUNTY.—*Sir*.—Apples, plums and pears in north-west of Simcoe and north-east of Grey, good, but in south-west of Grey, very poor.—L. BRILLINGER, *Collingwood*.

* The Kitchen Garden. *

ANOTHER NEW ONION CULTURE.



It seems strange that so many people of different minds arrive at the same conclusions in so many different ways, and that, too, almost at the same time. Having been successful in my experiments, I tell of my excellent crops of the last five years.

I claim as fine crops of big onions as Mr. Greiner's, and two crops a year at that. My seedling plants are raised with far less trouble, are stronger and sturdier, and take all care of themselves until ready to be transplanted.

Five years ago I bought one pound of "Extra Early Pearl" onion seed. By the 15th of September the seed was sown pretty thick in rows nine inches apart. The plants soon showed up, and the bright little green seedlings grew about three inches high, and so remained all winter in open ground without the least covering or protection of any kind. As soon as the weather permitted, in early spring, I began to transplant to a piece of ground prepared and manured the autumn before. I transplanted about four inches apart, the rows one foot apart, and the only manure used during the spring months was wood ashes sown broadcast over the rows. The onions ripened finely, and, when they were pulled, were a sight to behold. There were bushels of them—large, waxy, white onions, five and six inches across. But that was not all, for I had a second crop that year. That same spring, when I was through transplanting the seedling onions, I sent for another pound of Extra Early Pearl onion seed, and drilled in thick to raise sets. In due time they ripened and were harvested, and by the first of October were set out, three inches apart, in rows one foot apart, and March first I began to pull the crop for early market.

Two such wonderful crops, one in early spring, the other in autumn, have been unfailing with me each year during the last five years, this being the sixth. From where I sit as I write, this 10th day of February, I can see the rows of little seedling onions standing, thousands strong, like so many sentinels pointing the way to this, "another new onion culture"; for my experiments are experiments no longer.—JOHN C. HART, in *Popular Gardening*.

A fruit-grower reports that having an orchard of young trees badly infested with bark lice he made a solution of sal soda—half a pound to a gallon of water—and applied it with a white-wash brush. In a week's time they were all dead and washed off. The trees grew two feet a year afterward and remained very healthy.

PITT'S BASIN CELERY CRATE.



FIG. 45.—PITT'S CELERY CRATE.

SIR,—You will find enclosed a photo of one of my celery crates containing a half dozen stalks of the White Plume variety and a half dozen Boston Market, put up the first week in November last, and nearly as fresh and thrifty as when taken from the ground. I have found this method of keeping celery for family use superior to all other methods, and during winter weather, if not too cold, it is a good way to pack for shipment. By this method the freshness, sweetness, crispness and nutty flavor are fully preserved. I pack the roots of the celery in about four inches of soil in the bottom, or basin, of the crate. If it shows any inclination to wilt, a cup of warm water, with a little ammonia, will freshen it up again. I prefer to let it wilt a little, especially if it is designed to keep it till late in February or into March, at which time celery always brings a much better price. This is my third year of using the crate. I can bring references, from all the hotel keepers of Welland, as to its superiority, also from leading citizens and professional men in regard to the superiority of this system of handling and storing celery. I find also that I can secure the patronage of those who use celery, over all competitors, and, besides, I can sell from one to three dozen in a crate, where, by the old system, parties refuse to buy more than a half dozen, on account of its *wilting* and spoiling. This you see is also an important point to all gardeners, as well as customers. I intend having the crate patented.

St. Johns West, Ont.

J. N. PITTS.

CATCH 'EM AND KILL 'EM is the plan proposed by Mr. B. Gott, of Arkona, as the best mode of ridding our orchards of codling moth, plum curculio, canker worm, etc., etc. He would bind haybands about the trunks, or other appliances to trap the larva of the codling moth; and he would build fires to attract the mother moth. Such plans were all very well before we had found by actual experience how safely and effectively arsenites can be employed; but, in these days, such a scheme sounds very like the boy's plan of catching birds by putting salt on their tails! It is a very slow way of accomplishing the purpose.

MANURING CABBAGE IN THE HILL.



O grow a good crop of cabbages, the soil must be well provided with plant food. Not only the minerals, but nitrogen also must be in full supply. Plowing in clover stubble, and still better a good stand of clover, makes a most excellent preparation for cabbages, but if they are to be set very early, the green manure should be plowed under early enough the preceding season to give a chance for the decay of the material plowed in. For late cabbages, the plowing can be done in spring. In either use, however, some additions to the soil fertility must be made.

