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FIG. 2542. HUMARSTON.

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HUBBARDSTON

(HUBBARDSTON NONSUCH.)

ON the model prize list which has been issued by the Canadian Association of Fairs, in their first annual report, we note the name of the Hubbardston, a variety of apple which is less known and less cultivated in Ontario than its merits deserve. It is really one of our best early winter apples, being higher colored than King and more productive than Ribston.

In those sections where it has been found to succeed, this apple should rank high for planting in the commercial orchard; but we hear so little about it at our meetings, and so seldom see it at our fairs, that we conclude it has not been tried in many parts of our province. Some years ago we received some samples from a subscriber at Beamsville, which were very fine and beautifully colored, and the grower said he counted them among his most valuable market apples. Mr. A. A. Wright, M. P., of Renfrew, speaks most highly of the apple for a retail trade, and says that it is the favorite variety called for by his customers.

The Hubbardston originated in Hubbard-

ston, Mass., whence of course it takes its name.

ADAPTATION.

E. MORRIS, Fonthill:—The "Hubbardston" apple is not grown extensively in this section, just a few odd trees. The apple as grown here is a very productive one and of good quality, but ripens a little too early for profitable shipping.

A. E. SHERRINGTON, Walkerton:—The Hubbardston does well here with Mr. Shaw. The tree is a vigorous grower and an annual bearer, and the fruit does not spot. I think it would be profitable.

A. M. SMITH, St. Catharines:—Hubbardston Nonsuch is not much grown in this section, but among our packers is highly esteemed. Titterington & Co. say it is one of the best of the late fall for market. I have never fruited it myself. Some have confounded it with the Blenheim Pippin, which it somewhat resembles, but is smaller in size and a little better keeper, being classed by Downing as an early winter.

Notes and Comments

AN APPLE TOWN.

IF there is any town in Ontario deserving the name of "Apple Town," we think it is Brighton, for not only are there apple orchards all about it, but also all through it. The visitor must note that every garden, and almost every door yard is an orchard; the people make their living out of apple growing; they eat apples, they sell apples, they talk apples. Nothing is of any importance, unless it is associated with apples. You hear every group of men discussing the rise and fall of the apple market; the number of barrels stored in Brighton, the number stored in Ontario, in Quebec, in Maine, in Ohio, in New York; and the time to ship to strike the best market.

We were told on good authority that the apple crop in the village of Brighton itself—within the corporation—in the year 1896 was over 10,000 barrels! Think of that, you villages with waste back yards, and profitless gardens.

Oh you say, the conditions are different.

True, but they can be made the same. Get some one with capital to put up an apple house, if you are in an apple growing district, and very soon you will have similar conditions.

THE APPLE HOUSES.

The flourishing condition of the villages of Brighton and Colborne is largely due to the apple houses. These give employment to hundreds of men; they afford frost proof shelter for the crops of the twenty acre orchard, of the quarter acre garden, and the single tree; they bring buyers

and shippers together after the rush of the apple harvest is over.

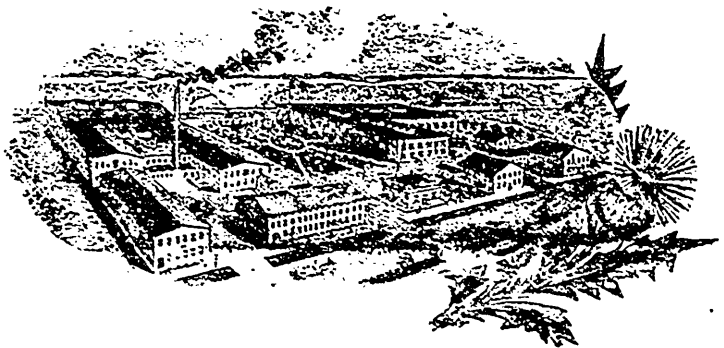
There are four large apple houses at Brighton viz :

Sam. Nesbitt's, capacity	50,000 bls.
Butler's.....	14,000 bls.
Wade's.....	10,000 bls.
Webb's.....	10,000 bls.

Total, 104,000 lbs.

There are three storage floors, inclusive of the cellar, and the buildings are made frost-proof by insulated walls. No ice is used for cooling, but the doors and windows are opened in cold weather sufficiently to keep the temperature down as nearly as possible to the freezing point. Indeed, they claim that apples are perfectly safe from freezing with the thermometer standing at 32 F. Unfortunately, however, it went below that degree last winter in some of the houses, and many stored apples were badly frozen, and, in consequence, are being hurried forward.

The apples are picked from the trees into the barrels, but not sorted or packed; they are headed and brought into the storage house to be emptied and packed during the winter, thus affording winter work for the men, and giving time for proper packing and marketing.



Canning Factory.

Apple Houses.
Can Shop. Office. Evaporator.

FIG. 2543. NESBITT'S APPLE HOUSES.

These apple houses are paying investments for capital, and should pay a high percentage on the investment in apple growing districts. At Brighton and Colborne the charge for storage is six cents a barrel for the season, with the use of a packing room, and this for a house holding 10,000 barrels would yield an annual rental of \$600. The storage houses are made use of by buyers operating at distant parts, who ship to these houses and bring their gangs of packers to put them up in winter, the Grand Trunk charging eleven cents a barrel on the through bill of lading for the stop-over at Brighton.

THE PACKING ROOMS.

OF COURSE men must be comfortable for their work, and excellent packing rooms are afforded by closing off about ten feet of space along the whole length of one side of the building on each floor, with numerous windows, and with packing tables along the wall. These long rooms are made comfortable with stoves, and the barrels brought in for packing and taken out for storage through slide doors in the partition here and there, and afford ample space for all the gangs of packers.

BARRELS VS. BOXES.

NO boxes are used for apples at Brighton, the only package being the standard apple barrel.

"In 1895," said Mr. Dudley, of the firm of J. G. Dudley & Co., "I gave the box package a thorough trial to my great loss. I put up 12,000 bushel boxes, at considerable cost for wrapping paper and work of packing. I shipped them to Liverpool, and when I came to compare my account sales with those of my neighbors, who shipped in barrels, I found I had lost about \$1800; so I have no confidence in the box package."

Probably his conclusion is correct with respect to the auction market, for the broker and his auctioneer have no patience with the

box; but the retailer and consumer appreciate them, and would pay well for them if we could but reach them.

PRIVATE SALES BEST.

WE must not ship our fancy boxed apples on consignment; they must be sold by private sale on their merits. Now that the hurry of disposal is done away by cold storage why should high grade apple stock in boxes be shipped on consignment any more than any other food product?

"You are correct in that," said A. McD. Allan, of Goderich, whom we met at Trenton, "and there is an unlimited opening for private sale of high grade stock. For example, last summer I sold one thousand forty pound boxes of Canadian apples at eight shillings to go to Leith. All that is needed to lead to an unlimited sale of Canadian apples f. o. b. in the orchard, at splendid prices, is to establish *confidence in the grade*. There is still much to be desired in this particular. I have been disgusted during my stay in Great Britain with the incorrect naming of Ontario apples, which much depreciates the selling value; besides, I think, there is yet much to be done by our Government Inspectors. Too much faulty stock goes forward as No. 1, that should be classed No. 2; and the inspectors should be more strict in their inspection, and not allow such grading to pass."

"The trade at home (England)," said Mr. Eben James, of Toronto, "want a large package in a large season, and we have to use the barrel to get the crop cheaply marketed. In the private sale business the box may be all right, but I assure you very often a private sale man will turn down a lot on the least provocation, and you have to get a broker to sell them on their merits; this has been my experience in the past ten years, including four years before I became Woodall's agent. Then again, if you take the cream of the fruit and put it in boxes,

the barrels are not going to average very much. Besides other food products are largely shipped on consignment to brokers, such as cheese, butter, and eggs to a certain extent."

HOW LONG TO STORE APPLES.

THE question when to ship for best prices seems very unsettled, and probably varies every year. The Brighton apple men are now rushing forward all their stock in order to finish shipping by April 1st. They say that this continent has such an unusual quantity of apples in storage that the price cannot advance.

Mr. Allan gave his opinion that our apples should not reach England later than April, else they will meet the early fruits of Spain, and the Tasmanian apples. On the other hand we notice that Woodall's reports of Baldwin sales always reach the top notch in spring time. So we are still at sea, and cannot conclude this question.

APPLES PAY.

NOBODY about Brighton thinks of digging out his apple trees. They pay too well. One packer at Brighton took about 2,000 barrels off his nineteen acres and sold them for \$4,900. They were Phœnix and Baldwin. "I can beat that record," said Oscar Chatterson, of Brighton, "In 1896 I took 1,088 barrels of apples off four acres, but I did not get much for them that year."

"In 1898," said Mr. F. C. Morrow, "I was saved from disaster by a car of Mann apples. I had met poor sales and two carloads of my apples had been frozen at Montreal, though they were inside a refrigerator car, so that I was utterly discouraged. On the 17th of March I forwarded a car of Mann apples to Liverpool and got a net return of \$4.40 per barrel! and for a carload of Spys I got \$3.00 f. o. b. to go to Montreal."

