

## Technical and Bibliographic Notes / Notes techniques et bibliographiques

Canadiana.org has attempted to obtain the best copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

Canadiana.org a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- |                                     |   |                                     |   |
|-------------------------------------|---|-------------------------------------|---|
| <input type="checkbox"/>            | Coloured covers /<br>Couverture de couleur  | <input type="checkbox"/>            | Coloured pages / Pages de couleur   |
| <input type="checkbox"/>            | Covers damaged /<br>Couverture endommagée   | <input type="checkbox"/>            | Pages damaged / Pages endommagées   |
| <input type="checkbox"/>            | Covers restored and/or laminated /<br>Couverture restaurée et/ou pelliculée   | <input type="checkbox"/>            | Pages restored and/or laminated /<br>Pages restaurées et/ou pelliculées   |
| <input type="checkbox"/>            | Cover title missing /<br>Le titre de couverture manque  | <input checked="" type="checkbox"/> | Pages discoloured, stained or foxed/<br>Pages décolorées, tachetées ou piquées  |
| <input type="checkbox"/>            | Coloured maps /<br>Cartes géographiques en couleur  | <input type="checkbox"/>            | Pages detached / Pages détachées  |
| <input type="checkbox"/>            | Coloured ink (i.e. other than blue or black) /<br>Encre de couleur (i.e. autre que bleue ou noire)  | <input checked="" type="checkbox"/> | Showthrough / Transparence  |
| <input type="checkbox"/>            | Coloured plates and/or illustrations /<br>Planches et/ou illustrations en couleur   | <input checked="" type="checkbox"/> | Quality of print varies /<br>Qualité inégale de l'impression  |
| <input type="checkbox"/>            | Bound with other material /<br>Relié avec d'autres documents  | <input type="checkbox"/>            | Includes supplementary materials /<br>Comprend du matériel supplémentaire   |
| <input type="checkbox"/>            | Only edition available /<br>Seule édition disponible  | <input type="checkbox"/>            | Blank leaves added during restorations may<br>appear within the text. Whenever possible, these<br>have been omitted from scanning / Il se peut que<br>certaines pages blanches ajoutées lors d'une<br>restauration apparaissent dans le texte, mais,<br>lorsque cela était possible, ces pages n'ont pas<br>été numérisées. |
| <input type="checkbox"/>            | Tight binding may cause shadows or distortion<br>along interior margin / La reliure serrée peut<br>causer de l'ombre ou de la distorsion le long de la<br>marge intérieure. |                                     |   |
| <input checked="" type="checkbox"/> | Additional comments /<br>Commentaires supplémentaires:  |                                     | Continuous pagination.  |



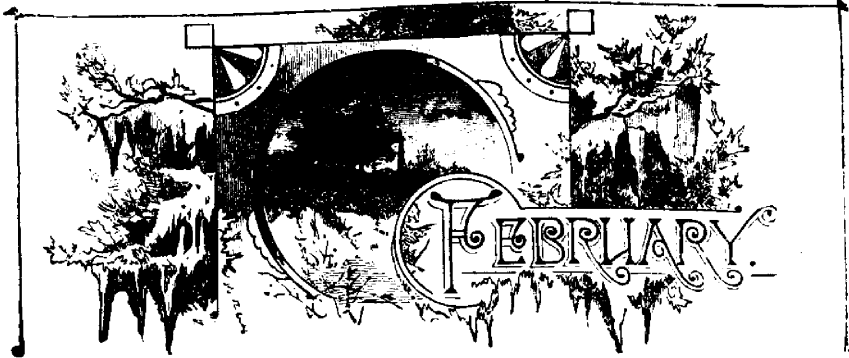
SHELDON.

THE  
Canadian Horticulturist

Vol. XVI.

1893.

No. 2.



THE SHELDON PEAR.



HIS pear is an American seedling, and is a variety well deserving of prominent notice in the pages of this journal. It was propagated accidentally, on the farm of Norman Sheldon, in the town of Huron, Wayne County, N. Y., and has borne several synonyms, as, for instance, Huron, and Wayne, from the places above mentioned; but, properly enough, the name Sheldon prevailed, as being the name of the originator.

With regard to its adaptability to the climate of Ontario, our reports show that it is perfectly hardy in the Counties of Lincoln, Brant, Essex, Kent, and even Huron, along the borders of the lake, but in the County of York it is not considered quite hardy. The conclusion, therefore, to be drawn is that this pear is not suitable for planting north of Toronto, except under some particularly favorable circumstances.

The pear ripens in October and November; but it must be gathered in good time, or a large portion of the crop will need to be gathered from the ground; and it must be used just at the hour it becomes mellow, or it will be found too far gone for use. In this respect it bears a worse character than even the Bartlett. We esteem its quality very highly; and a writer in the Country Gentleman says that he thinks that, when well grown and properly ripened, it excels all other pears in deliciousness of quality. It is as melting as ice cream, and its flavor is superb. The pear, however, is variable in quality and sometimes, when badly grown and poorly ripened, might be called poor. As a market pear

the Sheldon cannot be ranked high, first, because of its russet appearance, which, however, yellows up finely when ready for the table, and, second, because the tree is not sufficiently productive.

A tree at Maplehurst, about thirty years old, bears some years a few straggling specimens, and other years possibly a bushel or so; certainly far below the average yield of many other varieties, as, for instance, the Buffum, Tyson, Bartlett and Howell. But, whether the crop of Sheldons be large or small, we always save it for home use; for none of its compeers, the Duchess, the Anjou, nor the Lawrence, though all are delicious, is as desirable. No member of the family would select one of the latter for eating when he can have the Sheldon.

The Committee on Pears, appointed by the Ontario Fruit Growers' Association, give the Sheldon ten marks, the maximum number to indicate its value for dessert, and seven for market; but they have ranked the Anjou equally high, and, in our opinion, this might justly be amended to make the latter variety at least one point below the Sheldon.

The following description of this pear is given in Downing's "Fruits and Fruit Trees of America,"—Tree, vigorous, erect, hardy, and a good bearer. Skin, greenish-yellow, mostly covered with thin light russet, a little brownish-crimson in the sun, dotted with russet. Stalk short, stout. Cavity deep. Calyx open. Segments partly recurved. Basin broad, large. Flesh, whitish, very juicy, melting, sweet, vinous, rich aromatic. Very good. October.

Two or three reports concerning this pear have been sent in recently, which we here insert:

W. Boulter, of Picton, Prince Edward Co., writes, "My experience with this variety has been poor. I planted ten years ago, seventy-five of them, and lost every one of them, perhaps due to the winter's cold. I gave them the same cultivation as the Clapp's Favorite and the Flemish Beauty, some three hundred of which I had by the side of them, and lost none. I think it will not endure the climate of this county."

Thos. Beall, of Lindsay, says, "I have not grown this pear, but I had two trees planted, which died before the bearing age. I do not know of its being grown in this locality."

Warren Holton, of Hamilton says, "I have fruited the Sheldon for several years and think very highly of it. It is with me a moderate bearer when young, but improves with age. I consider it the best quality and it always commands the highest price and a ready sale in the local markets."

T. T. Lyon, of South Haven, Mich., writes, "The Sheldon pear is considerably grown for market in Michigan. It is a vigorous, healthy variety; a little variable in quality and somewhat uncertain in bearing. Aside from Bosc and Anjou, this and Howell may be said to range next to the Bartlett in the estimation of the mass of commercial planters of this fruit."

## A NEW APPLE BARREL.

(PAT. 26TH NOV., 1892.)



THE want has long been felt in the export apple trade of some smaller case for shipping than the ordinary barrel. English buyers have repeatedly called attention to this, and Australian shippers, acting upon the suggestion, have already begun to send over their choice apples in 40-lb. boxes, which, it is claimed, will bring almost as much in the English market as our 160-lb. barrel will do. The disadvantage of the Australian plan, however, is obvious. It not only adds to the expense of packing, but greatly increases the cost of transportation. The same objection is met with in the use of small kegs.

It is to obviate these difficulties, and, at the same time, to supply the above mentioned want, that Mr. C. Aitkens, of Stoney Creek, Ontario, has brought out and patented the device represented in our cut. It consists of an ordinary barrel divided into two equal parts by a double flooring across the centre. This flooring is so adjusted as to admit of the barrels being readily sawn in two by the retailer in England, thus making two half barrels. In this way, while the expense of the barrel is but triflingly increased, cheapness and facility in handling are preserved.

The chief advantages claimed for this patent may be stated as follows:

1. It supplies the want of a smaller case better than an ordinary barrel for handling by foreign retailers.
2. It is more conveniently and satisfactorily handled than are boxes or small kegs.
3. The cost of shipping is much less than it would be if separate small kegs were used.
4. The price of the barrel being 40 cents, it is much cheaper than it would be to use the ordinary half barrels.
5. The fruit is carried much more satisfactorily than in ordinary barrels, there being no possibility of its slackening or shaking about, owing to the firmness imparted to the barrel by the central stays.
6. The fruit will, therefore, arrive in better condition, and, with the convenience afforded by the sawing of the barrels in two, will fetch better prices.

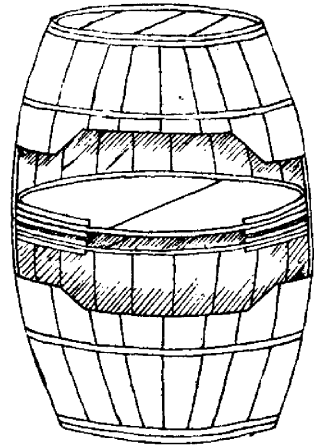


FIG. 501.

## SUCCESSFUL CHERRY CULTURE.



### SOIL FOR CHERRIES.

It is generally accepted that the cherry tree requires a porous, well under-drained soil. As my farm is nearly all a slaty gravel, and the surface hilly, I have cherry trees growing on nearly all parts of it. I incline to the opinion that the Morellos and Dukes, or sour cherries, require somewhat different soil and treatment from those suitable for the Hearts and Bigarreaus. For an experiment, I set a few of each on low, heavy ground, where water could be found three feet from the surface. The sweet cherry trees are healthy and vigorous, and bear heavily, but the fruit is inclined to rot more than on higher ground. The sour kinds soon died out.

**ABOUT CULTURE.**—The sour cherry trees should receive continuous clean culture. They then mature heavy crops, even when young. My sweet cherry trees I have set along fences and at the ends of the rows in my vineyard. For the first four or five years, the earth is kept mellow around them, and they are mulched with strawy manure each spring. Until they have attained a diameter of six or eight inches, the trunk of each near the ground is wrapped with tarpaper every fall to protect it from mice. A few days' neglect of this after the first snowfall caused the loss of several trees. After four or five years, the sod is allowed to form around them; but the fall wrapping is continued till the bark becomes thick and rough. When forced by high culture, the sweet cherries are prone to crack the bark and prematurely decay.

**SHALL WE MANURE?**—So long as the sweet cherry trees appear thrifty, I apply no manure. If the tree seems to fail for want of nourishment, stable manure, wood ashes, or potash salts are applied. The sour cherry trees are treated precisely like peach trees, with light dressings of stable manure and kainit or muriate of potash every year.

**PRUNING TO SHAPE.**—The shape of the sweet cherry should be left almost entirely to nature. Necessary pruning should be done while the tree is young, during the first two or three years after setting. Unless made necessary by injury, no large limbs should be cut, as doing so is apt to produce a rotten spot. Most varieties of the Morello class require annual thinning as much as peach trees.