If the clover plants furnish the nitrogen and carbon that may be needed for the thrifty growth and full development of the cabbages, we will make sure that the potash and phosphoric acid is not wanting by applications of wood ashes and bone flour. Such applications may also assist in the change whereby the unavailable nitrogen is changed into the available nitrate form.

A good way of applying these materials is suggested by James J. H. Gregory in *American Cultivator*. It has given him great satisfaction. "I first spread a two-inch layer of fine soil," he says, "on the shed floor, which I moistened well with the sprinkler, and then had two inches of flour of bone, also well sprinkled, and then finally from one to two inches of unleached wood ashes, which were also well moistened. In this order I formed a heap about three feet high. In about a fortnight this heap had heated sufficiently to dry the moisture, when it was cut down with a hoe, and all the dry lumps knocked up fine. I used a closed handful of the mixture in each cabbage hill before planting.

In all my experience in growing cabbage, for upwards of thirty years, I never saw more thrifty plants than grew over that manure. The leaves were broad and open, with that healthy green color which delights the farmer's eye, and without that naked stem connection of the leaves with the stem which characterizes feeble plants. The caustic potash of the ashes had so acted on the fine bone as to make it very more valuable as a fertilizer. Though it was not made soluble, yet it readily became so when in contact with the soil."—*Pop. Gar.*

JOSEPH HARRIS says there is nothing equal to nitrate of soda for producing a large crop of onions. He advises 250 pounds per acre two or three weeks apart, pulverizing the surface soil continuously, which is about as important as the fertilizer. Experiments at some of the agricultural stations indicate that it is best to sow all the nitrate of soda early, at once, broadcast. One great advantage, which it possesses, is in its early and prompt action.

RIPENING TOMATOES.

IN the opinion of Mr. Eli Minch, tomatoes ripen earlier and are better in quality when kept from the ground. He trains to good stout brush, sharpened at one end, and cut off square foot or two long. These stuck around the plant make a level, even-topped support for the vines. He also advises twisting or splitting the vines between the fruit and the root, thus forcing the fruit to early ripening.

A few years ago Prof. Bailey, then in Michigan, recommended a rack for the market plantation which he described as follows: About every six or eight feet a stout stake was driven on either side of the row and 15 inches from the plant, the stakes when firmly driven standing over a foot high. A strip of old boards was nailed near the tops of the posts along on either side of the row. Then edgings were tacked across from one side to the other, four about each plant and a foot apart. Upon this rack the tomatoes needed no tying or training, and they spread themselves freely to the sunlight. The circulation of air under the racks was so free that there was no unusual danger of rot. This is decidedly the best rack which we have tried. We noticed, also, that the fruit ripened more uniformly here than on the plants which were tied to stakes. We shall try other methods of training next year. It appears advisable to try but a very few sorts each year in order that they can be tested upon a larger scale,

THE EMERALD GEM MUSK MELON.—We like melons, especially good and spicy ones, such as for instance the emerald Gem, the superior of which in flavor we have never met. Some of our neighbors grow Hackensack, and similar sorts for market. We find most of these ordinary sorts too late for our climate and grounds, unless started early under glass and transplanted. But we do not see what we could gain by growing these later sorts merely to get size and insipidity when we can plant the Emerald Gem in open ground in its proper season, and get quality, sweetness and spiciness.

The Emerald Gem is early, consequently we can plant it confidently expecting a long season of the most luscious melons imaginable. And this variety well deserves even a little extra painstaking to make it earlier. Our way is to dig a hole for each hill and fill it with a mixture of sand, rotted manure and loam, and plant the seed in this. Some of the hills are started even before the time for general planting, and covered with a little frame with a pane or two of glass on top.

If you have never tried the Emerald Gem, it is time you should. If planted in June they will still give you ripe melons before frost, even in a locality with as short seasons as ours.—*Exchange.*

RUBBER BANDS FOR BUNCHES OF ASPARAGUS.

Prof. Green, of Ohio, recommends the use of rubber bands as much better than string in the fastening of asparagus bunches. He says the work can be done more rapidly and better, and that they afford a saving of time sufficient to pay for the increased cost over string. Rubber bands, he states, may be purchased for about \$2.00 per pound, and the size best adapted for the purpose runs about 2000 to a pound, which is sufficient for 1000 bunches. The method of bunching with rubber bands is to slip one over an ordinary teacup (one with straight sides and without a handle) fill the cup with asparagus shoots, heads downwards, and then slip the band from the cup to the bunch; another band is then slipped on and the butts cut off squarely with a sharp knife.