PLAIN BRANDING.

"IT is a great mistake," said Mr. Allan, "to use rubber stamps or indistinct

pencil marks for the name of the variety; this is too important to be done carelessly; it should be made plain and distinct so that it would not be easily erased, and could be easily read."

We noticed that the Brighton people do this well. They use nicely cut stencils for all marks, and printer's ink as a marking fluid. They thin it with coal oil, and apply it with a brush, neatly and quickly.

THE TRENTON STORAGE.

MR. EBEN JAMES, who represents Woodall & Co., Liverpool, has perhaps the best situated apple house in Ontario, because at Trenton there are both Grand Trunk and Pacific lines in competition, and the Central Ontario R. R. to bring stock from the interior; while all about the Bay of Quinte, calling at least at twenty docks plys the Steamer Verona, gathering the apples of the farmers and landing them directly upon the commodious wharf of the Trenton Storage House. There are no wharfage, or cartage charges. The building is of stone, 94 x 124 feet and the cost about \$40,000; when completed it will be four stories high, and afford accommodation for about 50,000 barrels of apples. Refrigerator machinery will be put in next season, so that apples can be held at any desired temperature from "start to finish;" and for convenience of handling there will be barrel lifters, hoists and carriers, so that unloading from the cars, or loading upon the cars or upon the steamers for Montreal can be done at the least expense. The Richelieu line of steamers will call two or three days a week, and there are besides two daily boats.

The cost to the grower who chooses to store his apples, will be: 1st, the additional charge on the through bill of lading by the Railway Company of 11 cents a barrel, 10 cents a barrel for the cold air storage, or 25 cents a barrel for refrigeration, a total of from 21 to 36 cents a barrel. To this must be added the extra cost of repacking,

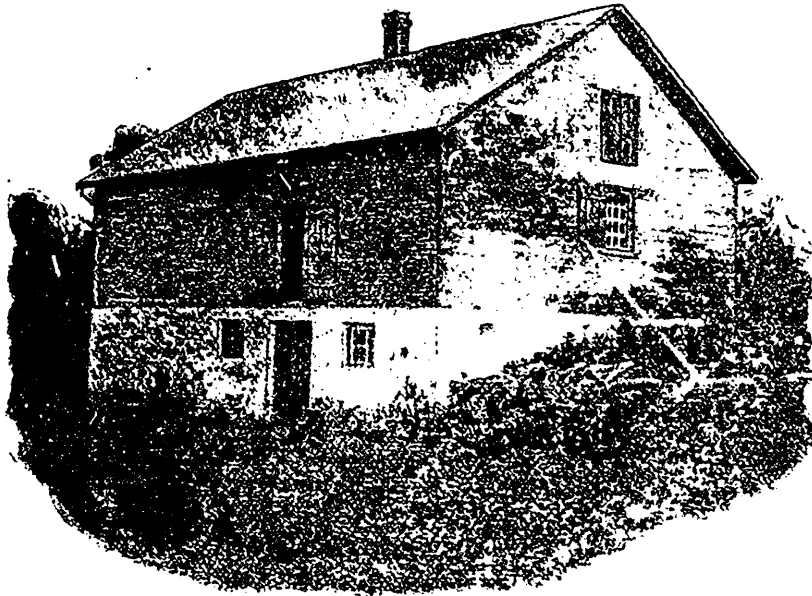


FIG. 2544. W. H. DEMPSEY'S FRUIT HOUSE.

for the apples for storage are picked directly into the barrels and all need repacking, which is worth about 15 cents a barrel; or a total added cost to the price in the orchard of at least 41 cents a barrel. It is therefore evident that when a farmer is offered \$1.00 a barrel for his apples on the trees, the buyer to pick them, he is receiving a fair price; for the picking is worth 10 cents a barrel, the barrel 35 cents, so that he is receiving an equivalent of $\$1.00 + 41 + 10 + 35c$, or \$1.86 net for his apples, stored and packed; or, if not stored, since he would still have the 15 cents cost of packing, $\$1.00 + 10 + 35$, or \$1.60 a barrel net, a price which he might not realize if he shipped on consignment, unless the market rules high.

The president of the Trenton Apple Storage Co. is Mr. Harry Pedwell, an experienced capitalist, and the managing director is Mr. Eben James, of Toronto.

TEMPERATURE FOR KEEPING APPLES.

IT has been much debated at what temperature apples will keep best, some claiming that 40° is low enough, but actual tests show that the nearer they can be kept to the freezing point in safety, the longer

they will keep without change. "I try," said Mr. Eben James, "to keep the temperature in my storage between 30° and 32°, and I find that the apples in barrels will stand that without injury, and that scab will not develop on the apples held at such a low temperature."

Mr. James has the packing done in this temperature also. He objects to packing rooms such as used at Brighton and Colborne, which are heated by stoves, because apples brought from 32° to 60° or 70° will at once become wet from the condensed vapor, and these sudden changes injure them.

OUR APPLE STATION.

IT WAS well planned when we selected Mr. W. H. Dempsey as our experimenter in apples, a large apple grower in this great apple district. He has about fifty acres in apple trees himself, and his principal varieties are as follows:

Ben Davis.....	600 trees.
Spy.....	500 "
Snow.....	400 "
Baldwin.....	200 "
Greening.....	200 "
King.....	65 "
Ontario.....	50 "

besides an endless list of smaller lots.



FIG. 2545. A VIEW IN W. H. DEMPSEY'S BEN DAVIS ORCHARD.

Mr. Dempsey has had great satisfaction with Ontario. It comes into bearing so early, the fruit is so even in grade, and it will sell for Spy on the markets, it resembles that variety so closely in appearance, but it is inferior to it in quality.

"I have exported the Duchess," said Mr. Dempsey, "in barrels this season in ordinary storage, but did not meet with much encouragement; they only netted about three cents a barrel more than I got for those I sold in Montreal, and that was too small a margin for the increased risk."

THE BEN DAVIS.

"NOW, Mr. Dempsey, what do you think of Ben Davis; you have more of them in your commercial orchard than any other kind?"

"It always pays me well," said he, "but it has its own season in the market, and that is toward spring, after the Baldwin and Spy have been well cleared out. Nobody wants

to eat a Ben Davis in fall or early winter; it is not ready so early. My own family use more Ben Davis than Baldwin, because in Baldwin season they prefer to use Spy; but when these are over, say in April, then they call for Ben Davis, and by that time it is good for all purposes."

Mr. L. K. Shourds, of Wellington, Prince Edward County also championed the Ben Davis. "Why," he said, "in March, 1900, Pritchard, of Liverpool, authorized me to buy for him, and pay \$2.75 for Ben Davis, and only from \$2.25 to \$2.50 for other varieties. At that season the old Ben turned out in better and more salable condition than Baldwin or Spy."

"In Ottawa, only last week (about the middle of February)," said Alex. McNeill, of Ottawa, one of our fruit inspectors, "I saw Ben Davis sold at \$2.50 a barrel, when good Snow apples were only bringing \$2.00!"

So it appears that old Ben still has his friends.

BEN DAVIS FOR STOCK.

"I HAVE great confidence in Ben Davis for top grafting upon," said Mr. Shourds. "A Spy tree is apt to split at the crotch, but Ben Davis is tough and does not break down; besides Spy, top grafted on Ben Davis, bears fairly early. I have an instance where I top grafted Spy on the branches of a Ben Davis at three years after planting, and at seven years it began fruiting. I am planting twenty acres to Ben Davis trees, and if I want Spy I will have first-class stock upon which to top graft it."

PHOENIX.

THIS apple is grown to a considerable extent in Northumberland County, and some growers value it highly. Mr. Solomon, of Brighton, who was packing at Butler's storage, said he found it quite as productive as Baldwin, as good a shipper and seller; but Mr. C. W. Crandall, of Colborne, thought it inferior to Baldwin, and all owned it was not as good a keeper, and should be shipped before January or it would discolor. The samples given us on January 20th however, were still bright in color and in excellent condition.

SIZE OF BOXES FOR FRUIT.

WE are frequently asked to give the proper size for the apple and pear box for Ontario; but really the question is not very easy of answer, so many have been the changes. We believe, however, that the apple box adopted for 1903 by our meeting at Walkerton is the most desirable in size, and the one most likely to become the standard for Ontario, and we hope for Canada. This box is 9 inches deep, 12 inches wide, and 18 inches long, inside measurement.

It is practically the California pear box, with capacity for forty pounds of pears. Now in the British market the 40 pound or quarter barrel apple boxes are most in de-

mand, and if we use a larger one, we ship at a loss. This box is suitable for both pears and apples; but for tender varieties such as Bartlett, one 5 x 12 x 18 inside would be better, because only taking two layers of fruit; it would have a capacity of about twenty-five pounds.