**WHAT VARIETIES?**—I know of no locality where any variety of sweet cherry can be relied on as a sure cropper. Perhaps Downer's Late Red comes the nearest to it, as it seldom rots on the tree, and is of good quality. White Ox-Heart or Yellow Spanish, Napoleon Bigarreau, Black Tartarian, and Elkhorn or Tradescant's Black Heart are good market varieties. The Windsor is highly commended, and I have a good many trees of that variety set, but they have

not fruited yet. Among the sour cherries none have been more profitable than Montmorency Ordinaire, and English Morello. The Early Richmond bore heavily when young, but now trees that are 12 or 15 years old, healthy and thrifty, blossom full and bear but little fruit. For five or six years after they came in bearing, the Elkhorns were my most profitable cherry, but lately they are dying out without any apparent cause. The May Duke seems a short-lived tree. The fruit is better for family use than for market; because the crop ripens so unevenly, thus necessitating several pickings.

**PACKAGES.**—Until recently I used five and ten-pound baskets, now I use a crate containing shallow boxes which are filled from the bottom, thus expediting packing so that the stems are covered when the package is opened for inspection.

**GENERAL REMARKS.**—Sweet cherries here are not so sure a crop as the sour, but the fruit usually sells for a higher price. The main causes of loss of crop are cold storms or frost while in bloom, and rot. Moist, hot weather will sometimes destroy an entire crop three days before it is fit for market. I have known cherries to be perfectly sound when picked in the morning, appear streaked when shipped at evening, and nearly all rotten the next morning in market. The English Morello, and perhaps some other sour cherry trees, are subject to black knot. It appears to be identical with that on the plum tree. The free use of the pruning-knife has been my only treatment. So far it has been successful, as I have lost no trees, and the disease is nearly eradicated.—R. N. Y.

**Slatted Boxes.**—The boxes here illustrated are the cheapest ones we make, says A. I Root, in *Handling Farm Produce*, and the ones that sell best.

For the ends we use six slats instead of boards crosswise, thus making them open on the ends as well as the sides. These are used for tomatoes, apples, cucumbers, etc. In fact, there is no fruit or vegetable of about this size or larger that could not be handled in these crates. They are as cheap to ship garden stuff to market in as the ordinary barrels and crates, besides being much lighter and neater. The above cut shows the manner in which the boxes are packed for shipment.

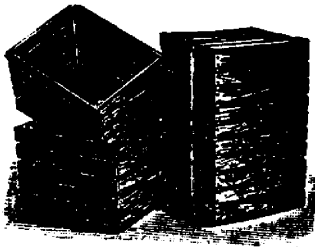


FIG. 502.—SLATTED BOXES.

**Peaches** for shipment should be permitted to become fully grown before being taken from the tree, but not mellow. They should be packed either in third bushel boxes or baskets, such as are used in Michigan, holding about half a peck, with tarleton stitched over them, the top protected by a cover made of slats, with strips to rest upon the ends of the baskets. This package can be piled one upon another as high as the top of the car, and is a very handy family sized basket.





## BLACKBERRIES.

THEIR CULTURE ; THE SIX BEST SORTS, AND WHY THEY ARE THE BEST.



SUFFICIENT cultivation to keep the weeds and grasses from choking them the first year or two, and liberal mulching afterwards, will secure excellent results. Many claim that blackberry bushes encumber the ground with briars not easily removed. This is not so. With us they are as easily dug out as red raspberries. We live in a section of country that is unrivalled for its crops of wild blackberries. Most of our neighbors depend on the wild ones for their supply. The whole family will take a day in the busy harvest time to go blackberrying. They do not know that one hundred plants, with less labor put upon them than is required to gather the wild ones, will, in two years, produce enough fruit for an ordinary family throughout a long season, affording fresh fruit every day when wanted. Many people claim that the wild berries are of better quality than the cultivated ones. The wild berry is less tart than most of the cultivated ones, but it lacks character. The Taylor and Agawam are sweeter than wild berries, and have character enough to make one know what he is eating.

**CULTURE.**—The best time to set out blackberries is in October or early November, but I have set them out with success in spring, as late as June 15. When set out in spring, however, the season should be favorable, with plenty of rain. Should the spring be dry, even if the plants have been set out early, the fall set plants are apt to make twice as much growth as those set out the following spring. But if it be spring when you make up your mind to set a patch of blackberries, don't wait till fall, and *vice versa*.

*Blackberries* will grow on any *well-drained* soil, but they succeed best on a sandy loam. They won't thrive on wet ground, no matter how rich it is. Rich soil produces an enormous growth of canes too tender to endure the winter. Soil can hardly be too poor for blackberries; if it be deep and porous, allowing the roots to go down deep and ramify in all directions for food and moisture.

*Blackberry* plants are of two kinds, suckers and root cuttings. Suckers are plants that come up from the roots when they have spread in the ground. Root cuttings are secured by digging up roots, and cutting them into pieces about three or four inches long, and planting in drills like peas or potatoes. Each root sprouts and develops to a plant, which may be taken up the following season. Root cuttings are considered superior to suckers; but if the suckers be taken up with the cross root attached it is practically just as good. The life of any blackberry plant is in the horizontal root from which grows the cane, and if this cross root be torn off by careless digging the plants are about worthless.

The rows for blackberries should be eight feet apart, and the plants should be set three feet asunder in the row. For the few plants set in one's garden, holes may be dug; but for the field plant in open deep furrows. When we have lots of plants we set them one foot apart in the row, and secure a good, continuous fruiting row much sooner than where we set them three feet apart. Set the plants as deep as they formerly grew, or so that the buds will be two or three inches below the surface. If set in fall, bank up earth around the plant to prevent it from being heaved out of the ground by frost. In the spring remove the banking and practice level culture. It is essential that the soil be kept loose and free from weeds. The continued use of the plow and cultivator causes the roots to go down deep, and the plants soon establish themselves, so as to be little disturbed by freezing and thawing.

After the second year do not use the plow among them, as deep digging breaks the roots, and each broken root sends up a sucker. Use the cultivator shallow and mulch during the fruiting season with straw or any coarse material. When the row of canes finally encroaches on the path, mow them off to leave a place for getting through. Every spring trim back the canes to three feet in length. The new growth will grow above and shade the fruit, which is most desirable for the best results.

There are two classes of blackberries as regards growth, the upright growers and the half trailing. The former have stiff and unyielding canes, growing straight up; they are generally hardy, but even they were injured last winter. To lay them down, the roots, opposite to the direction taken by the canes, must be cut with a spade. The latter kind of blackberries bend over and half trail on the ground. To lay them over and cover them with earth to protect them from excessive cold is very easy work. The Kittatinny, Lawton, Erie, Minnewaska, and Agawam belong to this class. The Snyder, Stone's Hardy, and Wachusett are all upright growers. The Taylor is a sort of compromise between the two classes.

All my blackberries, excepting Taylor and Wachusett, were a failure this year. While not frozen enough to kill the canes, the fruit buds were killed. It would have paid to give them protection, as wild berries were a failure too, and blackberries sold here for ten cents a quart all through the season.

The six best varieties are Snyder, Taylor, Agawam, Lawton, Erie, and Minnewaska.

SNYDER ripens early, and is enormously productive. The fruit is round and rather sour, but it ships well.

TAYLOR is the latest of all; the flavor is fine. Berries are long, and produced in great abundance. It is my favorite blackberry for home use.

AGAWAM is called the sweet blackberry. I consider it equal to Taylor for its season, except that it has the fault of turning bitter if left long without picking. It ripens at mid-season.

These three varieties must be protected in our locality to bear a satisfactory crop. The Minnewaska has winter-killed and failed in fruiting heavily thereby, for three years past. These berries will well repay the care necessary for winter protection. The Minnewaska produces berries round in shape and, nearly an inch in diameter. I am not able to say yet which is the best of the three. So far there seems little difference in results. I like the Lawton, but then, as I said before, you know what you are eating.—Gardening.

### DOORYARD PRUNING.

A distinguished landscape-gardener once said to me, as we stood in the Spring Grove cemetery: "A man of leisure with no eye for the details of landscape beauty, can in a single spring day, with pruning-saw and ax, do more to mar the beauty of a home than a landscape-gardener can do to create it in half a life time. If idle men who desire to enjoy the April sunshine would get a pile of sand and shovel it back and forth as the children do, they would do infinitely more for rural adornment and taste, than they do in pruning their shrubbery. Men are all born butchers, and when they get too old, or too lazy, or too rich to butcher men or animals, they butcher the innocent trees and shrubs around their homes. They ruthlessly throttle every effort of nature, and make their dooryards a grass-plat stuck full of broom-handles and hop-poles." Symmetry is not the essence of beauty. If it was, then a new umbrella would be one of the most beautiful things in the world. Two of a kind does not constitute beauty. If we take out of the problem of dooryard decoration the two items of symmetry and duplication, we knock out the main props that sustain your neighbor in his burning ambition to excel in door-yard pruning.—J. B. PIERCE, Summit County Hort. Society.

**Tomatoes.**—The most salable package for tomatoes is the four basket case used so extensively in your State for the first-class stock, while the seconds may be packed in third bushel boxes, if you will persist in shipping that kind of stock, but my experience teaches me that you had much better throw away everything but the best, because the poor stock always demoralizes the markets and causes a depreciation of prices on good goods much more than the amount realized for trash.

**A Substitute for Glass.**—We are not particularly in favor of using cheap substitutes for glass in general greenhouse and hotbed management. Muslin and the like will answer for protection during rights and cold snaps. Wire netting coated with varnish (composed of linseed oil) is now being tried as a substitute for greenhouse sashes. The best boiled-oil, carefully applied, forms a film over the meshes. When perfectly dry, a second application is made.

## THE FRUIT GROWERS' WORKSHOP.



EVERY person who cultivates land, needs a tool room. So many times a trip to the blacksmith's or the carpenter's shop, may be saved, if one has a few tools and knows anything about their use. The modern notion of giving boys manual training at school is worthy of hearty support; such training would be of incalculable value to a farmer or a gardener. Speaking of tools most needed the American Agriculturist says:—For woodwork will be needed a jack-plane, fore-plane and smoothing-plane; two saws, a coarse cross-cut, seven teeth to the inch, will also answer for a rip-saw; a fine saw, about nine teeth to the inch, will do the fine work. A good steel square and a bevel-square are better than the common iron ones. A one-fourth, three-eighths, one-half, five-eighths, three-fourths and one inch bit, two gimlets and a screw-driver will be all one will need; a one-half and a one inch socket, firmer and chisels will be needed; a compass, scratch awl, an adze-eye, hammer, monkey-wrench, crow-bar, sand paper, a good hand-axe or hatchet for the chopping-block, and a good drawing-knife, an oil stone and oil can, a saw file and a plow file, a small wood file, an assortment of screws, nails and rivets, and one is prepared to do most of the every-day jobs and repairing that are apt to arise. Those who cannot afford all these at first, should by all means have a cheap bench and vise, a chopping-block, railroad iron, hatchet saw, jack-plane, drawing knife, bits, chisels, and grindstone with treadle, this last out of consideration for the small boy.