He further states that male asparagus plants are 50 per cent. more productive than the female plants, and that the shoots come up a great deal larger.

ONION EXPERIMENTS.—The journal of the Columbus Horticultural Society gives an account of the experiments performed under the superintendence of W. J. Green, in connection with transplanting young onions. In one of two beds, side by side, and similar in character, young plants from the greenhouse were set, and in the other seed were planted in the usual way. The young plants from the greenhouse were six inches high by the middle of April. In all other respects, except in transplanting, the two beds were treated alike. Twice during the season, when the weather was dry, both were irrigated. The sown plants were thinned, so that both stood three inches apart, in rows a foot apart. The difference in the two rows was marked from the start. None of the transplanted ones died in the operation; and they were much larger at all times, and appeared healthier. They appeared to the eye as twice as heavy a crop as the sown plants. Both beds required weeding during growth, but, besides the labor required for thinning, the work in the sown bed was difficult and slow, while in the transplanted bed it was comparatively easy, and not more than one-half the amount required for the other bed. But the additional labor of growing in the greenhouse and transplanting made the work for the two beds about the same through the season.

The difference in the time of maturing was about a month in favor of the transplanting, and they could be prepared for market at an earlier date. Thirty varieties were tested in these experiments, most of which yielded nearly twice as much in the transplanted bed. Taking the actual product, and calculating at the same rate by the acre, the variety known as Spanish King yielded at the rate of 750 bushels per acre from the sown bed, and 1,319 bushels from the transplanted bed, and there was about the same difference with the other varieties. There was less difference with Yellow Danvers and Red Wethersfield, and there was more difference generally with the foreign sorts. The young plants may be raised in a hot-bed instead of a greenhouse.—*Country Gentleman.*



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

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

NOTES AND COMMENTS.

ERRATA.—On page 192, for *one pound* of hellebore, read *one ounce*.

THE TRIOMPHE DE VIENNE PEARS sent out to members of the Ontario Fruit Growers Association this spring, were too large to go by mail, and to conform to postal regulations had to be cut down to two feet in length. The loss of top will, however, prove only temporary, as the roots were sent entire.

LAWN GRASS.—Experiments at LaSalle seem to indicate, that for ordinary lawns, mixed Kentucky Blue Grass and Red Top, in equal quantities, is best and cheapest. This can be purchased at \$1.67, or thereabouts, per bushel, while the so-called "best lawn mixtures" are sold at about \$4 per bushel.

THE CRESCENT STRAWBERRY.—Mr. B. F. Smith, Secretary Kansas Horticultural Society, says that berry growers should discourage the growing of this variety, because all markets are glutted with them, and they are too soft for re-shipment. This is especially true when picking season is about half over. Some firmer berry would enlarge the demand and improve the market.

THE MISSOURI HORTICULTURISTS held a summer session in St. Joseph, on the second of June last, and had an attendance of about one hundred delegates. Secretary Goodman read a very interesting report, in which he showed the great possibilities of that State for fruit growing, and emphasized the importance of making a creditable display of the fruits and flowers of the State at the coming World's Fair. According to a paper read by a Mr. Murray, of Ogden, Mo., the average yield of apples in the State, is about 5,000,000 barrels, the most of which are consumed in the cities of that or adjoining States.

WE shall be much obliged to apple shippers, who are readers of this journal, if they will make public, through these columns, any unfairness or trickery which chances to be practised upon them by commission merchants anywhere, either in England or in Canada, and we shall be glad to make it public. We want to know who the reliable men are, and who the rogues, and to allow none except the former to have place in our columns.

SUN SCALD.—Mr. Hatch, of Wisconsin Experiment Station, attributes this to severe cold, followed by rapid thawing out under a hot sun. He would wrap the trees, in sections where this prevails, with medicated straw. By this he means straw dipped in whitewash containing some carbolic acid and Paris green, so as to keep away injurious insects and vermin. Prof. Budd thinks the evil is usually started during the first stages of growth after transplanting.

A KILLING frost occurred in England on the 16th and 17th of May last, doing immense damage to fruit crops. The thermometer fell to 21°, 11° below freezing, accompanied by snow and hail. As a result, half the gooseberry crop was destroyed, plums, cherries, pears and apples suffered very badly, a portion, perhaps, being saved because not being quite far enough advanced, but many even unopened blossoms were blackened at the heart. This is a most unusual disappointment for our English fruit-growing friends to endure.

THE INDUSTRIAL.—We are pleased to learn that, through the instrumentality of our representatives on the Industrial Fair Board, an entirely new fruit building is to be erected. It is to afford four times the former accommodation, and to be entirely devoted to fruit exhibits. It is to be built in front of the floral hall, facing east. This is an improvement much needed in order to give that prominence to Canadian fruits which so important an industry deserves.