FOR CHEERIES, we use the nine pound grape basket, but some have tried the California pear box with success. It measures inside, length $16\frac{1}{2}$ inches, width $10\frac{3}{8}$ inches, depth $2\frac{1}{2}$ inches. This box takes two layers of cherries, the one layer so placed against the top that no stems show when opened. The capacity is ten pounds.

FOR PEACHES, the California people use a similar box to the pear box described above, but depth inside about $4\frac{1}{2}$ inches; and capacity twenty-two pounds.

MEASUREMENTS OF APPLE BOX. — Mr. George E. Fisher, of Burlington, who was a member of our committee on boxes at Walkerton, has been figuring out the contents of our proposed box, and says that although in number of cubic inches it is a little too large to be equal $\frac{1}{4}$ of our apple barrel, yet in actual trial, owing to packing material and number of spaces about the sides, it is about as near correct as possible, and Burlington growers are adopting the size recommended above. He figures it out thus:

"A standard barrels contains 96 quarts or 6655 inches; $9 \times 12 \times 18 = 1944$ inches; $6655 \div 1944 = 3.423$ or $3\frac{2}{5}$ boxes to barrel; $\frac{1}{4}$ of $6655 = 1664$ or $\frac{1}{4}$ barrel; $18 \times 12 = 216$; $1664 \div 216 = 7.7$ inches or less than 8 inches depth. Therefore $18 \times 12 \times 7.7 = 1664$ or $\frac{1}{4}$ barrel by measure. Four boxes $18 \times 12 \times 8$ does not fill a barrel because of the greater number of large spaces about the sides of the box. The size of the required box cannot be determined by figures, but must be ascertained by actual trial. 3 and $\frac{2}{5}$ boxes, $9 \times 12 \times 18$ are equal to a barrel in measure, but it does not work out that way, and our boxes are ordered $9 \times 12 \times 18$ as recommended by the Walkerton meeting.

NO CONNECTION WITH NURSERYMEN.

MR. D. S. BURK, of Fergus, asks where he can buy the Gold Plum and the Crosby Gooseberry. He has written to several of our experimenters without satisfaction.

We are glad to have this opportunity of stating publicly that we have no connection with, nor interest in any nursery. If we had, our opinions of varieties might be biased by a desire to boom certain varieties. The work of our association and the aim of this journal and of the report to the Department on fruits tested at our fruit stations, is wholly in the interests of practical fruit growers, and not of nurserymen. We aim to save the fruit growers money by testing all fruits offered for sale, and reporting to them their real value, condemning without stint those that are humbugs.

For the purchase of fruit trees we refer our readers to those nurserymen who advertise in these pages.

LINDLEY AND VERGENNES GRAPES.

MR. E. D. SMITH, of Winona, would qualify the remarks about the Lindley as given on page 51. He would not entirely give up the Lindley grape, for on a somewhat heavy soil it succeeds fairly well planted alternately with some good pollenizer blooming at the same time, such as Concord or Worden.

The Vergennes he considers one of the most valuable varieties. It is very productive, the fruit is of fair quality and one of the very best of shippers. Its only defect is its over-productiveness, hence it must be very severely pruned. Twenty good buds will produce twenty pounds of grapes, which is as much as a vine should be allowed to produce even on the best of land.

THE PLUM MARKET--AN EARLY DESSERT PLUM WOULD SELL.

MR. SMITH also qualifies his remarks on page 52. He would not say that

we are planting too many of all varieties of plums, but only of some varieties; nor would he say that it is ever impossible to dispose of the crop at some price, but sometimes we can no longer get the old paying prices.

In addition to the demand for good late plums, Mr. Smith finds a demand for an early plum of real good quality for eating out of hand. Such a plum would pay exceedingly well, especially in the Niagara district, which is the natural home of the plum. Here the trees thrive so well and are so productive that they can be grown at a profit, even if sold at very low prices.

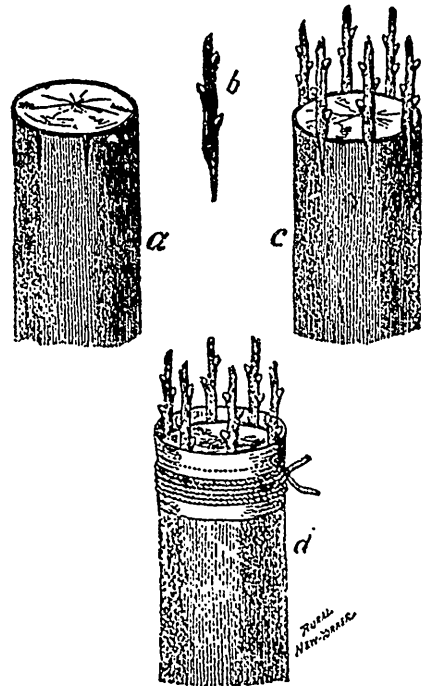


FIG. 2546. CROWN GRAFTING.

CROWN GRAFTING.

MR. A. C. ABBOTT, of Mountain Grove, Ont., writes:

SIR:—As I am now a member of your association I am going to ask you to devote some space to the work of Crown Grafting and Cleft Grafting, especially the Crown Grafting of large limbs on old trees. I am a new member of your society and

am after all the good information I can get upon fruit growing.

We do not recommend Crown Grafting as the best method or renewing old trees, but only as an easy and fairly successful method which any novice may try with fairly good results.

The cuts which we give show clearly how it is done. A fairly large limb is smoothly cut off well back to the trunk (Fig. 2546 *a*), or in some cases an upright trunk is cut off leaving a few limbs below the cut. Cions from bearing trees, of the required variety, are cut in advance and kept in a cool place till required so that they may not push their buds before setting. These cions are cut with a long, smooth, sloping cut from one side only, and pushed down under the bark, which may first be partly raised with a knife. From two to six are set to a cut according to the size of the limb (*b**c*). Grafting wax need not be used for this primitive method, provided mud of some clayey texture can be secured. To hold the grafting clay in place wrap the part with a strip of stiff paper about four inches wide, and tie with a string, leaving the edges to project about an inch above the cut. This will form a basin to hold the clay. We have tried this quite often with perfect success.

CLEFT GRAFTING.

FOR a first-class job, however we would much prefer the more scientific method of Cleft grafting. It takes more time because you must work upon the smaller and outer limbs of younger growth, and a great many more cuts must be made to transform a tree to a new variety. Indeed it is usual to do a part of the tree only in a single season, and complete the job the following year, when any failures can be re-grafted. These remarks of course apply to large trees, but in case of small trees the whole top may be cut off at the height desired for the top, and the scion inserted by

what is called whip grafting, which is well shown in the accompanying cut from Farm and Home, from which also we take the following details :

The sloping cut or tongue must be fitted in a little more carefully, however, and the juncture wrapped with cloth or covered with grafting wax. If the stocks are of moderate size, a cloth is preferable. This is called whip grafting. For larger trees and for branches, say an inch in diameter and upward, cleft grafting is practised. The branch is cut or sawed off; the lower end of the scion is cut into the form of a wedge with a bud at the beginning of the cut where it rests upon the stalk. This bud hastens the union the same as a bud down in the earth in root grafting facilitates the growth of roots. The outer edge of the wedge-shaped cuts should be thicker than the inner. The stalk is split on one end by laying a chisel on the cut surface and striking lightly with a mallet. The split is kept open with a knife or chisel until the scion is inserted. Two or three scions may be put in each branch, so if a part of them die some still remain. If all grow, cut off all

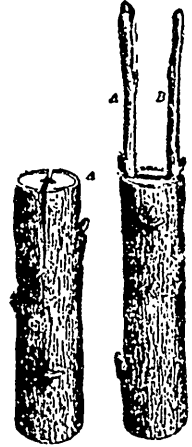


FIG. 2547. CLEFT GRAFTING.

Fig. 1, the stock cut horizontal across at A. Fig. 2, the same with two scions, A and B, inserted.

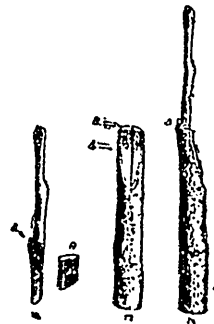


FIG. 2548. SPLICE OR WHIP GRAFTING.

Fig. 1, scion with sloping cut on one side like a wedge; A, bud at the shoulder; B, section showing shape of wedge. Fig. 2, the stock cut and split; A, the sloping cut; B, horizontal cut. Fig. 3, the scion inserted in the stock.

but the strongest one. Coat the surface and the base of the scion with grafting wax or wrap them carefully with grafting cloth. The grafting wax should be just hard enough to be easily worked with the hand. If large surfaces are to be covered, it is well to have it quite liquid so that it can be applied with a brush. It, of course, has to be kept warm during this time. Be sure to have sharp knives, so that clean, smooth cuts can be made. There must be perfect contact between the inner barks of the scion and stock. Every portion of the split and the cut surface of the scion must be covered with wax to keep out rain.