A writer in the Ohio Farmer shows a good method of keeping in order all small articles. He says: I became tired of the old way of having bolts, screws, nails, rivets, wire, buckles, etc., in boxes standing here and there, oftentimes all sizes in the same box, just because there was no other place for them. The bother and loss of time were great, as I had to open sometimes nearly a dozen boxes to find the thing I wanted. Thus necessity became the mother of invention, and the result was a "case" in which there is a place for everything, as shown in the illustration. The drawers are made of small, light boxes (which can be had at the grocery stores) sawed to the right size, and then nailing a side, bottom or end to them as required. The lower ones are shallow, for nails, etc., two or three inches deep; those intended for more bulky articles, as bolts, etc., deeper. For knobs, take common sewing thread spools and saw them in two. The half of one spool with a wood screw through the hole of it and into the drawer makes the knob. For convenience, drawers for screws, rivets, small nails, tacks, etc., are partitioned into two, three, or four parts, and can also be taken out and

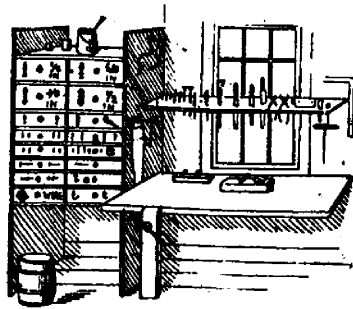


Fig. 503.—THE FRUIT GROWERS' WORKSHOP.

carried to where wanted. A sample of the article or articles (size and kind) in each drawer is fastened on the outside of it by a double pointed carpet tack, and when anything is wanted, from a quarter inch tack to a half inch bolt, it is a pleasure and satisfaction to be able to put your hand on it in a moment.

### SIX PEARS FOR MARKET.

In reply to the query, "Name the six most profitable pears for market, stating how they should be grown, as standard or dwarf?" Mr. Zimmerman, of Buffalo, sent this answer to the Western New York Horticultural Society:

"Bartlett, Howell, Beurre Bosc, B. Clairgeau, Duchess d'Angouleme, Beurre d'Anjou—Bartlett and Bosc as standards, and Howell, Duchess, Clairgeau and d'Anjou as dwarf. With these I have as good success as with the standards, since they have all their roots protected with a good grass sod. It is at the root where the destructive agencies of the ever-changing climate play havoc with the dwarf pears. The top of the dwarf pear is as hardy as the standard, save what harm a too heavy bearing for a number of years may bring; but that can be avoided by a judicious thinning and proper cutting back of the standard branches.

A good red-top sod gives a better protection than any top dressing of manure; the sod is always on hand, whereas the manure is sometimes not applied when needed. My earliest planting of dwarfs was in 1851, and they are yet as sound and thrifty as ever, bearing from two to eight bushels each yearly; in grass for the last twenty-five years, with no outlay for labor except a yearly top dressing of manure, which can be put on at any time between November and May. The soiling of cattle can well be carried on with this course. The red-top or June grass is fit to cut at least by the first of June, and if the manure and liquid be returned the product of the trees pays better than cultivation.

**Fertilizer from Bones.**—Bones may be made useful for a fertilizer, says a writer in the *New York Times*, in the following manner: Put them into a pit two or three feet deep with alternate layers of lime, fresh from the kiln, and unleached wood ashes. Wet the heap with water to slack the lime, and then cover with sufficient depth of good soil to keep in the heat and moisture. In two or three months the bones will be quite soft and may be broken down with a shovel, and mixed with the other materials, and is a valuable manure. It is necessary to keep the heat moist, as the water evaporates or soaks into the ground. It is a very dangerous matter to meddle with oil of vitrol or sulphuric acid, as one drop splashed into the eye will destroy it, or if on the skin will make a deep burn that it is difficult to heal. A farmer should never undertake to make a fertilizer with bones by the use of these dangerous acids.

## TREATMENT OF APPLE SCAB.



CONTINUING our plans for spraying for 1893, see page 9, we may notice the following recipe for the Bordeaux mixture, given by Prof. Pantou, of Guelph, viz.: 4 lbs. copper sulphate, 4 lbs. of lime, and 50 gallons of water. This is to be applied just before the blossoms open. When the fruit is well formed, spray again with the same, and three or four ounces of Paris green, repeating again at intervals if possible. The Bordeaux mixture is also commended for brown rot of cherry, plum and peach, for pear-

leaf blight, mildew of the grape, cane rust of the raspberry, etc. Too much importance cannot be attached to early applications. These all are for use when the foliage has appeared; before that, sulphate of copper, one pound to twenty-five gallons of water, may be used to cleanse the bark, buds, and twigs of any spores of fungi, which are lodged about in waiting for their destructive operations.

In this connection it will be interesting to read the following notes from the Ohio Experiment Station:

The heavy and continued rainfall, during the spring and early summer of 1892, is thought, by many, to be the direct cause of the failure of the apple crop. No doubt this was true in many cases, as when heavy rains occur at the time of blooming the pollen may be washed away, and pollenization prevented. The bees, not being able to fly at such times, cannot visit the blossoms, which fact alone is sufficient to account for the crop failure, in a great measure.

The opinion has been held by a few that unfavorable weather is not, in all cases, the direct cause of failure, and some experiments carried on by the Ohio Experiment Station strengthen this opinion. An orchard of Newtown Pippins, of nearly two hundred trees, was divided off into plots, none of the plots containing less than one row, and some as many as four. Several compounds were used, but the fact that some adhere to the foliage better than others render comparison out of the question, nor is this matter of any importance in this connection.

The dilute Bordeaux mixture, which was found to be best last year, occupied the same place this season. The ingredients used in this mixture are sulphate of copper, four pounds ; lime, four pounds ; water, fifty gallons. Comparing the two plots where this compound was used with the two unsprayed plots, the astonishing fact was observed that no marketable fruit could be found on the unsprayed plots, nor was there much fruit of any kind ; while on the sprayed plots, which had been subjected to the same unfavorable climatic conditions, there was about half a crop.

There was sufficient bloom in the orchard for a full crop, and if we accept the old theory of crop failure in time of wet weather, we are forced to the conclusion that spraying aids pollenization, which is absurd. We are, therefore, forced to seek some other hypothesis. The most reasonable explanation that can be offered at present is that spraying prevented the apple scab from attacking the young apples and blossoms. It is well known that scab attacks apples in all stages of growth, and that if it appears very early it may cause the young fruit to drop prematurely. When it attacks the blossoms it, of course, destroys them. The first spraying was done before the trees had bloomed, and the supposition is that many of the fungus spores were thus destroyed and the apples were thus given a chance to develop. The theory is tenable, and consistent with well-known facts, but it must be admitted that a more careful study of the question is needed before it can be settled beyond controversy. This experiment also strengthens the theory that early spraying is essential to the best success in preventing the apple scab.

The spores, from which the scab fungus develops, live over winter on the trees, and begin growth in the spring at the same time the leaves start to grow. How rapidly the fungus develops depends upon the weather. It follows then that the apples would be attacked earlier some seasons than others, and it may not always happen that early spraying would show such striking results as above mentioned. It is true, however, that the fungus is prevented much easier than it is killed after once established, and to this end early applications of fungicides are far more effective than late, and it may sometimes happen, as in this case, that a crop is saved which would otherwise be lost.

No dates can be named for spraying, but a good plan is to make the first application just before the leaves open, and the second soon after the blossoms fall, at which time four ounces of Paris green should be added to each fifty gallons of the mixture, in order to kill the apple worm. A third spraying with the combined mixture, is to be given about ten days later, and still another after the same length of time, in case of continued wet weather.—Ohio Experiment Station.

---

**For Gooseberry Mildew.**—A solution of potassium sulphide is recommended ; one ounce to two gallons of water. Apply as soon as leaves commence to open, and repeat every three weeks.

## EXPERIENCE WITH SPRAYING.



AM not aware of the nature of Prof. Taft's spraying operations at the College. At this sub-station, the spraying was done by myself, with only general directions from Prof. Taft. Owing to the late arrival of material, the spraying was barely commenced when the almost calamitous, rainy season, stopped the work, which we were unable to resume till the development of fungus had proceeded too far for remedy. Subsequent spraying had, apparently, the effect to arrest grape mildew, or at least to check its development so far, that of most varieties, a moderate crop matured in fair condition.

Quinces, which had in previous years been badly affected with leaf spot, were apparently saved by the early spraying. Good results were apparent also upon pears and plums; but the foliage of the apple of many, if not most varieties, was so seriously injured that very few have made much growth during the season, while the visitation has resulted in the total loss of the year's crop of fruit, except in northern Michigan; while the visitation occurred while the trees were yet nearly, or quite, dormant; with the result that they have been favored with a superior "all around" crop of fruit; such exemption extending to about the south line of Oceana County, on the west side of the State, and must be attributed to the cause already stated, rather than to the effects of spraying.

I have had the Alexander apple in fruit since about 1850, and have found it a moderate bearer of large, fair and very beautiful fruit. It is quite too acid for dessert, but I know no superior for culinary uses. The tree is vigorous and healthy. Wolf River is an alleged seedling from this, and is almost identical with it.

The season's report from this sub-section is now in the hands of Prof. Taft, to be published by the State Board of Agriculture; you will, no doubt, receive a copy from their secretary, Henry G. Reynolds, Agricultural College, Mich., who distributes them gratuitously.

T. T. LYON.

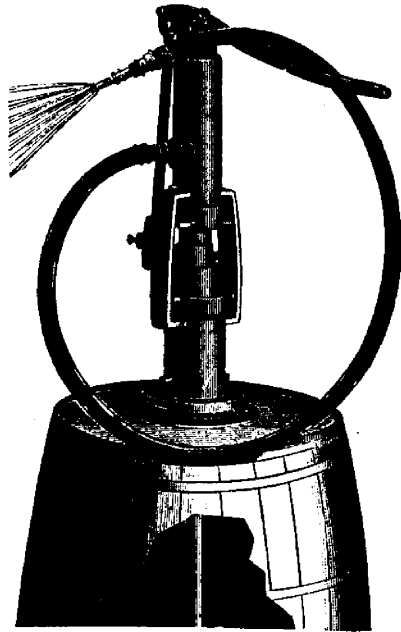
*Director South Haven Sub-Experiment Station, Michigan.*

**General Lawn Management.**—You want variety in flowers and flower arrangement—something different next season from what you had last. Make your plans; decide on kinds and arrangement, and be in time with your orders for stock and seeds. Soon after heavy falls of snow tramp it down around trees and shrubs, and shake it out of the branches of evergreens. Rustic work may now be made. Besides the cedar of our swamps, the canes of wild-grape vines will be found eminently serviceable for this purpose. Laurel wood and roots also make good material; and many other kinds of timber will work up well. With a little ingenuity, rustic tables, seats, arbors, vases, hanging baskets, etc., may be made that are just as ornamental as they are inexpensive.



## THE LITTLE DANDY SPRAYER

Is the name of a new orchard spraying pump which has been invented in Canada, and as we always desire to encourage our native industries, we give a prominent notice to this invention. Having given it a fair trial we unhesitatingly speak of it as a pump that works easily, throws a continuous stream of spray, does not require priming, is uncommonly strong, and is so simple in construction that there is little to get out of order. No doubt the pump will be fully advertised before long. Mr. W. H. Vanduzer, Grimsby, can give further information.



## WINTERING APPLES.

The prices now realized for late-keeping apples should again set growers of apples to thinking of storing their own fruit each year, and to making a thorough investigation of the storage question. Success in storage is largely a thorough investigation and mastery of the principles involved in one's own locality. Apples will keep longer and better than is commonly supposed. There is a large element of risk in keeping them, so it is well not to take too many chances, and to store experimentally till sufficient experience is gained to run the increased risk. The market price of apples in May, June and July is very tempting, and there is a great amount of unskilled work done in harvesting and storing. The tendency is to sell them right from the trees and have no more bother with them. This seems to be the easiest, and it is thought to be the most profitable. But since the late keeping varieties sell at such a fancy price, it certainly would pay the grower to try to hold over. It is a fact that cellars are generally kept at too uneven a temperature and too warm.

**ROSES.**—Hardy kinds may yet be planted in open ground. Fibrous loam, well-rotted turf, etc., is best for them. After planting, apply a good mulch of manure. The more tender sorts in the border may be laid down for winter protection. Another good plan is to surround the rose-bed with wire-netting and to fill up inside with leaves, placing some boughs on top.