CELERY GROWING about Kalamazoo, Mich., must be a very important industry. According to the *Michigan Farmer*, there are fully one thousand persons about that town who make their living out of that industry. The early celery begins to go to market about the 20th of June, and continues to come in, in succession throughout the season. The yield for this season is estimated at about 4,500,000 dozen, for which growers will realize a net return of from ten to fifteen cents a dozen, and this will mean an income of nearly \$1,000,000.

THE AMERICAN POMOLOGICAL SOCIETY will hold its twenty-third session at Washington, D.C., on the 22nd, 23rd, 24th and 25th of September, 1891. An official programme will be issued at an early date. This is an old and respectable Society, for a long time fostered by the venerable M. P. Wilder, to whom it owes much of its high reputation and usefulness. A worthy successor has been found in Mr. P. J. Berckmans, of Augusta, Georgia, and with so efficient a sec-

retary as Prof. A. A. Crozier, of Amos, Iowa, surely we may expect great public benefits will accrue from its meetings and labors.

"THE FERTILIZATION OF OUR FRUITS," is the subject of a paper by Mr. J. P. Ray, Wisconsin, in the *Scientific American*, and in speaking of the strawberry he says that, in selecting varieties, the question of affinity ought to be considered, some plants having stronger affinity for each other than others. For instance, Jessie he considers to be the best fertilizer for the Bubach, and Burt's Seedling or Governor Hoard for Warfield's No. 2. To get earliness and firmness he recommends Michel's Early. The principle on which he makes the selections is simply this: where any variety is wanting in any point, as productiveness of fruit, of firmness of texture, or quality, the fertilizer should be chosen which excels in the point lacking.

KEROSENE EMULSION.—There are two methods given of preparing this; (1) Dissolve in two quarts of water one quart of soft soap, or one quarter pound of hard soap. Heat to boiling point and then add one pint of kerosene oil, stirring violently for three or four minutes. Add water to make the kerosene equal one-fifteenth of the whole compound. (2) Dissolve half a pound of soap in a gallon of boiling water, and then add two gallons of kerosene. When wanted for use, dilute with nine parts of water. Either will be found quite effective in ridding the cherry, and other trees of those ugly black aphids which have increased upon them so rapidly during this dry, hot season, and also in clearing the rose bushes of the green lice which often appear along their stems in such vast numbers.

THE ARSENITES AND LIME.—The following statement appears in a recent bulletin of the Ohio Experimental Station: In 1888 we sprayed a number of pear trees with London purple in the proportion of eight ounces to fifty gallons of water. At the same time other trees were sprayed with the same mixture, except that a half peck of fresh slaked lime was added. It was then found that while the trees sprayed with London purple alone had their foliage decidedly injured by the application, those sprayed with the lime and London purple were not affected. In 1890 these experiments were repeated in such manner as not only to show the effect of adding lime, but also to determine whether Paris green or London purple is the more liable to cause injury to the foliage. The results of these experiments fully confirm those of 1888 and 1889 in showing the advantage of adding lime, and they further show that Paris green is much less liable to injure foliage than London purple.

FRAUDS ON APPLE SHIPPERS.—It has always been our aim to aid our brother fruit growers, by every possible means in our power, both in the growing and in the disposal of their products; and we have tried to be particularly care-

ful not to admit to our advertising columns, the name of any commission merchant who is not of first class reputation. We are therefore exceedingly grieved to find that F. Corby & Co., who advertised with us last year, have turned out to be fraudulent, and that several Ontario shippers, who consigned their apples to them, have been badly victimized. Their plan of operation was to report the fruit arriving rotten or slack, and so not bringing enough to pay bills of lading; they then proceeded to collect from the shipper the amount of expenses of carriage even, thus pocketing the whole proceeds of the cargo. A swindle like this deserves the exposure which it gets in the *Trade Bulletin*, and will we hope put us all more than ever on our guard. This Corby & Company is but a new name for the firm of Pitt Bros., of Covent Garden, London, Eng., whose advertisement we refused insertion in our journal two years ago, because we had some doubts regarding their reliability.