Grafting wax is made by melting together 2 lbs. resin, $\frac{1}{4}$ lb. beeswax and $\frac{3}{4}$ lb. of tallow. For whip grafting, it is very convenient to use grafting cloth. Tear muslin into balls like ribbon rolls and place in melted grafting wax until thoroughly saturated. Grafting paper is quite handy and is prepared by spreading the wax while warm over one side of a sheet of paper by means of a brush. When cool, cut into strips and roll.

THE NIAGARA GRAPE

COULD find plenty of admirers in the warmer sections of our province, where it ripens its fruit to perfection. For example, Mr. E. Morris, of Fonthill, writes:

"In reply to your enquiry, I would say the Niagara Grape is the *best* all round white grape grown in this section, and is being used quite extensively for a wine grape, but I do not consider it a first-class grape for that purpose, as it gives the wine a foxy flavor."

GRAFTING CHERRIES AND PLUMS.

THE above directions apply to apples and pears, which may be grafted quite late in the spring. Indeed, we have been successful with apples as late as the first of June, providing we had scions still in dormant condition; but with cherries and plums more care must be taken, and the

work must be done early in March, before the sap begins free circulation. The Prairie Farmer gives the following directions for grafting these fruits:

"Do the work on a warm day, so your wax will be soft. I have top-grafted plums, and the thermometer went down to 40 degrees below zero, afterwards, and they did well. Apples and pears can be attended to later; I have top-grafted apples after the buds had started, and they did well. You can use this kind of a graft just as

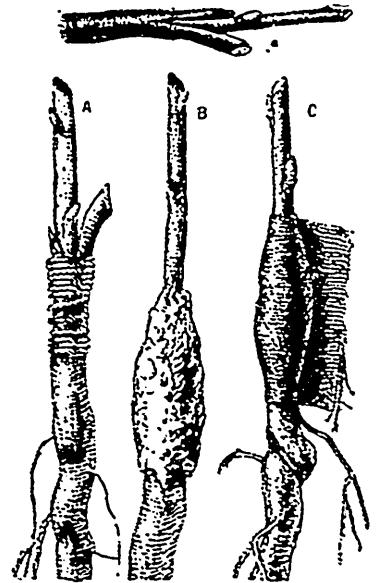


FIG. 2549. GRAFTING THE PLUM AND THE CHERRY

high or low as you want. In making the scions, see that there is a bud just at the base of the cut. It is claimed by experts that there is more life around the bud, consequently it unites there first. Fig 2549 *d* shows how the cut is made in tree and scion inserted. Fig. 2549 *a*, shows how wound; *b*, how waxed; and *c*, how wound with some old muslin (white is preferred), over the waxed part, to keep the sun off. It is not necessary to wind as shown in *a* for top-grafting.

"Recipe for wax: 1 lb. resin, 1 ounce beef tallow, 1 tablespoonful spirits turpentine, 5 or 6 ounces alcohol. Melt resin slowly, take from fire; add tallow, stirring constantly. When still cooler, stir in the turpentine slowly; then add alcohol. The object of the alcohol is to thin the wax so it can be used. We do all of our root grafting on cherries, plums and pears this way, excepting the muslin, and use thread in

winding, as shown in Fig. *a*. The top end of the root, where it is cut off, next to the cion, has a ring of bark left on, which is necessary.



FIG. 2550. APPLE TREE PRUNED FOR PLANTING.

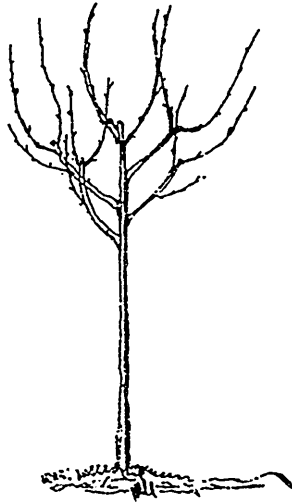


FIG. 2551. APPLE TREE AT END OF FIRST SEASON.

THE SPRING PRUNING.

WE have more than once called attention in these pages to the foolish method of pruning the apple tree, which we see practised by farmers every spring. The lower branches are annually removed, until in time the tree top is almost out of reach, and most unsightly in form.

There should be a complete change of method. The object should be to keep the bearing wood near to the main trunk, and to produce a compact, symmetrical head. The branches that are reaching upward should be topped back, and all should be thinned at the outside. Bearing fruit spurs should be encouraged to grow upon the inside branches, down to the very trunk; and thus a tree will result that is not only beautiful to the eye, but also a filler of the purse.

PRUNING WHEN PLANTING.

A SUBSCRIBER wants to know how to treat young trees during the first few

years after planting. The answer depends somewhat upon the kind. A young peach tree, when set, may be pruned to a whip, and the head formed from the buds near its top. Individual preference must decide between a low or a high head, but our own preference is for a low head, so that fruit may be produced almost to the very ground. Ploughs, cultivators and discs are now made to accommodate the fruit grower, so that he can reach under such low headed trees without bringing his horse so near as to injure them; and, if a little extra work is caused in the cultivation, it is made up in the comfort in gathering the fruit, and in the greater health and beauty of the trees.

In setting young apple trees, it is usual to plant three year old trees with the tops already formed, which are then cut as shown in Fig. 2550. At the end of the season the tree will appear somewhat as in Fig. 2551, which will need some thinning according to the judgment of the owner; and so on from year to year. This annual treatment should never be omitted for a single season, if well formed trees are desired.

PEACH PRUNING.

Wm. Burgess, Queenstown, writes :

SIR,—Some authorities tell us that late spring is the safest time to prune the peach. Is there danger of injuring young peach tree through early pruning?

We have never seen any serious injury from cuts on peach trees made in winter. We see no reason why this work should not go forward during the months of February and March, when there is plenty of time to attend to it. Many of our best peach growers shorten in their peach trees every spring, cutting back from one-half to two-thirds of the young wood. This not only thins out the fruit buds of the current season, but it also increases the amount of bearing wood for the succeeding year, and lengthens the life of the tree.

PRUNING THE DWARF PEAR.

VERY few of our Ontario fruit growers give the least attention to the proper training of their dwarf pear trees. Standards and dwarfs are all pruned after the same manner, and usually that is by no means the best.

In our engraving we present to our readers the proper form in which a dwarf pear tree should be trained. It is called "pyramidal" because of its shape. The first year a thrifty upright is encouraged; the second year the side branches are grown and cut back to within a few inches of the upright stem, taking a care to allow a somewhat longer growth at the bottom than at the top. The third or fourth pruning will bring the tree somewhat nearly into the form shown in Fig. 2552.

The leading shoot is cut back in proportion to its vigor at every annual pruning, and the laterals shortened on the same principle. The lowest branches are always kept the longest by judicious treatment.

After the dwarf pear has been set six or eight years it will be about full size, and the object will be simply to lessen the wood growth and encourage fruitfulness. Should there be too many fruit spurs produced it will be necessary to thin them out more or less.

An orchard of dwarf pear trees so pruned and loaded with fruit is an interesting sight, and a source of pride to the owner.

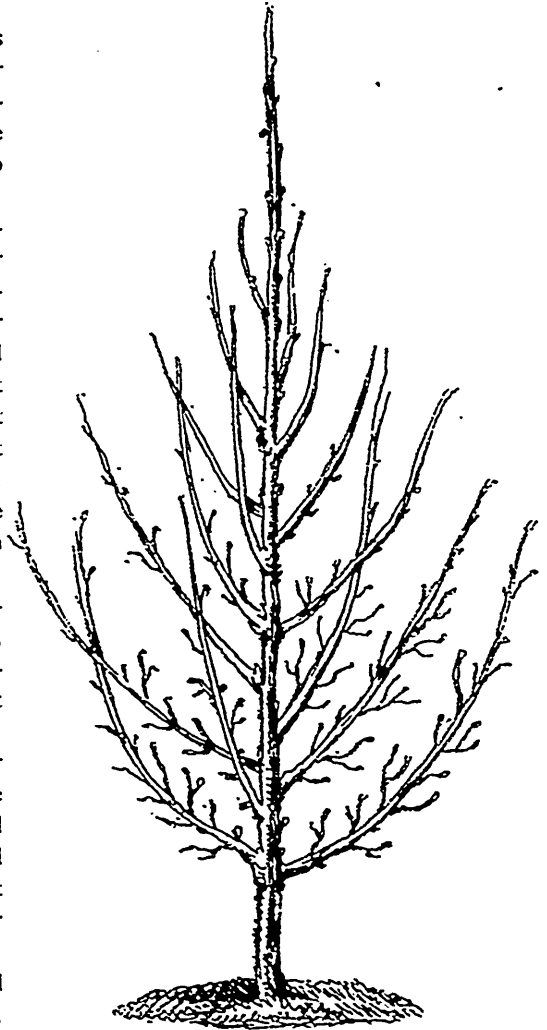


FIG. 2552. PROPERLY PRUNED DWARF PEAR TREE.

SOME OLD APPLE TREES.