### KNIFFEN SYSTEM OF PRUNING.

Owing to pressure of work among fruit growers in the autumn months pruning the vine is not usually accomplished until the early spring; but often during the mild spells of winter, it is possible to make a little progress in this work in advance, and thus ease us a little of our hurry later on. In previous issues of this journal we have given a description of the Kniffen system of pruning. This method we do not recommend as the best. We ourselves, practice for the most part, the renewal system, building our trellises of three wires and spreading our two arms on the bottom wire, from which uprights are allowed to grow, usually about six to each vine.

The Kniffen system is practised by many of the Niagara district fruit growers, and a method which requires less labor than perhaps any other. A writer in *Popular Gardening*, some time ago, recommended it as well adapted for such strong growers as the Niagara and the Concord. His plan was to make his trellis with two wires, the first about two feet above the ground, and the next about three and a-half feet. Two arms are trained upon each of these wires, and at each season's pruning the young wood is cut back to these arms, leaving one or two buds at the base of the branches. (See Fig. 504.)

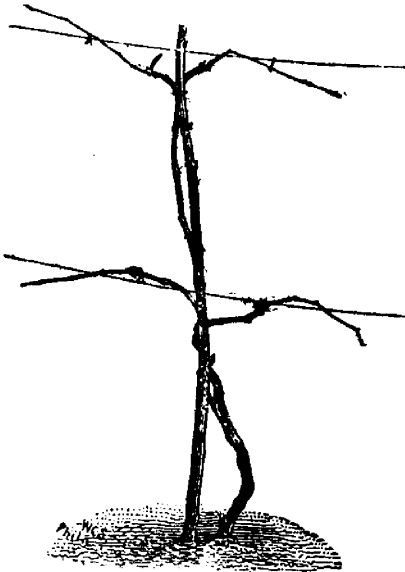


FIG. 504.

D. S. Marvin, of New York State, calls the Kniffen system the lazy man's method, because it brings fairly good results, with little attention. One of his objections to the system is, that the strongest growth is usually at the end of the vine, that is the point of the upper arms, and gradually the lower arms become weak. A good plan for avoiding this was proposed by Mr. Marvin. He says that it can be overcome by starting two canes from the ground instead of one, (as in Fig. 504). By this means the sap flows into the lower arm just as vigorously as it does into the upper, and so there is a decided improvement.

He has another objection to it, and that is, the resin in the sap of our native varieties will sooner or later clog and fill the circulatory ducts of all old wood above ground. A difficulty which can only be avoided by the renewal system.

## IMPROVEMENT IN THE COUNTRY CEMETERY.



HIS was the title of a paper read by Mr. A. M. Sargent, of Akron, Ohio, before the Association of American Cemetery Superintendents. After speaking of the various plans which are adopted in establishing graveyards, and objecting strongly to private family burial places, and also many of those connected with churches which have fallen into a badly neglected state, he advocates that the churchyard or village cemetery should be remodelled in its management. There should be a sufficient charge for each lot or grave to cover the permanent care of every lot sold, and an investment be made in such a way as to insure proper care for all time. He thinks that those who are most interested in the graveyard, lot holders, should be the controllers of its management.

The site should be laid far enough away from the possible growth of a town or a village, so not to be encroached upon in the course of time, and the size may vary from five to twenty acres, according to requirements. An elevated bank of



FIG. 505.—THE CEMETERY AS IT TOO OFTEN IS.

a river or lake is a desirable site, but, next to this, a gently undulated piece of ground where quiet views may easily be made.

Roadways, in his opinion, should be twelve to eighteen feet wide, following the base of undulating surface as much as possible. This will give curved lines and add to the beauty. Lot sections should follow lines of the roadways, but begin far enough back to secure a border in order that trees may be planted without interfering with either the road or the lots. Irregular spaces may be left throughout all sections for trees in addition.

Lots may be of various sizes, but, as a rule, front lots should not be less than sixteen feet square. Every second row of lots ought to be separated by a path-way at least five feet in width which should be reached by a path from the

front about every sixth or eighth lot. All these pathways should be kept in grass.

No hedges or enclosures, in his opinion, should be permitted upon the lots, and but one monument should be allowed upon an entire lot. No headstones or marks should be projecting more than sixteen inches, indeed six inches is better. No footstones should be allowed.

The accompanying engravings are used in illustration of the writer's plan, Fig. 505, representing the old fashioned graveyard in its neglected state, and Fig. 506 representing Mr. Sargent's ideal grounds. It will be observed that mounds are entirely done away with, thus allowing greater ease in keeping the grass shaven with the lawn mower.

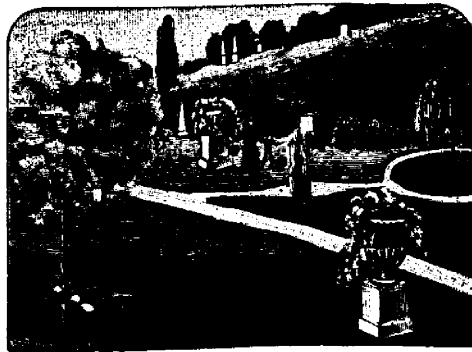


FIG. 506.—THE CEMETERY AS IT SHOULD BE.

**SAGE FOR MARKET.**—Sage is raised by the market gardeners near New York as a second crop in the season, and the entire crop is gathered at once, and not a little at a time, as is usually practiced in private gardens where only a few bunches are cultivated. It is true that the plants are hardy, and will live for several years, but for market purposes they are best treated as annuals. The seed should be sown early in spring, and not later than the first of May, and if the soil is rich and the plants given good care, they will be ready for transplanting in July to ground from which a crop of early peas, cabbage or beets has been gathered. The sage plants are set in rows eighteen to twenty inches apart and about twelve inches in the row. The crop is gathered late in fall, tied up in bunches, and sold when fresh, or after being dried in the shade. The price is, of course, variable, depending upon supply and demand. If sent from a distance, sage should be packed in open crates. Gardeners say that from three to four hundred dollars per acre is about the average for a crop of sage.—*American Agriculturist*.

## MICHIGAN HORTICULTURAL SOCIETY.



THE Michigan State Horticultural Society held their annual meeting at Ann Arbor on the 26th, 27th, and 28th of December, and as the Secretary of our Society, who was appointed a delegate to their meeting, could not attend, I was easily induced to be his representative, and beg leave to submit the following report: The meetings were fairly well attended, and the papers and discussions were very lively and full of interest and instruction, though much of their discussion was in relation to their coming fruit exhibit at Chicago, and of no particular interest to us, farther than to show that while we have been at work securing, bottling and stoning our fruit for the exhibit, they have been wrangling over "ways and means," and, as yet, have done very little in that direction. I incidentally learned from Mr. S. D. Willard, who was there as a delegate from the Western New York Horticultural Society, that the same state of things existed there. I did not arrive in time to hear the President's address, or a paper on "Economy in Fruit Growing," by Mr. Kellog, of Iona, both of which were said to be very practical.

But I had the pleasure of listening to an address from Prof. Angell, of the Michigan State University, which was full of suggestions and practical points, the most prominent one being the necessity of teaching horticulture in country schools—a subject which we have often discussed. The main difficulty there, as here, seemed to be the want of proper qualification in teachers for this work. He urged that it should be done at least one hour in a week, if not oftener, and suggested that familiar talks, or lectures, would be of much more value than text books upon this subject. Right here, may I offer this suggestion to our public instructors, viz., that it might be a good idea to employ a competent person, say in each county, to visit schools weekly, and give a half hour or an hour of instruction upon this and other branches of agriculture? A *live man* could visit four or five schools in a day, and accomplish quite a large circuit in a week.

Prof. Taft, of the State Agricultural College, and Prof. Smith, from the Horticultural Department at Washington, and others, read and discussed papers upon the fungoid diseases of fruits, and their prevention and cure. The universal testimony seemed to be that "Prevention is better than cure"; that trees kept in a healthy growing condition, were less liable to the disease, and that the early removing of all affected fruits and leaves, and everything that would retain the spores of the disease, and an early and continuous spraying with the Bordeaux mixture—or other mixtures of a similar nature—would prevent, in a great measure, the apple scab, grape mildew and rot, and all similar diseases.

Discussions on the peach yellows showed that where the law had been strictly enforced, compelling the removal and burning of affected trees immediately on its appearance, and not leaving them to scatter the germs of the disease, orchards had been saved and this industry was prosperous; but, where the enforcement of the law had been neglected, it had spread rapidly, and peach growing was a failure. A paper on "Adulterated Fruit Products," brought out some "cute Yankee tricks" in manufacturing different kinds of berry jam from gelatine, hay and clover seed, with the addition of a little cider made from the refuse cores and peelings of canning and evaporating establishments.

A very interesting paper on "The Wild and Cultivated Fruits of the Amazon," was read by Prof. Steere, who had recently visited South America, showing the great variety of tropical fruits that are indigenous to that country, and the great source of supply for our markets that might be developed if northern enterprise and capital would take hold of it. Other papers on "Food Value of Fruits," "Michigan Flora," "Truck Farming," etc., were read and discussed, which, together with a visit to the State University buildings, library, museum, etc., and the usual kindness and hospitality of the members, made my visit one of much pleasure as well as profit.

*St. Catharines.*

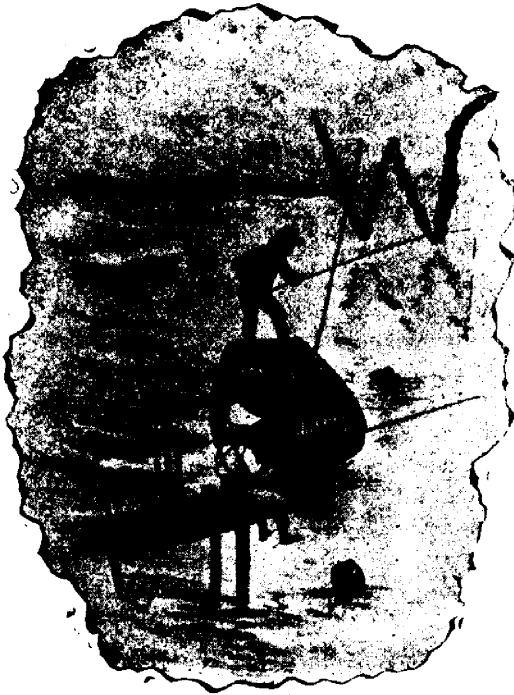
A. M. SMITH.

### APPLES AS MEDICINE.

Chemically, the apple is composed of vegetable fibre, albumen, sugar, gum, chlorophyl, mallic acid, gallic acid, lime and much water. Furthermore, says the Southern Clinic, the German analysts say that the apple contains a larger percentage of phosphorous than any other fruit or vegetable. The phosphorous is admirably adapted for renewing the essential nervous matter, lecithin, of the brain and spinal cord. It is perhaps for the same reason, rudely understood, that the old Scandinavian traditions represent the apple as the food of the gods, who, when they felt themselves growing feeble and infirm, resort to this fruit for renewing their powers of mind and body. The acids of the apple are also of signal use for men of sedentary habits, whose livers are sluggish in action, these acids serving to eliminate from the body noxious matter, which, if retained, would make the brain heavy, dull, or bring about jaundice or skin eruptions and other allied troubles.

Some such an experience must have led to our custom of taking apple sauce with roast pork, rich goose, and like dishes. The mallic acid of ripe apples, either raw or cooked, will neutralize any excess of chalky matter engendered by eating too much meat. It is also the fact that such fresh fruits as the apple, the pear, and the plum, when taken ripe and without sugar, diminish acidity in the stomach, rather than provoke it. Their vegetable sauces and juices are converted into alkaline carbonates, which tend to counteract acidity.