THE Bubach strawberry should, according to the best authority, be pronounced *Bubaw*, and not *Bubak*; and, since it is better to be right than wrong, we ought to govern ourselves accordingly. Mr. VanDeman, United States Pomologist, speaks highly of this berry in his last report. He says that it has more good words said about it than any other variety now before the public. The originator is Mr. J. G. Bubach, of Princeton, Illinois, and is called number 5, to distinguish it from others which he has originated. The plant has a robust and hardy constitution; the flowers are pistillate, but this defect is easily remedied by planting every fifth row with some perfect flowered variety. The color is crimson, and very attractive; the flesh is dark to the centre, and, in large specimens, a cavity is often found at the centre, but the fruit is sufficiently firm to ship well. The flavor is good, but not of the highest quality. The berries are large, and inclined to be coxcombed in shape, and they ripen about midseason. The yield of fruit, under good cultivation, is heavy, so that altogether it is a very profitable variety to grow for market.

MORE ABOUT FUNGICIDES.—Mr. B. T. Galloway, Pomological Chief at Washington, gives some further points in his last report upon spraying trees. After considerable experiments in the use of the various copper mixtures, he finds that there is more profit in the use of the ammoniacal solution than in the Bordeaux mixture, and that nothing whatever is gained by treating with the carbonate of copper in suspension when the ammoniacal solution is at hand. In experimenting with pear leaf blight and scab in the pear orchard, he finds the ammoniacal solution also to be preferable, and in his experience three early treatments are just as effective as a larger number made at intervals throughout the season. Indeed spraying after the fruit is half grown is liable to injure it. Some experiments were also made in treating raspberry leaf blight, but he finds

the foliage of the raspberry to be too tender to endure such applications. Of the new fungicides the most promising is the one called mixture No. 5, containing equal parts of ammoniated sulphate of copper and carbonate of ammonia, thoroughly mixed and put in air tight tin cans. The sooner some such article is placed in the market for use of fruit growers the better, for many are deterred from undertaking the use of fungicides by the apparent difficulties of their preparation.

✂ Question Drawer. ✂

DRIVING AWAY ANTS.

SIR,—I am troubled with ants swarming at the roots of my young fruit trees. Kindly inform me what will destroy them.

W. DEMPSEY, *Vernon, B. C.*

Specifics for the destruction of ants are very numerous and some of them too troublesome to be employed in an outdoor garden; such as, a saucer of sweet oil, in which they are drowned, or half picked bones, upon which they congregate, and which are then thrown into hot water. Our correspondent might experiment with any of the following, and let us know the result: Air slacked lime, plentifully dusted in warm, dry weather over the hills and other places infested. Carbolic acid, diluted in ten or twelve times its quantity of water, and well sprinkled over paths or other places where there is no vegetation. Four ounces of quassia chips, boiled in a gallon of water for about ten minutes, and four ounces of soap added to the liquid as it cools, the mixture to be well sprinkled around the nests and runs. Fresh guano sprinkled on and around their quarters.

BUD-MOTH AND ROOT BORER.

SIR,—My apple trees are infested with a small worm closely folded in the leaf; the worm is about half an inch in length. Do you know anything about them, and what remedy would you advise? We are also troubled with worms or grubs in the raspberry canes, and would like to know what to do for them.

JACOB BAINARD, *St. Thomas, Ont.*

The first insect you mention is the Bud-moth referred to above. It is very troublesome at Maplehurst this season, and in all orchards around us.

The raspberry is subject to two different borers, the Root Borer and the Cane Borer. The latter girdles the cane near the tips in the month of June, in two places, and thrusts an egg into its substance, near the middle. The tip of the cane soon dies, and thus betrays its destroyer's presence. The perfect insect is a Longicorn beetle. The Root Borer is quite a distinct insect, and belongs to

the same family of moths as the peach root borer, which indeed its larvæ resembles so closely that any one, not an entomologist, would pronounce them one and the same. The eggs are deposited on the leaves during the hot summer, from whence the young larvæ finds its way into the cane and thence to the root, where it spends the winter. The cane borer may be destroyed by cutting and burning the affected branches, but the root borer is not easily dislodged, except by digging up all affected canes, root and all, and burning.

PRUNING TOMATO VINES.

SIR,—It would be a great favor if you would inform me in your journal what is the best method to hasten on the ripening of tomatoes. Will they ripen faster when the vines are well pruned than if neglected, and will rich soil and rank growth tend to ripen them sooner than an average soil and an average growth?

ROBERT STEED, *Sarnia.*

Reply by J. J. H. Gregory, Marblehead, Mass.

I think that pruning tomato vines will hasten the ripening, but it should be by cutting off the small branches rather than individual leaves. For a good crop I would much prefer an average soil well manured to a rich one. With tomatoes, the first blossoms as a rule ripen the first fruit.

FIVE BEST APPLES IN ESSEX.