Seymour Keyser, of Hanheim, Herkimer County, N. Y., has two old apple trees on his farm that are record breakers. One of them is 12 feet in circumference. It is a Holland Pippin, and was brought from Holland in the latter part of the seventeenth century. The tree is still bearing fruit. Another tree fell to the ground over half a century ago; the body of the original

roots have long been decayed. The top of this tree has taken root, and receives its nourishment from the lower end of the top of the original tree. The apples are of the rustycoat variety. This tree was also brought from Holland at the same time as the first mentioned, and is also bearing fruit. —Country Gentleman.

A SUCCESSFUL HOUSE MEETING

THE GRIMSBY HORTICULTURAL SOCIETY—A MEETING AT THE HOME OF THE PRESIDENT, MR. A. G. PETTIT—APPLE GROWING DISCUSSED—JOSEPH TWEDDLE, OF FRUITLAND GIVES A TALK.

THE Grimsby Horticultural Society find great profit in house to house meetings. People enjoy a quiet, social evening, which is utterly devoid of formality or class distinction, of either society or church. One paper read and discussed, with a few numbers of music and readings for variety, and an hour for informal conversation seems quite enough to provide.

Sometimes a fruit topic should be taken up to interest the men, sometimes a floral topic to interest the ladies; and in this way monthly meetings may be held throughout the winter.

Mrs. A. G. Pettit, president of the Grimsby Society, had the February meeting at her own home on the 5th inst., and a good number gathered to hear Mr. Joseph Tweddle, of Fruitland, talk of his experience in apple growing.

APPLE GROWING.

This gentleman, confident in the efficacy of spraying, when associated with pruning and cultivation, rented some orchards that were in a disgraceful condition through neglect, and which were giving their owners no returns. He followed out the directions given in this journal for tillage and spraying, and as a result cleared a good sum for himself after paying all expenses.

"I believe," he said, "that there are rich rewards yet in store for Ontario fruit growers who give proper attention to our friend, the apple. With new apple markets opening up both in the east and in the west, it is foolish to destroy an apple orchard, and still more foolish to keep land occupied with apple trees and neglect to care for them. Many of them are simple

brush heaps, yielding little, if any, fruit, and that of the poorest quality. Yet even these orchards can be made to produce fruit that is almost, if not quite, perfect.

HOW TO GET FINE APPLES.

"You must get to work and prune out the rubbish and burn it up; head back severely those trees that are weak, to induce fresh growth, but not those that are thrifty, and thus produce uniformity in your orchard; thin out useless wood; protect the roots with leguminous crops, such as vetch or clover, sown in July; cultivate and manure, and then you are ready for *spraying*."

Mr. Tweddle has had excellent results from his work, so everyone wanted to know how he did it.

"My idea in spraying is protection of foliage and fruit from fungi, so I try to keep them well covered with Bordeaux."

"What do you use to keep off insects?" asked some one.

"I use white arsenic in preference to Paris green," he said, "because it remains in suspension much better."

"Does it not burn the foliage?"

"No, not when used with lime. I boil one pound of arsenic and two pounds of lime in three or four gallons of water for about forty-five minutes, and then use the sediment, an arsenic of lime, in 100 gallons of water. I do not find any injury to the foliage from its use in this way. I have tried the same in my plum orchard, and wholly cleared it of curculio."

"I do not see much use in spraying a plum orchard for curculio or rot," said Mr. Rutherford, of Grimsby, "because with most

varieties the yield is too great, and they must be thinned anyway. Why not let curculio and rot thin them?"

This kind of thinning is too late to help the size of those remaining. The work should be done by hand while the plums are very small, and then the remaining samples will grow to a large size.

"It is useless to spray against the wind," said Mr. Tweddle. "You only waste your material and your time, for the wind carries it back. Always spray with the wind. Do not neglect to spray because of wet weather. I find that it is the very time when the work is most needed.

RESULTS.

"My faithful spraying, united with faithful pruning and tillage, gave me last year the finest yield of Baldwins and Greenings ever known in my neighborhood. I took 800 barrels of almost perfect apples off $4\frac{1}{2}$ acres of orchard!"

Mr. Brennan usually sprayed his orchard five times in a season, and the results were so evident that he would never think of giving it up. During his first year in the orchard he did no spraying and had worms, scab and all sorts of evils, but, since he has been careful to spray thoroughly he has harvested first-class fruit every year.

Mr. D. J. McKinnon had great confidence in the apple. His orchard was on rich, deep, sandy loam; it had not been plowed for eight years, and yet last year it was the most profitable fruit he grew, and he has a magnificent orchard of pears, cherries, peaches and grapes. His apple orchard netted him \$100 per acre. "I feel sorry for a man," said he, "when I see him cutting out an apple orchard that it has taken perhaps twenty-five years to grow into its present proportions."

THE CHERRY.

Some one said he would like Mr. McKinnon to tell whether the Montmorency or the Wragg was the most profitable.

"Well, I have a very large orchard of both in bearing," said he, "and I believe the Montmorency is best."

"Is it as productive as Wragg?"

"Well, no, not in proportion to its size, for the Wragg hangs in great ropes of fruit as heavy as it can carry; but the Montmorency is a larger growing tree, and on that account I think it yields more fruit to the acre. At first, the Wragg brought higher prices, being so very late in the season; but now that Wraggs are coming into our markets from other parts there is not much difference in the price.

THE CHERRY APHIS.

"What would you do for the black aphis?" asked another.

The chairman, Mr. A. H. Pettit, called upon Mr. Tweddle, and he said he had been greatly interested in the success of his neighbor, Mr. W. M. Orr, in treating aphis, spraying his trees, just before the leaf buds opened, with a strong solution of whale oil soap; a treatment which has completely routed the aphis. The usual formula was one pound to five gallons of water, but he would double that quantity. The application should be made before the buds opened, or else the tiny little aphids would crawl down among the open leaves and hide so as to secure from the effect of the spray.

It is a mystery to many where these young aphids come from so early in spring, and we may explain that eggs are deposited in autumn in the crevices and cracks of the bark of the twigs of the apple tree, and also about the base of the buds. In the early spring they may be easily seen with a glass, they are very minute, oval and shiny black. The same warm sunshine that favors the opening of the tender young leaves, also causes these eggs to hatch out into tiny lice, which locate themselves upon the young leaves and suck their juices. All the first broods are females, which produce living young, hence the wonderful rapidity with which they multipl.

Civic Improvement

A DEPARTMENT DEVOTED TO THE INTERESTS OF THE HORTICULTURAL SOCIETIES OF ONTARIO, AND OF ALL OTHER BODIES INTERESTED IN THE IMPROVEMENT OF THE SURROUNDINGS OF OUR CANADIAN TOWN AND COUNTRY HOMES.

THE Canadian League of Civic Art is the name of a new society which was organized under the most favorable auspices, in the Board of Trade Council Chamber, Toronto, on Friday, the 14th of February, 1903. A great wave of public interest in public beauty is sweeping over the whole of North America, and has reached us in Ontario. We trust it will give new vigor to all our horticultural societies, women's institutions, farmers' institutes, churches, school boards, literary societies, and all other bodies interested in civic improvement. We shall be pleased to make this journal a means of communication between these various bodies, and thus to distribute as widely as possible all information within our reach upon this important topic.

* *

The following is a partial list of the gentlemen present at the organization meeting, men representing the Society of Architects, the Society of Artists, the Fruit Growers' Association of Ontario, the Ontario Horticultural Societies, the Toronto Board of Trade, the Good Roads Association, and many other bodies.

Among those who were present were: Mayor Urquhart, Toronto; R. Tasker Steele, President Hamilton Civic Improvement Association; A. Alexander, President Hamilton Horticultural Society; Judge A. B.

Klein, Walkerton; John Cape, Hamilton; Charles O. Dexter, Hamilton; F. B. Greening, Hamilton; M. A. James, Bowmanville; Mayor W. E. Smallfield, Renfrew; James S. Scarff, Woodstock; R. W. Rennie, London; George C. Creelman, Superintendent of Farmers' Institutes; D. McClew, Toronto; R. McLennan, Toronto; L. Woolverton, Grimsby; W. D. A. Ross, Chatham; Major R. Y. Ellis, Toronto; T. H. Race, Mitchell; W. F. W. Fisher, Burlington; Peleg Howland, Toronto; J. P. Hynes, Toronto; John H. Kydd, Bowmanville; William Rickard, M.P.P., Newcastle; G. A. Reid, Toronto; George A. Newell, Toronto; E. G. Routzahn, Dayton, O.; P. W. Hodgetts, St. Catharines; Allan Cassels, Toronto; J. F. Sriver, Montreal; P. J. Carey, Cobourg; W. H. Bunting, St. Catharines; W. R. Gregg, Toronto; G. W. Goodman, Perth; J. D. Hayden, Cobourg; Ald. D. Ewing, Cobourg; Newton D. Galbraith, Hamilton; Rev. Canon Forneret, Hamilton, and A. W. Campbell, Toronto.