## WINTER PEARS.



WINTER pears are not much grown for market, because, as a rule the summer pears have been more profitable, and many of the winter pears are poor in quality. Besides the winter pears need to be ripened and marketed in a certain manner or else they will be unsatisfactory. American Garden has been inquiring among its correspondents concerning the merits of this class of fruit, and the results seem only in favor of two principal varieties, the Lawrence and the Anjou—though other varieties are worth trying.

Mr. T. T. Lyon, of South

Haven, Michigan, replied as follows:—

Until a comparatively recent period, few, if any, winter varieties of the pears were of such a character as to command much attention beyond the few amateurs who had made this fruit their speciality, and had mastered what was, at the time, considered an abstruse or difficult process—that of properly ripening the fruit. Even at the present time, with a list of varieties considerably increased, and including many of decided merit, the earlier impressions seem to give way very slowly; and the popular demand for winter pears is yet so limited that commercial growers rarely plant them. It may fairly be doubted whether even a moiety of pear-growers have an adequate conception of the delectable quality wrapped up in a well-grown and perfectly ripened Nelis, a Dana's Hovey, or even a Lawrence. With such as these, and dozens of others, nearly or quite as good, put upon our city and village markets ripe and full colored, there can be little room for doubt than an appreciative demand would arise, quite as rapidly as planters and growers would be prepared to supply it. True, there are, even yet, comparatively few long-keeping varieties adapted to market purposes; but with modern refrigeration, or cold-storage, even such varieties as Anjou, Angouleme, and numerous others can now be carried over till the markets demand them.

To me the conviction is very decided that we should no longer leave the public to assume that the Bartlett is the only pear, and September the only pear season ; but, rather, supply the means to convince them fully of the error by gustatory demonstration.

Messrs. Ellwanger and Barry, of Rochester, wrote :—The following are among the prominent varieties of winter pears ; Wilder (Colonel Wilder), Winter Nelis, Souvenir d'Esperen, Josephine de Malines, Barry, Clairgeau, Easter Beurre, Duhamel du Monceau, Jones, Lawrence, Anjou, Mount Vernon. The Clairgeau is really a fall pear ; the others are winter varieties.

Our plan of keeping pears is very simple. In an ordinary building, lined with hay so as to keep out the severe cold we can keep most varieties through the winter successfully. The varieties of winter pears which we grow most are Anjou, Winter Nelis and Josephine de Malines. Anjou, the earliest, is by far the most satisfactory, being very large, handsome and of a fine quality. The California varieties raised by Mr. Fox—Wilder and Barry—are the longest keepers, preserving their good flavor and perfect condition until April. Duhamel du Monceau and Souvenir d'Esperen are varieties that are not grown or known much, but both are valuable on account of their size and quality. Both are high-flavored and deserve to be cultivated more extensively than they are. We have been trying for many years to increase the cultivation of the Anjou, but for some reason—we do not know exactly why—growers have not undertaken to produce it on a large scale. We think that one of the principal objections raised is its large size, as it is liable to be injured by the storms that occur early in autumn. This is to some extent true, but if the orchard is properly located and provided with necessary shelter, this objection cannot be urged. We have not had any experience with cold-storage, and therefore cannot say anything about it. Our experience so far has been very satisfactory with fruit kept according to our method. When the fruit comes out of the house it does not suffer in any way from the change of temperature, and will last a long time even when brought into warm places.

**Keeping Produce Outdoors.**—Not one man in a thousand knows how to put away potatoes, beets, carrots, or apples outdoors so they will keep until spring in fine order ; in fact nearly everybody believes that it cannot be done. It is our place to set these folks right. Dig a shallow trench in an elevated spot four feet wide and six inches deep, and long enough to hold all you want to put in it. Place two or three inches of oat-straw in the bottom of the trench. Then put in your roots or apples, piling them up three feet or so, and cover with six inches of oat-straw. Then place upon the straw fifteen inches of earth to keep the frost out. We say fifteen inches because we mean it. This is all.—Farm Journal.



## NOTES ON EARLY PEARS.



F the more common varieties, Summer Doyenné stands at the head of the list for earliness. Old trees that are heavily loaded with crops, give smaller pears with deficient flavor, as compared with the thinner crops on young thrifty trees, but they ripen a week or two earlier. A tree of this variety, more than twenty years old, stood in the corner of a pasture field; the only attention it received by way of culture was an annual top-dressing. It bore as usual a heavy crop this year, when many other pears failed. One half began to ripen with full red cheeks about the time of wheat harvest, and one half or more of the crop was gathered, selecting these, and leaving the hard and green ones. This gave the remainder more room to mature, and in two weeks these were all gathered. They had grown so much larger in consequence of the thinning, that the crop would fill as many baskets as the whole would at first, and the pears were at least double the size of the earliest, with greatly superior flavor; thus adding another fact to the well proved truth that those who do not thin the fruit on their crowded trees, suffer a great loss as to the quality, and gain nothing in quantity. This is especially the case with Summer Doyenné, the flavor of which, on crowded trees, is apt to be quite deficient.

After this in a few days comes the Giffard, one of the finest of all summer pears, but less raised and cultivated on account of its slender and crooked growth, a defect which we entirely obviate by grafting standard height on straight growers. This is followed in a week or two by the Tyson, the loaded trees of which promise a fine crop before the end of August. This fills the gap till the Bartlett's season, early in September. These four—the Summer Doyenné, Giffard, Tyson and Bartlett nearly always give good crops when others fail, and the Bartlett appears to possess the peculiarity of ripening into juicy maturity if picked before full grown. There are several other summer pears which should be mentioned, as Bloodgood, Osband, Madeleine, Dearborn, Rostiezer and others. As summer pears are ripened by the warm weather more rapidly than later pears, it is more essential to pick them in good season, to prevent the loss of their fine flavor by over-ripeness.—Cultivator.

**Watering.**—No detail of house-plant management is more important than that of watering. If you cannot appreciate this, visit the commercial plant-grower's houses, and see the trouble taken there to provide just the right amount of water to each plant. In the first place, the plantsman sees to it that every plant in his charge has drainage provided in the pot, so that any excess of water can quickly escape. Then he watches his collection hourly, and at the first sign of dryness among his plants, down comes a shower from his hose or pot. He applies water with a bold dash—that is when a plant needs water at all, he gives it enough to saturate the soil thoroughly.

## DEATH OF A PROMINENT FRUIT GROWER.



JOHN BURR, who died at Leavenworth, Kansas, on the 13th of December, in his 93rd year, was widely known amongst fruit growers and horticulturists for his contributions for past fifty years to the leading journals devoted to these subjects, was born and resided at Bridgeport, Connecticut for over thirty-six years; he removed to Columbus, Ohio, where he lived for twenty years. While there he introduced "Burr's New Pine," and "Burr's Old Seedling," which are still the leading strawberries of Ohio. Removing to Kansas in 1858, he entered on the cultivation and propagation of strawberries, grapes and other fruit. Though a merchant in his earlier days, the fascination for fruit grew upon him till he devoted himself entirely to it with the untiring energy of his nature. To this engaging and healthful pursuit may be attributed the remarkable vigor of body and mind he preserved up to the day of his death. As to his success in grapes through hybridizing, the "Rural World," of St. Louis, Mo., two years ago published a minute description of nineteen varieties of Mr. Burr's grapes, remarking in the article, "John Burr has long since past his fourscore years, and, in nature of things, will ere long pass away from us. But he will, in these grapes, leave a grateful remembrance more valuable than a monument." Some fifteen years ago Mr. Burr became interested in the experimental efforts undertaken at Clarenceville, Que., for the introduction of early out-door grapes for this Province. He sent for trial his "Early Victor," which is now cultivated through Ontario and Quebec, later his "Standard" proved rather better, and a very prolific and early variety, both for table and wine. His "Jewel," "Paragon" and "Ideal" have fruited at Clarenceville and give promise of value and adaptability to the climate. At the time of his death Mr. Burr was engaged in a new grape which he asserted would surpass all his former efforts, as his productions are tested under varied conditions of soil and climate. There is scarcely a doubt but Canadians may ever have cause to reverence the name of their benefactor.

WM. MEAD PATTERSON,

*Clarenceville, Que., Dec. 17th.*

**Nourishment.**—At the beginning of the season, be sure that each plant has a suitable soil. If the stock comes from an intelligent florist, he will see to this; but every amateur plant-grower should have on hand a supply of potting-mold, for use when plants are lifted from the garden, and in case re-potting is needed. This mold may be had for a small price from regular plant-growers. In buying it, be sure to ask for the best article obtainable.

In addition to good soil, some stimulant will be needed for the plants. Liquid manure and any of the concentrated plant foods are useful; but several different stimulants must not be given at the same time.

## PYRAMID PEAR TREES.



THE Pyramid or cone form of training pear trees, where they stand alone or in a small garden, is a very ornamental one and at the same time calculated to secure a good crop. A strong pyramid, well pruned, symmetrical and thriving, is certainly a handsome object. Like the dwarf or fan form the pyramid requires more or less annual pruning. One must of course begin with a young tree that has branches to the ground. Do not expect too vigorous a growth; from five to seven main branches a year are all that should be allowed. When laying out the branches for the next year's growth, it is as well to prune close to the bud which is to continue the growth, leaving a small spur attached to tie the growing shoot to in order that it may grow in the proper direction. Or it might do to cut the branch three or four inches above the bud, removing all the buds on it, and tie the growing shoot to this spur, which may afterward be taken off. It is a mistake to prune strong-



FIG. 507.—PYRAMID.



FIG. 508.—DWARF PEAR TREE IN FRUIT.

growing varieties too much, and it is equally wrong to allow the lateral branches to grow too long. Therefore it will be best in pruning to use a judicious moderation and keep the tree properly balanced. A well-proportioned pyramid should have a diameter about two-thirds of its height. If a tree of the proper age fails to bear, it may, if well proportioned, be left unpruned for two or three years. A circular incision of the bark about one-half inch wide at the base and kept open may be tried, or even root-pruning resorted to, to bring it into bearing. The illustrations give a good general idea of a pyramid pear tree after winter pruning, also one in fruit.—

Farm and Home.

ONE of the strangest things in this world is that the use of tobacco should have become so general. It has never been rationally explained.

## THE TEN BLOCK SYSTEM FOR COUNTRY HOUSE NUMBERS.



It was quite a novel idea of Mr. A. L. Bancroft of Contra Costa Co., California, of dividing up country roads in such a manner that a complete directory could be published, giving not only the names of the residents, but much valuable information, regarding the points of interest in the country besides. Each mile of road is divided into ten imaginary blocks, having each a frontage of 528 feet. Two numbers are given each block, the odd on the left and the even on the right. Distances can be calculated almost instantly, from the commencement of the road, by dividing the entrance number by two, and pointing off one decimal. Each road has a name, and each house a number.