SIR,—Would you consider the Yellow Transparent, Duchess, Mann, Wealthy and Grimes' Golden the five best apples for Essex county?

W. C. WILSON.

Orchardists living in the county of Essex will be best qualified to answer this question, for apples that are best in one part of the county are not always best in another. The writer does not esteem the Mann apple very highly; it has a poor color, less attractive than the Greening, and it is inclined to drop its fruit rather early for a long keeping apple. Grimes' Golden is a very good apple, especially handsome about Christmas time, but scarcely showy enough to suit our notions in autumn, at which time most of us prefer to sell our apples. Would some orchardist in Essex give his views in reply to this question?

THE BUD MOTH.

SIR,—I send you an insect which is infesting my orchard in great numbers. The foliage seems to be full of them. I wish to know, through your valuable paper, what they are, and how to get rid of them?

A. J. KELLY, *Talbotville, Ont.*

The insect sent by our correspondent is the bud moth, referred to on page 168 of this volume. The best remedy is to apply Paris green in early spring, spraying the trees just as the buds are unfolding.

THE YELLOW HELMET BEETLE.

SIR,—I send you a tin box of beetles which I have found for the first time on my sweet potato plants. They eat numerous holes in the leaves. Are they new to this country, and what can I use to destroy them?

THOS. BOON, *Bothwell, Ont.*

Since your specimens came to hand we have found the same beetle riddling with holes the leaves of our Morning Glories. It is not a new enemy. Mr. Fletcher, Dominion Entomologist, says it is the Yellow Helmet Beetle, *coptocycla aurichalcea*, a common pest of the sweet potato, and other members of the Convolvulus family; and that a weak solution of Paris green is the best remedy.

* Open Letters. *

THE ZINC TRAYS.

In reading the paper on this evaporating of fruit, in the last report, I observed what difficulty the zinc from the use of galvanized wire was causing in Hamburg and other foreign parts, prejudicing the trade in evaporated fruits. I have thought over the matter since and have concluded that if the wire netting for use in evaporators were treated to a glazing process, instead of being galvanized it would overcome the difficulty completely. I fancy it could be managed. I mean to make it like the iron utensils (pots, saucepans, etc.) called "granite ware," which you no doubt have seen.

W. H. WYLIE, *Carleton Place, Ont.*

PRICKLY COMFREY.

SIR,—With reference to Mr. N. J. Clinton's letter in this month's issue, I regret that his horses and cows were so obdurate in their refusal to eat his prickly comfrey after the trouble and expense he had incurred in growing it. Here we have now nearly got to the end of our second cutting of it for this season. All our milk cows and young stock (20 head in all, and 7 of our 9 horses ate it readily, and the pigs avail themselves of any opportunity to get at it. The two horses which do not care for it are old animals and probably too fixed in their habits to take to such a change from their accustomed diet. The more I see of it the more I am convinced that it is one of the most useful and best paying of forage crops; and my sole object in advocating its cultivation is to induce others to avail themselves of the benefit open to them. I have had the pleasure of distributing a good many root cuttings during the past spring, to enable applicants unable to procure them elsewhere, to make a start in its cultivation, but in all cases I declined to accept any money payment.

I state this simply for the purpose of showing that I am not seeking any gain to myself in recommending others to try it, and I feel the more urged to take upon myself its advocacy as it is not a crop the professional seedsmen are likely to push into prominence, and as, being permanent when once planted, it supersedes to some extent other crops, to grow which would require an annual application to the seedsmen for seed, with the consequent payments of the bill for the same. Perhaps Mr. Clinton put his horses and cows in pasture before feeding the comfrey to them, which is a course, he will see on referring to my former letter, I advise should not be adopted.

June 13th, 1891.

ARTHUR GEO. HEAVEN, *Boyne, Ont.*

MOORE'S RUBY AND FAY'S PROLIFIC CURRANT COMPARED.

SIR,—In reply to an enquiry in the May number of the HORTICULTURIST, regarding Moore's Ruby and Fay's Prolific Currants, I may say that I have fruited the former seven and the latter five years. The Ruby is not as large nor as heavy a bearer as the Fay's, and on that account not as profitable a market currant. But for eating out of the hand, or on the table with sugar and cream, the Ruby on account of its sweetness, has no equal. The Ruby requires a soil well enriched to keep up its size, and with that provision its quality as a family currant is unsurpassed.

T. H. RACE, *Mitchell, Ont.*

MARKET PROSPECTS IN GREAT BRITAIN.