Mr. George R. Pattullo, Honorary President of the Woodstock Horticultural Society, was elected chairman of the meeting, and Major H. J. Snelgrove, of Cobourg, was made secretary.

The chairman, Mr. G. R. Patullo, pointed out that in Canada we were still a long way behind both in urban and in rural improvement, and our country did not present those



FIG. 2553. AN ATTRACTIVE PARK.

evidences of refinement and of culture that were in proportion to her advancement in education. He would like to see the farms and the farm yards made more attractive, the school houses and their surroundings transformed from being the bleakest and most forbidding places to the most inviting and attractive. The park systems should be extended, and in every town and village no time should be lost in securing a site for a beautiful park.

His Worship, Mayor Urquhart, of Toronto, emphasized the great importance of a park system to every town or city, and was pleased to give the hearty welcome of the city of Toronto to this meeting. He wished the project every success, and only hoped that some scheme might be forthcoming by which plans adopted by a municipality for civic improvement might not be neglected by a succeeding body of municipal officers, but might be carried on with some continuity to their completion.

Major Snelgrove said in the first instance his attention had been called to the importance of this civic reformation in an address delivered by Mr. C. C. James, the able Deputy Minister of Agriculture for Ontario, before the Fruit Growers' Association at the Cobourg Convention, where he had suggested that our horticultural societies should become local improvement societies. The speaker said the objects which the promoters of the League had in view were to unite the efforts of all citizens in the systematic development of handsome and wholesome surroundings; to raise the standard of municipal taste and tidiness; to make the Canadian life brighter, healthier and happier. In order to accomplish these aims, they would require organization, perseverance and common sense. Radical reforms along the same lines were taking place in England, whose historic gardens were models of loveliness; and yet it was an appalling fact, which ought to serve as a salutary warning to the

builders of this new nation, that twenty-eight per cent. of the population of England's cities to-day lived in squalor and misery because of unwholesome surroundings. From the year of the World's Fair at Chicago dated this great popular impulse toward civic beauty in America. He proposed that, having effected a permanent Canadian organization, they should all work together for the benefit of all. He would like to see an expert landscape artist employed to go through the Province, visiting all the towns and showing how the finest results could be obtained by the expenditure of mutual labor and money. "But," he said, "in carrying on this work, don't abuse the town authorities and don't attempt to remake the town. Just help it to grow more lovely and liveable each year." He recommended them to encourage the proper planting of shade trees and perennial plants as much as possible. He condemned the common use of water fronts as dumping grounds for tin cans, dead cats and other vile refuse. He would like to see galvanized baskets or boxes provided for the collection of street litter; and unsightly telegraph, telephone and electric light poles wreathed with vines or painted white. Railway station grounds—the town's main gateway—should be beautified. He believed that school gardens would have a most refining influence on our children, educating out of the boys the innate tendency to pilfer fruits and flowers, and instilling in their plastic minds a fondness for the study of nature. He mentioned that in France, Belgium, Austria and Russia the study of horticulture was compulsory in the public schools. He advocated the distribution of flower seeds to school children at say a charge of one cent per package, with a floral exhibition in the fall. Referring to eyesores and how to get rid of them, Major Snelgrove said, "Look at your back yard! Is it tidy and fragrant with flowers? or is it a death-trap, malodorous with the

swill-barrel, with heaps of decaying garbage, and its bare ground slimy with greasy dish-water?" In conclusion he said that the Civic League was designed to serve as a federation of organizations aiming to promote municipal improvement, emphasizing the best means for attaining desired ends, and seeking to bring about unity and harmony between all the forces making for the highest public good. He submitted to the conference a draft constitution and by-laws for the new League.

Mr. E. G. Routzahn, Field Secretary of the American League, quieted the objections of some who feared that the new organization would interfere with work along the same line which has recently been inaugurated by the Ontario Department of Agriculture, through Mr. G. C. Creelman, by divorcing the horticultural societies from the Department and thus weakening their effectiveness. He explained that this Canadian League would be simply a Bureau of Information, a help to all existing bodies who had civic improvement as their whole or partial object, without in the least disturbing or interfering with their present relationships. Its object would be to bring together people who had ideas on the objects in view, to gather up these ideas and all accessible material, and to make it public.

Mr. A. W. Campbell said that the organization could be a great help to other associations that had been mentioned, and that later on he expected that the league would extend a hand to the Good Roads Association. He would like to see the association not only work in the the city, but in the smaller towns as well. He believed that on account of the results the Good Roads Association had attained he would before long be able to invite the city people to the country to show them good roads and handsome boulevards. There was no reason for jealousy in the formation of the association. There was plenty of work to be done.



FIG 254. AN IMPROVED CITY BACK YARD.

Mr. R. Tasker Steele, President of the Civic Improvement Society at Hamilton, gave an interesting account of the work which had been accomplished at Hamilton in co-operation with the Hamilton Horticultural Society. The work had been inaugurated in Hamilton about four years ago, and already much had been done toward beautifying the city. Not much money was needed to promote their objects, for the work was done principally by creating public sentiment in favor of certain improvements, and thus stimulating the municipal authorities to undertake the work. Such work, whether inspired by a civic improvement society, a horticultural society, or a society club, makes better citizens, raises the moral tone of a town, and eventually results in enhancing the values of real estate. In Hamilton they had succeeded in having many improvements, such as alleyways better looked after, streets more systematically cleaned, vacant lots cleared up and made more sightly, waste paper barrels distributed and collected, wire baskets for waste set about in the parks, and generally they had stirred up a general interest in all measures

conducive to both sanitation and civic beauty. He outlined many lines of work which might well be undertaken, such as the planting of shrubbery and vines along the vacant sides of factory buildings, the removal of the ugly bill boards from places where they obstructed attractive views, the improvement of our cemeteries, and the stimulating of the members of church and school boards to the decoration of their premises, which are in many cases sadly neglected. He advised that no society undertake too many things at once, but rather to address themselves to one object at a time, and having accomplished that to undertake another. It was not, in Mr. Steele's opinion, at all necessary to have a large club or society to do this work. In Hamilton the working committee consisted of only about eight or ten men, but they were well chosen, and they were busy men too—lawyers, doctors, clergymen and business men—but these men always found time to attend a meeting when called.

* * *

Some discussion took place as to whether this society should become a branch of he

American League, and it was unanimously decided that it should be entirely separate and be known as The Canadian League of Civic Art, and that it should endeavor to extend its influence from the Atlantic to the Pacific.

The committee appointed to draft a constitution also nominated a list of officers, and their report was adopted, the list being as follows:

Honorary President, the Countess of Minto; President, J. D. Hayden, Cobourg; First Vice-President, Major R. Y. Ellis, Toronto; Second Vice-President, R. Tasker Steele, Hamilton; Third Vice-President, W. E. Smallfield, Renfrew; Secretary-Treasurer, Major H. J. Snelgrove, Cobourg; Directors, Messrs. G. R. Pattullo, of Woodstock; J. P. Hynes, of Toronto; W. D. A. Ross, of Chatham; C. C. James, of Toronto; T. H. Race, of Mitchell; G. A. Reid, of Toronto; Dr. James Fletcher, of Ottawa; L. Woolverton, of Grimsby; Judge Klein, of

Walkerton; H. F. Duck, of Toronto; R. W. Rennie, of London; M. A. James, of Bowmanville.

In the evening Mr. E. G. Routzahn delivered a most interesting address descriptive of a quickly moving series of pictures which were thrown on a screen in the council room. The first illustrations emphasized the complexity of city problems, and how New York and Chicago are working on plans much the same as those suggested by the Civic Art League and kindred societies of Toronto. The speaker then showed some successful attempts to improve houses and streets both in villages and cities, the general effect of a campaign for civic improvement, the result of campaigns against billboards, overhead wires, and against inactivity among rural councillors.

The lecturer was given the warm thanks of the meeting.

A CIVIC IMPROVEMENT DEPARTMENT

A LETTER FROM

T. H. RACE,

SECRETARY OF MITCHELL HORTICULTURAL SOCIETY.

WHY should we not proceed at once to have a department in our own monthly magazine opened under this heading? The aim of our Association is, more than ever before, to extend its usefulness and popularity by making it cover as much ground as possible with the means we have at our disposal. The Horticulturist is covering more ground to-day, and covering it better than it ever did, and is growing in popularity accordingly. It has now over five thousand monthly readers, and hundreds of them have borne testimony to the improvements in its

general character during the past year, and to its increased value both to the fruit grower and to the lover of flowers. Nearly one-half of its pages for the past few months have been devoted to gardening and floriculture, and it has been the intention to add a household and domestic science department just as soon as the means at hand would admit of another enlargement. When that enlargement comes, embracing a department devoted to fruit growing and the fruit interests generally; another to horticulture and civic improvement; a third to household and domestic science, and a fourth

to general matters, we will have a magazine that will compete with any of its kind published on the other side of the border line.