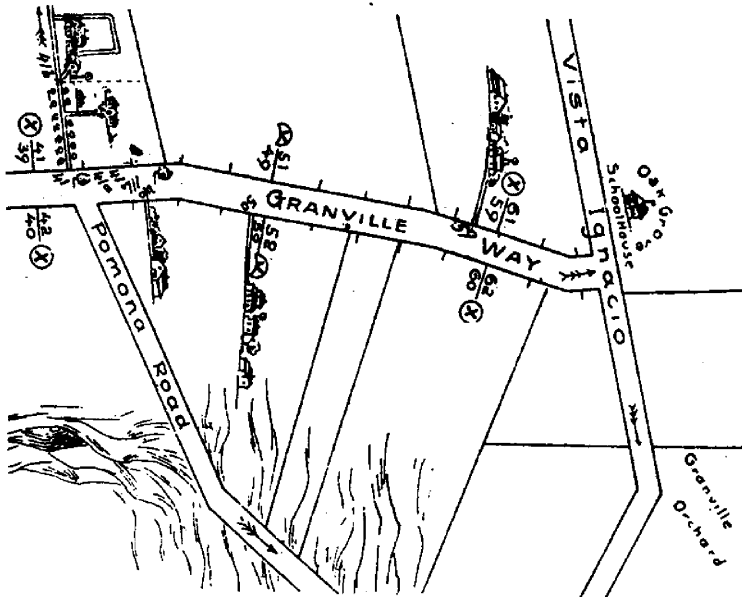


FIG. 509.—THE TEN BLOCK SYSTEM.

Not only does the plan contemplate the numbering but also the naming of the farm, and the name of the owner, in some conspicuous manner by the front gate. Surely even our friend, T. H. Race, who advocates so strongly that every man's name should appear on his own gate post, would be entirely satisfied with such a complete arrangement.

## ❖ New and Little Known Fruits ❖

### THE CYCLOPS PEAR.

SIR,—Herewith I send you a specimen of a pear which originated here. It appears to be a good fruit, and very productive. I picked a wheelbarrowful of it this fall. The seed was sown twelve years ago, and came from the Sacramento Valley, California. The tree is a strong, upright grower. We have called it the Cyclops.

CHARLES SCOTT, *Elora, Ont.*

This pear is a large, pyri-form, much the shape, size, and almost the color of the Orange quince, but somewhat rugged at both the base and apex. The skin is yellow, thickly dotted with small brown dots; stem, about an inch and a quarter long, set in a small, russeted cavity; calyx closed, set in a deep, irregular ribbed basin; flesh, creamy white, rather coarse, but juicy, sweet, with a peculiar flavor just beneath the skin; season, apparently about January. In Mr. Craig's opinion, this pear does not rank high in quality.

### TWO MORE ENGLISH APPLES.

Mr. J. D. Roberts, of Cobourg, sends us two samples each of the King of the Pippins and the Cornish Gilliflower. The latter is not very attractive outside, but the flesh is buttery and good, which alone must account for its popularity. The former is a beautiful golden apple with a red cheek, medium in size, and of rather firm flesh. It is not necessary to describe them, as they are fully treated in the English books. Mr. Roberts will, in time, be able to tell us whether they prove suitable to the Canadian orchards.

### THE WILLIAMS STRAWBERRY.

At the last meeting of our Association in Brantford, the merits of the Williams strawberry was discussed as follows:

Mr. John Little—I cannot find any fault with the Williams with regard to the plant, but the white tip is just like that of its parent, the Sharpless, and that is a detriment to it in more ways than one. Some say that it suits the market well, but in our market they do not care for either the Sharpless or the Williams. Both varieties are excellent bearers.

The Secretary—Is not the Williams a better shipper than the Sharpless?

Mr. Little—Yes.

Mr. D. Greig, Cainsville—My experience is very favorable. The Williams is far more profitable than any other strawberry in this locality; it is superior to the Wilson and the Crescent. We tested the Crescent along with the Williams, and at the first two pickings we had more fruit from the Crescent, but then after

that it dwindled down, while the Williams continued for a long season. Last year we continued to gather the Williams for over four weeks. We had no trouble with the white tips. By leaving the berries a day or two longer on the vines, they ripen up to the very tips. We always receive a cent or a cent and a half more in the market for the Williams than for any other variety. If I were to name three kinds for the home market, I would mention the Williams, Bubach, and Warfield.

Mr. W. H. Lee, Niagara—My experience has been such that if I had to grow the Wilson and Crescent and allow some one else to grow the Williams, I would quit strawberry growing right away. In the Toronto market I can get two and three cents more a basket for them than for the others. You will make a mistake if you do not give the Williams strawberry prominence. I have no personal interest whatever, but I have tested it both here and in the Niagara district. It may not stand drouth with the Bubach, but it is a much better paying berry; indeed, I get two baskets from it for one from any other variety.

### THE CROPS OF LAST SEASON.



NOT having written for some time I send a few notes respecting last season's crops. Strawberries were an extra good crop with me this year, but prices ruled lower than last year. Black currants also a good fair crop. Grapes were almost a failure, owing to the wet cold weather in the spring, which retarded the early growth. Apples a very heavy crop on some trees. In this neighborhood generally, apples were an immense crop. I see in the November HORTICULTURIST an Orillia grower has grown tomatoes weighing 1 lb. 3½ oz., and another a specimen weighing 1 lb. 2 oz. I can beat the record in Orillia. I grew a tomato this summer, of the same variety, *Ponderosa*, weighing a little over 1½ lbs., and I took the first prize at the Tiny and Tay Agricultural Show at Midland with six specimens, weighing altogether 8 lbs. 9½ ozs., averaging for the six within a fraction of 1 lb. 7 oz. I do not like the quality of the *Ponderosa*, they are very soft, and rot easily. Their chief recommendation is their size. They also grow smooth, not much wasted in wrinkles. Now a few words about rhubarb. On page 219, Vol. 13, is mentioned a variety known as *Stoat's Monarch*, of very large size grown at Brampton. I sent to the writer of the paragraph, Mr. Morton, and procured three roots, which have done well. It is a variety worth trying, very much larger than the average kinds, and cooks better, though green in color. I prefer it, for stewing, to the old kinds. I had several stalks two inches in diameter, and one, two and a quarter inches. It has been one thing against rhubarb that as the season advances the stalks get tough and inferior in quality. I have adopted a way of overcoming this trouble. When the first rush of the season is over I mow the stalks close to the ground with a sickle and in a few weeks I have a supply of fresh young stalks equal in quality to the earliest in the spring, as it grows again immediately. This may be done two or three times in the season.

*Penetanguishene.*

G. J. RANDALL.

## \* The Apiary \*

### HINTS FOR BEE RAISERS.



EE raisers should find some time during the fall and winter to make an inventory of fixtures on hand, colonies on hand, and amount of honey and wax taken. There is no other way of telling whether it is profitable than by comparing these inventories from year to year; nor can a decision be made until you have several of the inventories to compare. These inventories serve another purpose, being of incalculable use when making out a list of supplies to be purchased for the coming season.

make it a rule to have fifty one-pound sections of each colony put into winter quarters, and one pound of thin, surplus foundation for each one hundred sections. Before getting new hives I determine how much of an increase of stock I intend to make, then get the number of hives I expect to use, and allow one and one-half pounds of brood foundation to each hive. The fall or early winter is a good time of the year to purchase bee supplies, because then quite a liberal discount is made on prices. Besides, it is a good idea to have everything on hand when wanted. I find that many stormy days in winter can be used to great advantage in putting hives and sections together ready for spring. Some of our winter days should also be given to a study of our failures and successes of past years, and we may avoid the former and multiply the latter. Some one may ask, "How can a bad season be avoided?" thinking that the cause of their failure. But can we be sure it is the season? May not bad management have something to do with it? I admit that a poor season will reduce the crop of honey, but it increases the price.

In 1889 bee-keepers in this section of the country had what they called a full crop of honey. That is, about fifty pounds per colony of combed honey. It sold slowly at fifteen cents a pound. For the last two seasons the average per colony has been less than ten pounds, and sold at prices ranging from twenty-five to thirty cents per pound. My apiary is not more than a mile from two other apiaries, one east, and the other west from it. Each has the same bee

pasture, so far as I can judge, but equal crops of honey were not produced because the different apiaries were managed by three different persons. The one east of me made a moderate increase in stock and produced about ten pounds of honey per colony; the one west doubled their number, and consumed all the honey they made and a barrel of sugar besides. My apiary made no increase in stock because I wanted the honey, and I got about forty-five pounds per colony.—*Ex.*

## BEEES AND FRUIT.



OUR readers will remember that in April of last year an Act was passed in the interest of bee-keepers restraining fruit growers from spraying their trees with arsenical poisons during the time of the blossoming, for fear of injury to the bees which might be gathering honey in the orchard. The following are the clauses of the Act:

1. No person in spraying fruit or sprinkling fruit trees during the period within which such trees are in full bloom, shall use or cause to be used, any mixture containing Paris green or any other poisonous substance injurious to bees.

2. Any person contravening the provisions of this Act, shall on summary conviction thereof before a Justice of the Peace, be subject to a penalty of not less than \$1, or more than \$5, with or without costs of prosecution, and in case of a fine, or a fine and costs being awarded, and of the same not being upon conviction forthwith paid, the Justice may commit the offender to the common jail, there to be imprisoned for any term not exceeding thirty days, unless the fine and costs are sooner paid.

3. This Act shall not come into force until the first day of January, 1892. Mr. J. H. Panton, M.A., Professor of Biology, O. A. C., Guelph, has written a bulletin on this subject, in which he first shows how fruits are fertilized by the pollen grains of the blossoms, naming four principal means, first the wind, second artificial means, third by birds, and fourth by insects. The latter he considers by far the most common method, and of insects no class is more useful than bees.

The importance of perfect fertilization is evidenced by the fact that, where this does not take place, the fruit is incompletely developed, both in size and form, so that the quantity and quality are affected. Observations which have been made show that orchards in which bee hives are situated are more fruitful than those without hives. It has also been observed that the time when the weather was cloudy, wet and cold, during the blossoming of our orchard trees, and so unfavorable to the bees working among the flowers, the result has been poor fruit.



These investigations lead us to the conclusions that bees are important factors in the production of fruit, and really are co-workers with fruit growers in their labors.

With regard to the charge frequently made against bees that they are injurious to fruit, careful investigations have been made by the Department of Agriculture of the United States. Bees have been left without food in a building where all kinds of fruit, varying from green to dead ripe, were placed, and, although they fed upon the fruits where the skin was already broken and the juice was exuding, in no case did they use their jaws in injuring perfect fruit.

Bee experts claim that considerable mortality has been noticed among the brood of bees since the introduction of spraying with Paris green. Prof. Cook has proved by experiment that Paris green in the proportion of one pound to two hundred gallons of water will prove fatal to bees within twenty-four hours.

Possibly this Act was necessary, but, so far as our experience is concerned, we have never applied the poison to our trees during the blossoming period, because at that time it is not only useless, but there is a danger of injuring the delicate organs of the blossom by Paris green. But, although we believe that very few growers would ever be so foolish as to apply Paris green at this objectional period, still we have no objection to the passing of a law, if necessary at all, as much in our interests as those of bee-keepers.

---

### THE DEMPSEY PEAR.

A short time ago we received some samples of the Dempsey pear from Messrs. Stone & Wellington, of the Fonthill Nurseries, who have purchased the right of propagation. The pear impressed us as one of considerable excellence. This pear was originated by one of the directors of our Association, the late P. C. Dempsey, of Trenton, whose work in producing hybrid fruits was so suddenly cut off, just at a time when he had many new hybrids under his careful supervision. The pear was produced from the seed of a Bartlett fertilized by a Duchess.

The tree is an upright, good grower; foliage large, glossy, dark green; fruit large as the Duchess, pyriform, irregular in outline; smooth, green, changing to yellow as it ripens, with a slight brown tinge where exposed to the sun; stem about an inch long, sets lightly upon one side in a shallow depression; calyx open, moderately shallow; basin somewhat corrugated; flesh white, fine grained, tender, with granulations about the centre, like the Duchess; sweet juicy, rich flavor. A pear that will stand transportation well; season, October and November.



## The Canadian Horticulturist

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.