SIR,—We thank you for yours of the 13th ult. Before the season commences we will let you have a code, so that you will be able to publish the information that we place at your disposal. For your guidance, we may mention that the lookout for apples here look well, but as yet it is too early to determine positively, as the cold winds have affected the early fruit, such as cherries, strawberries, currants and gooseberries, and it is not yet certain as to the others. At all events you may safely rely upon this, that if Canadians are plentiful and can be sold at moderate prices, they will oust the English apples. There is no quantity grown of the early summer fruit, and the growers here have recognized the fact for some years past, that with the inferior quality of our own apples, they cannot compete with the Canadians, and, as a natural consequence, as soon as their crop is ready, they turn it into money, without risking keeping the fruit during the winter. As the season advances we shall keep you thoroughly advised, and any information that you may give us we shall be pleased to receive. The last shipment of Tasmanian apples is due next week, two steamers bringing 37,000 cases, each case containing from 36 to 40 pounds of fruit. They are being sold at what is considered moderate prices, from 9/- to 12/- per case. The quality is extraordinary, and they arrive here as fresh as if they had only been gathered from the trees two days before.

Yours faithfully,

GARCIA, JACOBS & Co.

Covent Garden, London, England, June 4th.

THE SAUNDERS PLUM.

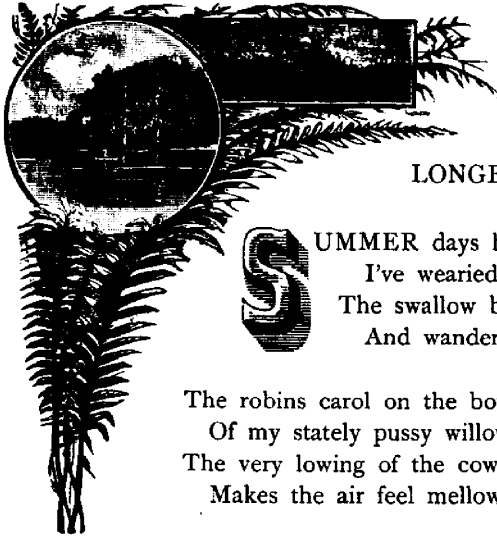
SIR,—I see in the HORTICULTURIST for May, page 156; W. C. Wilson asks about the Saunders plum. It does not resist curculous. I have not seen blacknot upon it, but will not say it is proof against it in this part. I believe it one of the most profitable varieties we have, being very productive and the earliest large plum we have. Mr. Aris, the originator, told me he always has orders for his whole crop, before it is ripe, at \$4.00 and upwards per bushel.

P. C. DEMSEY, *Trenton, Ont.*

THE PRINCESS LOUISE.

SIR,—The Princess Louise apple I got from the Association, two years ago, has come through its second winter in Manitoba, looking I think, more healthy and vigorous than ever. It is now a fine stocky tree of over three feet, and it came out the bud next to the terminal. It is one of the finest looking and healthy apple trees I have. Wealthy's, growing along side, showed no superior hardness over the Louise. What I have seen of it so far shows it to be equally as hardy.

A. P. STEVENSON, *Nelson, Man.*



LONGED FOR SUMMER.



SUMMER days have come at last—
 I've wearied for their coming ;
 The swallow bands are sweeping past,
 And wandering bees are humming.

The robins carol on the boughs
 Of my stately pussy willow ;
 The very lowing of the cows
 Makes the air feel mellow.

The school boy's shout at bat and ball
 Shows dreary winter's over,
 That would-be mother with her doll,
 And happy, scampering Rover.

Oh ! could I but walk again
 Throughout that clover field,
 Along the road and down the lane,
 What pleasure it would yield !

But here I lie, a stricken soldier,
 Who in life's battle struggled long ;
 Salvation's armor on my shoulder,
 Until my Captain calls me home.

Gladly shall I leave the field,
 For my Great Physician's sleeping balm
 For by His stripes I shall be healed,
 Then, oh, the crown ! the robe ! the palm !

GRANDMA GOWAN.

NOTE.—Our readers will join us in sympathy for our Canadian poet of horticulture, Mrs. Gowan, who has for some time lain quite ill at her home in Mount Royal Vale. This poem was written on her slate for us during her illness, and copied by her grand-daughter, Clara, for THE CANADIAN HORTICULTURIST.

FRUIT PROSPECTS.—Continued.

WENTWORTH—*Sir*,—For the vicinity of Burlington our local society authorize me to report as follows: Apples, light; pears, very light; plums, peaches and cherries, good; raspberries, gooseberries, and black berries, good; red and black currants and grapes, fair.—GEO. E. FISHER, *President Burlington Fruit Growers' Association.*

✧ Our Markets. ✧

Compiled from Reports received last week in June.