It was my privilege on the 13th of February to attend a meeting in the Board of Trade building, Toronto, called for the purpose of organizing a branch of the American Civic Improvement League. From the language of the circular sent out calling that meeting, I was somewhat curious to know what attitude the proposed organization intended to assume toward our horticultural societies and the excellent work they are doing throughout the province. I was pleased to meet there a considerable number of horticultural workers, who like myself were ready to co-operate with any organization whose aim and purpose was the purifying and beautifying of the cities, towns and rural homes of this land of ours, but who, like myself, were in a maze of curiosity for the same reason referred to above. The atmosphere was soon cleared, however, by a very general repudiation of the language of the circular in question, and this at once opened the way to a happy blending and natural co-operation of the apparently threatening elements. The meeting proved one of mutual profit, and the illustrated lecture in the evening a great stimulus to every worker along the line of civic improvement, and I hope the *Horticulturist* will give the new organization—more fully referred to elsewhere in this number—all the support and encouragement that its aims and objects deserve.

But because of the new organization we should not relax our efforts in connection with our horticultural work now being done by our affiliated horticultural societies. They have been doing the very work mapped out by the new organization for years, and are doing it better to-day than it has ever been done before. They are in fact doing a

greater work than is mapped out by the new organization, for they are reaching out into the rural districts and touching the farm home as well as the towns and cities. Under the auspices of the Minister of Agriculture, and the able and energetic management of our secretary, Mr. G. C. Creelman, they promise this year and onward to do better and greater work than they have yet done, and at best the new organization can only be a helpful auxiliary, whose field will be principally confined to the cities and larger towns.

In response to the lesson of the annual meeting at Cobourg over a year ago, a great push forward was made by our secretary last year in dividing the meeting at Walkerton into two departments, and the horticultural department proved the greater attraction of the two. This further lesson has suggested the advisability of a special horticultural meeting in Toronto next fall, after the proposed annual meeting at Leamington, to which representatives from all our affiliated societies will be invited; and now I would suggest, representatives also from the Civic Improvement Leagues. This, however, is a matter of more mature consideration and one which may safely be left in the hands of our energetic secretary and manager. In the meantime our only course and plain duty is to push our work ahead, and I think the Minister of Agriculture on the one hand and our affiliated societies on the other will sustain our secretary in going on with the work he took in charge only so short a time ago, and which has made such gratifying progress under his management. With the new Civic Improvement League as a helpful auxiliary, our societies should go into the splendid work they have been doing in the past with greater vigor than ever.

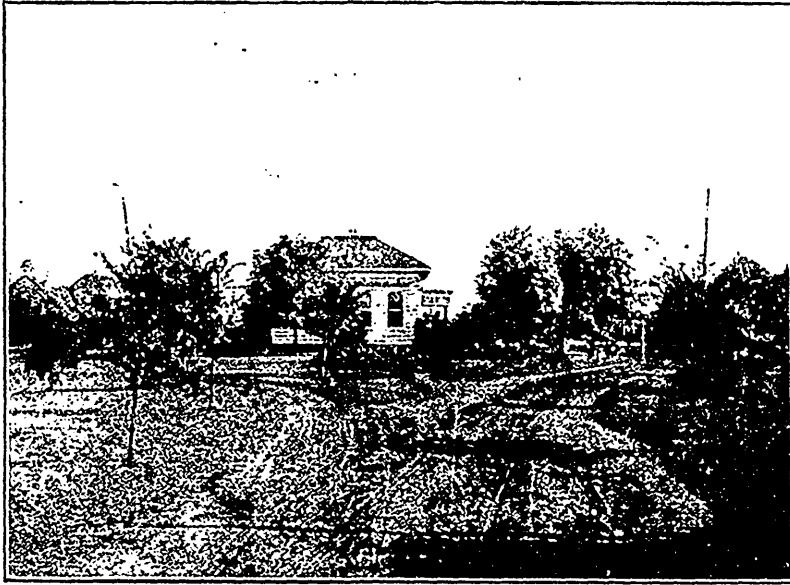


FIG. 2555. AN IMPROVED VILLAGE SCHOOL.

POINTERS FOR OUR SOCIETIES

BY

MISS JESSIE M. GOOD,

SPRINGFIELD, OHIO, IN THE "HOW OF IMPROVEMENT WORK."

THE needs of communities differ so widely that each association must decide for itself that which the town most lacks to make it beautiful and healthful, and supply what is lacking, no matter whether it is window gardens or water-works.

STREET TREES.

If your town is bleak and unshaded, plant trees, but give thought to what and how you plant. Because you love elms, you certainly show a selfish affection when you plant them twenty feet apart upon a paved street sixty feet wide, knowing, as you must if you love them, that the elm is one of the trees that needs great space and moisture for its

full development. Few shade trees should be planted closer together than from twenty-five to thirty-five feet. Why not intersperse them with some ornamental flowering trees, red buds, dog woods, crab apples, catalpas, etc.? Why always plant forest trees for city shade? Why not plant fruit trees? I see you smiling, but in Erie, Pa., I know that years ago Parade street was shaded for many squares by cherry trees that were a perennial delight, beautiful in their neat, compact growth and glossy foliage, and a joy when in blossom and fruitage. But did not the boys steal the fruit, you ask? The loss was not material. Boys who have all the ripe cherries they want at home will not

steal cherries away from home. They will hunt for green apples.

SIDEWALKS.

If it is sidewalks you most need, create such a strong public sentiment in their favor that those reticent old taxpayers who always protest against everything but a reduction of taxes will not dare fight against the improvement. But do not think when you have laid new sidewalks and planted your trees that your work is finished. It is but begun.

BACK YARDS.

What is the condition of your back yard and alley? Is the latter an impassable mire in winter and a weedy lane in summer, or is it a well-graded, rolled and drained passage way? Is your back yard green with grass and gay with flowers, making it a beautiful and wholesome place in which your children may play? Or, is it a death-trap, adorned with a fragrant swill barrel, heaps of ashes and garbage, piles of old boards, an untidy fence, while the bare ground is soaked with greasy dishwater, making it a place abhorrent to your children as a playground, and as unsafe from a sanitary point of view as a sewer? If you have such a back yard can wonder why Johnny and Willie prefer to play in the street instead of the yard? I think their preference for the street shows proper instinct and good judgment.

Does your grocer and fruiterer expose the foods he expects you to eat to the dusty contagion of the street? If so, you should teach him that you never offer such contaminated foods to your family. If an organization of influential housekeepers speaks clearly upon this point, glass-covered boxes will be quickly provided that will show the goods quite as well.

FOOD SUPPLY.

How about your dairy supply? In a cer-

tain town a shocking infant mortality was traced to the milk. A body of indignant women making a protest against an incompetent dairy inspector was told by the politician, of whom the inspector was a protegee, that they were going outside their sphere when meddling in politics. He was quickly answered that "women's sphere was not only outside the home but inside the baby." A weekly or fortnightly visit by a committee from an improvement association would have a deal to do with wholesome dairy premises. No educated woman of this age dares to be indifferent as to the source of the food with which she supplies her family. Beauty and health are synonymous terms—you cannot have one without the other.

THE VILLAGE SCHOOL.

This little temple of learning is a model one for a village school. It is fifty feet by sixty in size. The two rooms on one side and the large one on the other have sliding partitions which permit them to be thrown into one large hall for lecture or concert. There are cases full of books, pictures of great men, and a few good water colors on the wall. In the yard are trees, flower beds and swings. It is a pity that spring blooming shrubbery and bulbs are not more generally planted about school houses. Lilacs, snowballs, syringas, deutzias, weigelias, etc., if planted along the wall will take but little space, serve as a background for the flower beds, and fill the school room with fragrance. On Arbor Day why always plant forest trees? Why not plant a cherry tree that will ripen its fruit before school closes, or an apple tree for fall ripening? Why not nut trees? The training in honor and self restraint required in waiting until fruit or nuts are ripe is a finer lesson than can be obtained from text books. Fruit and nut trees give wider opportunities for nature study, as well as for pretty school festivals when the fruit and nuts are ripe.

BEAUTIFICATION OF WASTE PLACES

BY

S. M. MEEHAN,

EDITOR FLORAL LIFE, GERMANTOWN, PHILADELPHIA.

IT is my intention to at once dispel any impression you may have that I am going into the mysteries of landscape gardening, to name a lot of rules you should follow, and give other specific advice, or that I intend naming lists of desirable plants, describing their merits. Such things are details that should be worked out to fit the individual needs. But rather I wish to reveal some common opportunities by which we may brighten our lives through the medium of Dame Nature and as students of ornamental plant life.

There is no question but that all country and suburban places have their waste places, waste because they have either had all the beauty crowded out of them or have been utterly neglected.

LOVELY SURROUNDINGS.

A dwelling place should be made a home in every sense of the word. The grounds immediately surrounding the house and beyond should be made attractive and lovely to those who live right on the spot. But then we must think of others too. We want to please our visitors, friends and neighbors, and in fact every one that passes by. It is rightly a matter for personal pride that our surroundings be made to speak our appreciation for the beauties of nature. Therefore shall we be careful to view whatever plans we may make from the two points.