THE ACT REGARDING PLUM KNOT AND YELLOWS.— At the meeting at Brantford, the present Act with regard to the diseases of fruit trees was discussed, and the conclusion was arrived at, that some of the provisions render the Act a dead letter; for instance, the article requiring fifty ratepayers to sign a petition, before the council is obliged to appoint an inspector of diseased trees. This is a task which few will undertake. Five names to such a petition is surely sufficient. Then the inspector, after his appointment, cannot act except he has a written complaint from some person, calling his attention to the existence of yellows or black knot. Now this is another hindrance to successful working of the Act. Surely an inspector has eyes of his own, and he should be empowered to act, without being asked, whenever he sees or hears of yellows existing in his district. But what if the local inspector will not act, when called upon, for fear of displeasing his neighbors? How can we then enforce the destruction of the diseased trees. The remedy perhaps is to have a provincial inspector, whose duties it shall be to enforce the provisions of the Act in any locality where, owing to the dilatoriness of the local inspector, he is called upon to enforce it.

The committee charged with this matter, will call upon the Minister of Agriculture at an early date, and draw his attention to the much-needed amendments to the Act, as outlined by the Association.

OUR enetric contemporary, the American Garden, opens the January number with a sketch of John Burrough's, the author of "Pepacton" a collection of essays on rural scenes, of great literary excellence. A vignette of him and his favorite dog, heads the article, in which the author, Prof. Bailey, describes Mr. Burroughs as a fruit grower often engaged in the practical work of harvest-

ing and packing his own fruit. His ten acres of vineyard yielded him thirty-eight tons of grapes last season; and that of such delicate sorts as Delaware, Herbert, Gaertner, besides Wordens, a few Concords, Niagara, etc. Every vine is sprayed with Bordeaux mixture annually, whether there is disease or not, because it helps the foliage in such a wonderful manner, and "good vines produce good grapes." He frames his vines on the Kniffen system, leaving four arms with five buds on each of the lower ones, and ten on each of the upper ones.

## ✂ Question Drawer. ✂

### GOOSEBERRIES AND CURRANTS.

**529.** SIR.—What kinds of gooseberries and currants would you recommend for farmers who grows them only for the family?

JOHN DALGARNO, *Marmion.*

The leading gooseberries for general use at the present day are the Downing and Pearl, and the most desirable currants of the various colors are, Black Naples, Fay's Red and White Grape.

### PROPAGATING PALMS.

**530.** SIR.—Do you know if I can propagate palms from cuttings, and if so, how?

CHAS. MITCHELL, *Port Elgin.*

Palms are, for the most part, propagated from seeds sown thickly in clean, well-drained pans, covered with about their own depth of soil. They require careful greenhouse management for the best success. They may also be propagated from suckers on a small scale, but for the details of the method of accomplishing this work, we must refer the question to some practical florist.

### VARIETIES OF RASPBERRIES.

**531.** SIR.—Is the Malboro' a hardier raspberry than the Cuthbert? Why do my Cuthberts grow strong during the summer, and look well in the spring after trimming, but often fail to bud out, and, when they do, produce but little fruit? I have had only one crop in six years. I had eight rows thirty yards long, in hills two feet apart and four feet between the rows, pinched back early in the season and then allowed to grow, trimmed up to four or six canes in the hills and shortened in?

A. J. C.

We are unable to say which is the hardier, the Malboro' or the Cuthbert, as both succeed well at Grimsby. We do not understand the failure spoken of by our correspondent, unless it be due to the severity of the winter killing the fruit buds, or possibly to rust of the leaves or canes.

## RASPBERRY CULTURE.

**532.** SIR,—Please give me a little information with regard to raspberry culture for a garden. Is it better to plant them in hills two feet apart and four feet between the rows, or in rows two feet wide and four feet apart in the rows? Should the four feet space be dug over and manured each year after the plants are established, or deeply hoed and manure put on early in the spring or late in the autumn?

A. J. COLLINS, *Listowel, Ont.*

There would be no object in planting raspberries in hills two feet one way and four feet the other. The chief advantage in hill culture of raspberries is ease of cultivation, and, in order to accomplish this, the hills should be planted four feet apart each way. Mr. E. Morden, of Niagara Falls, has adopted this method of planting to very great advantage in cultivation, but, if one has a limited quantity of garden ground, more fruit to the acre will be gained by planting in rows, but these rows should be at least five feet apart for horse cultivation, and six feet is even better. The plants should not be allowed to spread too widely, as this will leave too much work for the hoe and spade. Indeed, we do not approve of any system of growing raspberries which leaves much hand-work. Of course, it is necessary to use the hoe, but, when once the ground is well occupied with the raspberry bushes, little work will be left for either hoe or spade. It will accomplish every purpose to apply the manure annually after the plants are once established, and it makes very little difference whether it is applied in the spring or fall.

## THE ABUNDANCE PLUM.

**533.** SIR,—Messrs. W. F. Bassett & Son, of Hammoncton, N. Y., have a specialty in Japan Plums, in the Abundance in particular. Do you know anything about them, and can I buy them in Canada?

J. A. T., *Norwich.*

You may be sure, that as soon as any new thing, proved to be a really superior article, our Ontario nurserymen will keep it in stock. Some of the Japan plums promise to be valuable, as, for instance, the Botan (Abundance), but it is not yet fully tested. Mr. T. T. Lyon, director of the South Haven Experiment Station, writes that he is growing it, but his trees are too small to bear fruit, and he knows of no one in Michigan who has fruited it. Mr. S. D. Willard, of Geneva, almost the only one in New York State who has fruited it, writes:—"In reply to yours of the 7th, I have fruited the Abundance plum for four or five years, and find it hardy and productive, of fair quality, and well received in our markets; but I do not think it equal to the Burbank in productiveness, or to some of the other Japan sorts, as regards quality. But its very beautiful appearance causes it to take well in the city markets." Mr. Vandeman, of Washington, says the Botan is of medium size, heart-shaped and of good quality.

### PEARS ON TOLMAN SWEET.

**534.** SIR,—I have been recommended to graft pears on Tolman Sweet apple tree stock. Do you know anything of the result of this practice?

J. A. T., *Norwich, Ont.*

We have never seen any great success in grafting pears of apples or apples upon pears. Usually each variety of tree succeeds best upon its own kind. Tolman Sweet, however, is a particularly desirable apple tree stock upon which to graft our better varieties. The King apple, for instance, is very superior, both in quality and productiveness, when grafted upon the Tolman Sweet. We would be pleased to hear from any of our readers who know of pears proving a success when so grafted.

### BASKETS FOR SMALL FRUITS.

**535.** SIR,—Are pint boxes popular for raspberries, and what is used? Do raspberries in pints sell well in the Toronto market?

A. W. HARTLEY, *Milton, Ont.*

The writer has experimented on several occasions with the pint basket, not only in the Toronto, but also in other markets. In some cases there appears to be an advantage in using the pint, because in the first place, a quart of raspberries is almost too many together, as they settle down so closely and do not carry so well as in the pint packages. As soon as the trade becomes accustomed to them in Ontario, as it has already done in some of the markets of the United States, there is no doubt that the pints will be found the most suitable sized package for holding raspberries. The markets are fastidious, however, and are inclined to look with suspicion or hesitancy upon any new package, until they become well accustomed to handling it and find that it is in demand among the consumers.

### EXHIBITING GRAPES.

**536.** SIR,—What is your idea regarding exhibiting grapes at fairs? In cases where a collection of varieties are shown, should they not be, as nearly as possible, made up about equally of red, white and black; at least, would they not rank better so?

JOHN GARDNER, *Hamilton.*

No doubt the collection would be a more desirable one, if the various colors were well represented, and any sensible judges would give certain marks additional for a well-assorted collection, over one given too much to one color. But there are few good white grapes, than of black, and in a very large collection, equal numbers of each having about the same value in points, would not be available.

## HIBISCUS.

**537.** SIR,—Would you kindly inform me as to the proper treatment in the fall and winter of the Hibiscus. Should they be trimmed down when the leaves begin to decay?  
 RICH. H. LIGHT, *Kingston.*

This is a shrub belonging to the Mallows family, a family containing about one hundred and fifty species, ranging in size from herbs and shrubs up to trees. The common cheese of the yards and the holyhocks of our gardens are familiar specimens. Hardy kinds of hibiscus may be grown out of doors and need very little pruning, except perhaps a little cutting back in the spring. If grown indoors they should be planted in large pots. Suitable soil is made of peat and fibry loam, with the addition of a little charcoal or sand. They should be allowed to rest during the winter, and in the spring the growth should be started with considerable heat and moisture. Perhaps some of our friends among the florists will write us more fully in reply to this question.

---

## GRAFTING.

**538.** SIR,—When is the best time to cut scions? How should they be kept till wanted? How is the grafting wax made for use on paper, for whip grafting?  
 IRA N. BURT, *Keswick Ridge.*

Scions for grafting are usually cut in early spring, some time in advance of the time of their use, and while the buds are still perfectly dormant. They are much less likely to grow if the buds are even allowed to swell before cutting. Sometimes they are cut a long time in advance, even in the late fall or early winter, and in this case they are packed in boxes with fresh-made sawdust, in alternate layers, by which means they are kept plump until needed. Care must be used to keep them cool so the buds will not push.

Grafting wax is prepared in several ways. For whip grafting, indoors, a wax is made by melting together two pounds rosin, one and one-quarter pounds of beeswax, and three-fourths of a pound of tallow. Instead of tallow, linseed has been found better, using a pint of the latter instead of the former. Thin calico cloth is rolled and dipped in this solution, unrolled while warm, and then cut in convenient strips; or the solution is spread with a brush on a certain brown paper known as grafting paper.

---

## A GOOD SPRAY PUMP.

**539.** SIR,—I want to get a good spray pump, suitable for orchard trees. Would you please give me the name and probable cost of the kinds used in your province.  
 WELLINGTON MUTCH, *Eldon, P. E. I.*

See page 51 of this number for a description of a good Canadian made sprayer.

\* Open Letters. \*

FRUIT EXPERIENCE AT SANDWICH.

SIR,—My fruit has all done well. I use a great quantity of ashes on my orchard every year and sow rye among the vines in the fall and plough it under in the spring. Last year I got nine and a half tons of grapes from one and three-quarter acres; my usual average is about four and a half tons per acre

GEO. GRAY, *Sandwich.*

GOOD WISHES.

SIR,—I hope that the HORTICULTURIST will continue to be useful to our fruit growers. I think that the Fruit Growers' Association should try to assist in the sale of fruit. Canadian apples will never take the place they ought in the British markets until they are handled differently. One important point is to get them on the market in the proper season. There were some left in this section last fall until they were nearly spoiled before they were shipped. Such methods will spoil the market for other shippers.

JOHN DALGARNO, *Marmion.*

THE ONE JUDGE SYSTEM.