TORONTO.

Apples, new, Tenn., per basket.....	\$ 1 00 to \$ 1 25
Apricots, per basket.....	1 00 to 2 00
Beans, per basket.....	1 50 to 1 75
Cherries, small red, per basket.....	75 to 95
Cherries, red, eating, per basket.....	1 25 to 1 50
Gooseberries, large, per basket.....	1 25 to 1 50
Gooseberries, small, per basket.....	75 to 1 00
Plums, Cal., per small basket.....	18 to 19
Strawberries, per box.....	6 to 8
Tomatoes, per crate.....	2 00 to 2 50

NEW YORK.—The week opens with a higher temperature, and an active demand for all fruits and new vegetables, and market holding firm in prices. Fancy H. B. strawberries 12c. to 14c. per basket; Raspberries, 7c. to 10c. per cup; Cherries, 6c. to 10c. per lb.; Gooseberries, 7c. to 10c. per qt.; New Potatoes, firm at \$4.50 per bbl.; Cabbage, L. I., \$2.50 to \$3.00 per 100; Green Peas, \$1.00 per peck; Eggs, firm, nearly fresh, 18c. to 19c.; Leghorn, 22c.; Spring Chickens, alive, 18c. to 20c. a lb.; Fowls, 12c.; Spring Chickens, dressed, 25c. to 30c.; Ducks, 12c. to 15c.; Dressed Fowls, 7c. to 9c. Market on dried fruit is weak, and at lower prices. Beans, Marrow, \$2.40, medium, \$2.30; White Kidney, \$2.40; Hay, No. 1, 60c. to 80c.; No. 2, 60c. to 70c.; Rye Straw, 65c. to 80c.

BUFFALO.—Cherries, 75c. to \$1.00 per 12 qt. basket.

MONTREAL.—Cherries, 75c. to \$1.50 per 12 qt. basket.

BROCKVILLE.—Cherries, 75c. to \$1.00 per 12 qt. basket.

✧ Our Book Table. ✧

BOOKS AND REPORTS.

HOW TO GROW CAULIFLOWERS. By A. A. Crozier, Botanist, Iowa Experimental Station, and Secretary American Pomological Society.

This work is based on seven years' experience by the author in growing Cauliflower for the Chicago market. There is no more exhaustive treatise on any cultivated vegetable. 200 pages, cloth; price, \$1.50. Published by Register Publishing Company, Ann Arbor, Michigan.

REPORT OF FLAX AND FRUIT COMMITTEE. New Zealand, 1890.

We have received a copy of this report for favor of Mr. Hobbs, M. H. R., Auckland. He encloses in his letter a peach leaf affected by an aphid which exhausts the trees in that country. He asks us the name, but not enclosing a specimen we cannot reply. In his evidence before the Select Committee of the House of Parliament, Mr. Hobbs makes very kind mention of this journal as being valuable to fruit growers even in New Zealand.

REPORT OF THE DAIRY COMMISSIONERS. J. W. Robertson, Ottawa.

A voluminous and very interesting book, free to all applicants.

BULLETIN II. Central Experimental Farm. Prepared by Jas Fletcher, Entomologist. This interesting bulletin contains recommendations for the prevention of damage by some common insects of the farm, the orchard and the garden.

THE DOMINION ILLUSTRATED is a splendid weekly journal. It not only contains a series of interesting tales, but is up with the times in literature and art generally. The illustrations are excellent, and deal principally with Canadian subjects. Such an undertaking should prosper. It is published by the Sabiston Publishing Co., Montreal.

GENTLEMEN ACTING AS AGENTS

for this Journal, will find this a favorable time to secure lists of new subscribers. To anyone sending in THREE new names and \$3.00, we will forward a beautifully bound volume of the CANADIAN HORTICULTURIST, number I, II, III, or IV; and for every list of FIVE, a beautifully bound volume of the same, either VII, VIII, XI, XII, or XIII; and for every list of TEN new subscribers, the following package of trees, packed and sent free by address in spring of 1892. The trees are five or six feet high, and such as are usually sold by nurserymen: 1 Princess Louise apple tree, 1 Yellow Transparent apple tree, 1 Catalpa Speciosa tree, 1 Niagara grape vine, 1 Mill's grape vine, 1 Saunders new black currant.

The subscribers may have in addition to the Journal, a copy of our Report, and an unbound volume of the CANADIAN HORTICULTURIST, either volume 1, 2, 3, or 4, or the Journal from date to end of 1892, for usual fee of \$1.00.

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