I see by the December number of the HORTICULTURIST, page 400, that Mr. Hallway, of Clinton, expresses himself as decidedly against the one judge system at fairs, and he quotes a case where he has been a sufferer. He says he had on exhibition as beautiful a sample of potato onions as was ever seen, and the judge declared they were not potato onions. As I was the judge in this case, I am very glad Mr. Hallway has given a chance for a discussion on the subject of the identity of the potato onion, for there can be tricks practised in exhibiting this variety of onion, as I will show. It is known that in a field of potato onions, planted with pure seed, many specimens of single onions may be produced, which will sometimes grow to the size of a fair Yellow Danvers. Now, I will not say those single onions are not potato onions, but I will say they cannot compete in the generic of the potato onion until they produce the multiplier, which will be the next year. I claim the strongest point is identity in a multiplier. In Mr. Hallway's case this was wanting, and I called two market gardeners, who happened to be on the grounds, to give me their opinion as to the exhibit being all single onions, on which fact I wished to have evidence. Now, in this case two exhibits were found in competition, one a fine sample of single onion, as the sample in contention, and the other sample a perfect multiplier, being in bunches or broken apart. Now, which should have the prize, the first not having the identity of the potato onion? Would all have to be cut through horizontally to see whether they all had several centres?—for no judge could know otherwise with perfect samples of single onions. So you can see what trouble it would make, both to the judge and the exhibitor, the latter of whom certainly would be disgusted to see his beautiful sample of onions all destroyed just because they did not show their generic identity, which, in my mind, is the strongest point in deciding correctly in this variety of onion. It is easily seen if exhibits of single onions were allowed by judges to compete as potato onions, any kind could be exhibited in part or altogether by tricky persons. I am sure Mr. Hallway will agree with me when he gives this question his sincere study, and will bring on his perfectly developed potato onions another year; for, if three judges or one, I am sure the decision will be the same. I would like to hear the opinion of others on this question, as a thorough discussion of it now might save trouble in the future at fairs.

WM. WARNOCK, *Goderich.*

## Question Budget

20. Is Beurre d' Anjou as hardy as Blemish Beauty ?  
21. Would the Stark apple be profitable in Ontario ?  
22. Would it be advisable and safe to top dress strawberry plants with nitrate of soda, and what quantity should be used per acre ? J. S., Nanaimo, B. C.  
23. What is the speediest, handiest and best implement to cultivate strawberries with (for manual labor) and by whom manufactured ? J. S.  
24. Whether is hot air or hot water the safest to use in a greenhouse where personal attention can be given it ? J. S.  
25. Which is the best manure to use, superphosphates, or bone meal, on small fruits, such as raspberries, blackberries, currants, etc. J. S.

---

*Answers to Questions 13, 14 and 15 in "Question Budget," by E. Morden,  
Niagara Falls South.*

**538.** (13) Which is the cheapest fertilizer, manure at \$1.00 per ton ; ashes at 10 cts. a bushel ; or slacked lime at 7 cts. a bushel, all delivered ?

Barnyard manure at \$1 per ton is cheaper than ashes at 10 cts., or lime at 7 cts. per bush. ordinarily. On some soils lime would have some value ; on other soils no value. With a soil already rich ashes might be indicated. Where a slow, firm growth of peach or other fruit trees is desired, ashes are preferable to stimulating barnyard manure. As a general rule barnyard manure is the cheapest and best manure.

**539.** (14) Which pays best, small fruits or the apple orchard ?

Small fruits, if within reach of a good local market, would give quicker and larger returns than an apple orchard. Small fruits, for market, should only be grown by those who can and will give them continuous attention during the whole season. The ordinary farmer with a soil suited to the apple, might plant and care for an apple orchard with advantage to himself. To many such a small fruit plantation would prove to be a large nuisance.

**540.** (15) Will it pay to dig out young apple orchard, just bearing, and of the best varieties, in order to plant grapes or small fruits ?

If your soil is exactly suited to small fruits ; if your land is very high-priced ; if you are near to manure, and a good local market ; if you are willing to cultivate the soil and care for the fruits, and fight weeds intelligently for eight months each year, you might perhaps dig out those trees. If land is cheap leave the trees and plant small fruits elsewhere. If apples succeed well with you, give them a chance. Before digging out a bearing orchard to plant grapes, it is a safe thing to calculate the cost of vines, planting, cultivation, posts and wires, pruning, etc. By encountering these expenses for four years without return, your vines reach a bearing age, and if they escape the ravages of multifarious insects and a few fungoid diseases, such as rots and mildews, you will sometimes get grapes that will bring about one cent per lb. Grapes a few years since, brought from four cents to eight cents per lb., and growers in some favored localities made some money, and did much boasting. An uncertain crop at quarter of the former prices, is not the surest possible road to affluence. The man who grows all the best market varieties of small fruits will usually make money out of some of them each year.

---

*Answers to Questions Nos. 16, 17, 18 and 19 in "Question Budget," by R.  
McKnight, Owen Sound.*

**541.** (16) What is the proper temperature for the cellar in which bees are to be wintered ?

A temperature ranging from 40° to 50°.

**542.** (17) When should bees be removed from the cellar ?

Any time between the 1st and 15th of April. The state of the weather and the condition of the bees have much to do in determining the time.

**543.** (18) May bees not be left out-doors in winter, with some protection ?

Yes. More bees are wintered outside than indoors.

**544.** (19) What is full brood among bees ?

An infectious disease which attacks the larva of which they die and putrify in their cells. Foul broody hives emit a peculiar, offensive smell. Its immediate cause is the presence of *Bacillus albi*.



## \* Our Book Table. \*

THE OLD CONCESSION ROAD, is the name of a small book of fifty-four pages, written by Thos. Laidlaw, and published at Guelph. It is a series of reminiscences of early days, written in somewhat interesting vein—though at times in rather a poetical strain, considering the prosy nature of some of the subjects.

### CATALOGUES.

THE LINCOLN PEAR, a pamphlet concerning this novelty, sent out by F. S. Phoenix, Bloomington, Ill.

THE ROCKY MOUNTAIN CHERRY, a dwarf tree discovered in 1878, by Charles E. Pennock, nurseryman, Fort Collins, Col. He states that it is very hardy, enduring 40°, and exceedingly productive, a bush three years old, yielding in one case, sixteen quarts. Fruit, jet black, and in flavor akin to the sweet cherries. All this and more in the circular.

JAMES J. H. GREGORY & SONS' Catalogue of home grown seeds, 1893. Marblehead, Mass. A finely illustrated catalogue of seventy-two pages.

SEEDS. J. A. Bruce, Hamilton.—Steele, Briggs & Marcon, Toronto.—J. A. Simmers, Toronto.

TREES. Smith & Vanduzer, Winona.—A. G. Hull, St. Catharines.

### THE APPLE MARKETS.

Reports and accounts of sales of apples are to hand from Messrs. Woodall, J. C. Houghton, James Adam Son & Co., L. Conolly & Co., of Liverpool; John Seed & Sons, Hull, and others, all agreeing in reporting no advance up to the middle of January.


On the 18th, however, the market began to improve, and the following telegram came to hand from Messrs. Simons, Shuttleworth & Co.:

“Baldwins and Greenings 13/ to 16/; G. Russets 15/ to 18/; R. Russets 12/ to 15/; Spies 14/ to 17/; Kings 17/ to 20/; Spitz Seeks, C. Reds 12/ to 15/; Cranberry Pippas 16/ to 19/; Ribison Pippas 8/ to 11/. Some fancy fruit brought even higher than our highest quotations. Good stock in demand, inferior neglected, only the finest fruit wanted. The markets will not take any greatly increased quantities, and maintain prices.”

The reports from our American markets also seem brighter, so that it appears that those who have stored their apples will make some money by it. Messrs. Charles Richard son, Commission Co., of Buffalo, writes:—The apple market has developed more strength and we are looking for advanced prices towards February. From to-day's sales we quote Greenings, fancy \$3.50 to \$4; Spys, fancy \$3.25 to \$3.75; Baldwins, fancy \$3.00 to \$3.25; Russets, \$3. If there are any parties holding apples in your vicinity, will be pleased to have their names when you write us.

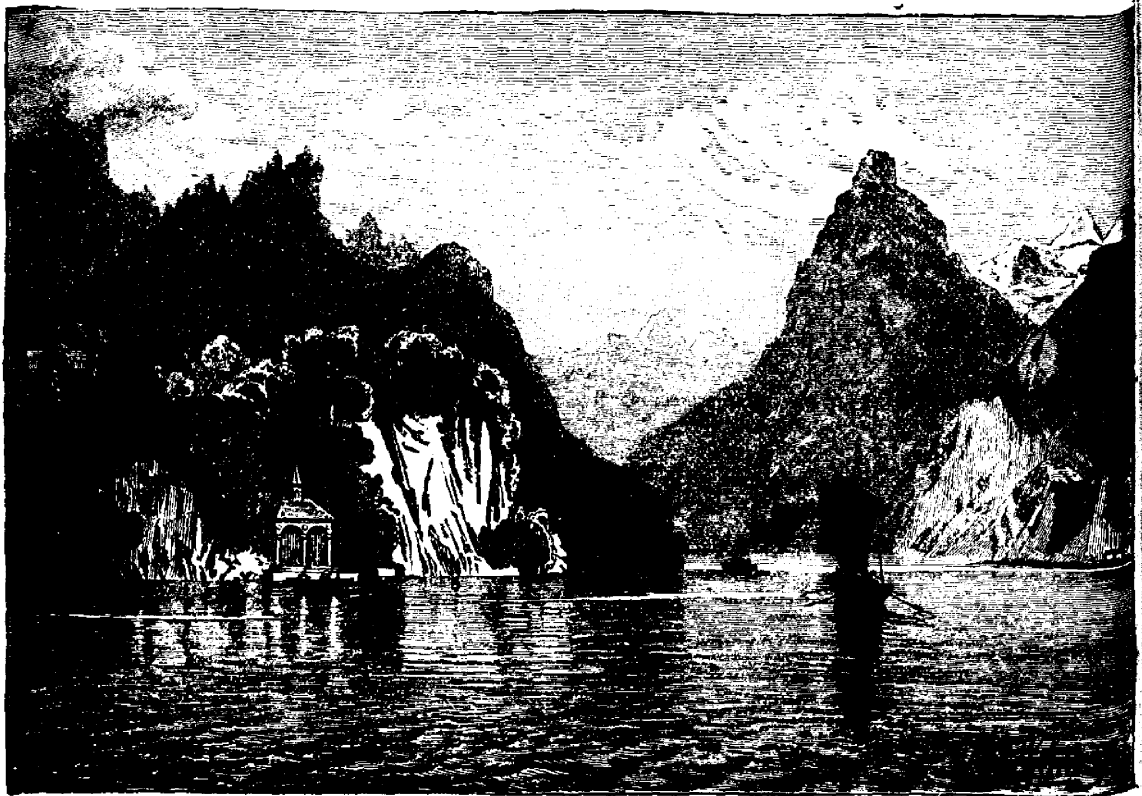


## TELL'S CHAPEL, ON LAKE LUCERNE.

 In the year 1307, Gessler, Vogt of the Emperor Albert of Hapsburg (Austria), in Switzerland, set a hat on a pole, as a symbol of imperial power, and ordered everyone who passed by to do obeisance to it. A mountaineer of the name of William Tell, boldly traversed the space before it without saluting the abhorred symbol. By Gessler's command, he at once seized and brought before him. As Tell was known to be an expert archer, he was ordered, by way of punishment, to shoot an apple off the head of his own son. Finding remonstrance vain, he submitted. The apple was placed on the child's head. Tell bent his bow, and arrow sped, and apple and arrow fell to the ground. But the Vogt noticed that Tell, before shooting, had stuck another arrow into his belt, and he enquired the reason.

"It was for you," replied the sturdy archer. "Had I shot my child, know that it would not have missed your heart."

Tell was at once put in irons and taken in a boat across Lake of Lucerne. A sudden storm arose which threatened the little craft with destruction, until Tell was placed at the helm. Upon finally reaching the shore, Tell jumped out of the boat, which, by a great effort of strength he pushed back into the lake, leaving it to the mercy of the infuriated waves. Gessler and his party, however, were saved. Tell later on waylaid and shot the Vogt in a narrow mountain pass. For this act he was proclaimed by his countrymen as the liberator of Switzerland from Austrian oppression. The place where the little chapel is shown on the accompanying cut, is supposed to be the place where Tell reached the shore, when he made his escape from Gessler's boat.



TELL'S CHAPEL, ON LAKE LUCERNE.