Have you ever stopped to consider how badly proportioned our average country places are, having in mind those where farming, fruit growing or similar rural work is carried on? Fortunate indeed is the 50 or 100 acre place that has half an acre of home

grounds about the house. Even there the chickens and other animals are frequently allowed to hold possession to the destruction of any pretty gardening plans.

In comparison with the owner of city property, what a much better opportunity has the countryman and fruit grower with an abundance of low-priced land to have a beautiful garden home with a little expense and accompanied by greater personal interest.

LAWN AND FLOWER GARDEN.

But few country homes exist where from one to five acres could not be set aside for lawn and flower gardens. "It would not pay," I hear some one say. Perhaps the balance in dollars and cents would be a little less, but is the pleasure and comfort to count for nothing? If the financial results are to be considered above everything else, and the loss of that much ground is serious, then the owner must be working the remainder of his property on very close margin, and his methods need investigating.

A good expanse of lawn may be considered one of the chief aims, because when that is set apart it offers many opportunities for development in detail and striking effects. Above all, set out with the determination it is to be a good lawn of good grass. To be half-hearted in home-making is to create waste places, and those we have no use for.

Decide to have, if possible, a flower garden, not simply flower beds and borders around the grounds, but something of an enclosure into which one may pass and feel that he is in a different atmosphere—where flowers are on every side inviting admira-

tion and interest. I know of no phase of gardening that is more delightful, invigorating and care-destroying than that which relates to hardy flowers.

A carefully selected assortment gives a profusion of flowers all the year, from the very earliest spring days, when some will open their adventurous blossoms almost from out of the snow, to the time when some will defy the lighter frosts of autumn.

A ROSE GARDEN.

A rose garden, which may be made a section of a general flower garden, is much more pleasing than where the roses are simply scattered here and there. They are not fitted for promiscuous planting, and always respond better to definite treatment.

If a fine lawn offers opportunities for detailed development, equally so does the flower garden. There may be bowers, turf walks and rustic seats, trellises, vine covered archways and what not. Utility need not be dismissed entirely, for some of the handsomest flower gardens are merely generous borders to vegetable patches. Or where the owner is concerned in marketing, cut flowers offer opportunities for quite a neat recompense for labor and expenditures.

Would not this idea also add to the various proffered solutions of the farm question, How shall we keep the boys on the farm?

Having determined to beautify our home grounds, to have fine lawns well planted, a flower garden and handsome shade and ornamental trees, what is the best course to pursue in securing them.

PLANTING PLAN NEEDED.

Right here let me say that unless the ideas are well thought out and right plans laid, it would be most unsatisfactory to do anything unusual. To plant ground for ornamental effect and permanency requires just as much and more care and intelligent judgment as

to plan out a large fruit orchard or piece of farm land. A good knowledge of plants and their characters must be had. The effect they will produce in position both at the start and in the future must be recognized.

The smallest place should have a plan made of it, put roughly on paper, or kept well in the head if not intricate—the former method is much the most satisfactory. Make this plan complete as possible. Allow for every little embellishment, though the minor details may be subject to change when the work is taken up.

The economy of a plan is in its perfection. Mistakes are not so likely to occur, and everything is located in harmony. Above all, such a plan can be carried out one part at a time without danger of having something interfere with some idea that might otherwise have presented itself at a future time. The lawn could be started the first year, and a few trees planted as desired about the house and at the driveway entrance, with perhaps sufficient properly grouped in intermediate positions to relieve any bareness that might exist. The next season shrubbery borders and groups might be planted with additional trees on the lawn for ornamental purposes. The flower garden need not follow till later. Meanwhile, the pleasure accompanying development would be going on with always some little thing to look forward to.

EXPERT ADVICE.

If you have the time to study all these things out properly it will be a source of satisfaction and pleasure, and you have but to show the completed scheme to some one competent to criticise it. If you have not that time, it will be to your profit to spend a few dollars on expert advice.

Plant trees and shrubs that have permanent value and not too ordinary. Avoid the cheap, quick-growing trees, which are invariably less satisfactory in the end and are

short-lived. I will only name the oaks as being especially worthy trees, and ones that will never bring regret. A few really rare plants will increase the interest in your place wonderfully. Such beautiful things as the yellow wood, ginkgo, Sophora, and Japanese varnish tree are not difficult to obtain, yet they are not common.

VINES.

This paper has dealt with waste places in a rather broad sense. There are many little places that would seem to come more strictly under that heading that I have not mentioned. There may be an old stump of a tree which would be beautified if a vine were allowed to clamber over it. An unusual piece of swampy ground could be made beautiful by planting in it some flags and Japanese iris, mallows, coreopsis, and

even many swamp-loving shrubs like the common elderberry, white fringe and swamp magnolia.

The walls of your house would likely be very much improved by a clinging vine. The fence along the front of your property could have a few vines placed at some of the posts. Many similar places will suggest themselves to you when you give it thought, and it is unnecessary for me to attempt further detail. My greatest fear is that we men of business allow waste places to locate in our minds. We think of utility, what we can plant here for profit and there for profit. Everything must pay in dollars and cents. These waste places I hope my hearers will plant up at once with thoughts of the beauties of nature. All else that I have suggested will then be carried out in natural course.

KINCARDINE

EXTRACT FROM SECRETARY BARKER'S ANNUAL REPORT—AFFILIATION PAYS.

YOUR Secretary regards our affiliation with The Ontario Fruit Growers' Association as of so much importance and advantage to the Horticultural Societies of Ontario that it would indicate unpardonable ingratitude on our part were we to omit a special reference to that most useful organization which year after year takes us into its confidence and sends experienced instructors to teach the improved methods of beautifying our homes as well also useful lessons on horticulture and floriculture, the benefit of which cannot be estimated from a monetary standpoint. We feel sure that the visits made to us by the Ontario Fruit Growers' Association during the six years

of our existence as a society cannot but be remembered with a great deal of pleasure. Who amongst us does not frequently call to mind the pleasing instructions we received from them all, and especially from Mesdames Rose and Maddock, of the Royal City of Guelph, and from Miss Torrance, of Chatauguay, Quebec. The last named lady visited us in the spring of 1902, accompanied by Rev. E. B. Stevenson, of Jordan Station, recognized as one of the leading Canadian authorities on that most delicious fruit, the strawberry, and its culture. That gentleman's address on how to grow large strawberries and how to successfully treat the bulbs of the hyacinth so as to ensure a profusion of bloom all through the winter sea-

son, when other blooms are so scarce, will, we are sure, be long remembered by many of us, and doubtless some amongst us are endeavoring to profit by the instruction given by that gentleman.

The following trees and plants have been

distributed to the members during the year:

Fruit trees, 246; grape vines, 49; strawberry plants, 3,375; black raspberry, 100; dewberry, 10; flowers, plants, etc., 5,016; pea trees, 10.

THE WAY TO THE BACK DOOR

THE accompanying illustration shows a commendable way in which the landscape gardener arranges the path leading from the street to the back door. It is a situation very commonly met with. The premises are not large, the front of the house and expanse of lawn is to the right, and this walk was made for the grocer, butcher, and so forth. Where it is given a short turn the shrubbery is thickened so that the back yard is effectually screened. The walk is made a little wider in front than back, causing an impression of greater depth than really exists. It is a success, so radically different from what is usually made shift with in our city residences. The trouble is, such a result requires five years' time to bring forth. While people neglect their places entirely for many years, when they do order it properly arranged they want it complete immediately. Such plantings of shrubbery should be embellished with numerous clumps of perennials. Those to the right, fronting on the open lawn, can be almost any you may desire, according to the requirements of color, size, season of bloom and so forth, but those along the edges of the walk must be shade coloring, such as columbine, trilliums, violets, hemerocallis and so forth.— *American Florist*.



FIG. 5556. THE WAY TO THE BACK DOOR.

SPRING NOTES FOR LAWN, FLOWER GARDEN AND WINDOW.

BORDER PLANTS--WINDOW PLANTS - FLOWERING
BULBS--ANNUALS--SEEDS FOR BORDER PLANTING.

BY

WM. HUNT,

SUPT. GREENHOUSES, O. A. C., GUELPH.

THE mild, sloppy weather we are experiencing at the present date (Feb. 11th) bids fair to denude plant life entirely of its protective blanket of snow. Premature and partial spring weather is very trying and often fatal to plant life. Divested of their warm winter covering of snow, exposed oftentimes to sharp frost at night and bright sunshine in the day time, producing alternate periods of freezing and thawing, with intervals of cold parching winds, these conditions prove more fatal to plant life than when more severe weather prevails and the plants are still covered in their protective mantle of snow.

It is in these prematurely early spring seasons that the plant lover must take more than ordinary precautions with plants or shrubs of questionable hardiness on the lawn or in the garden. Tender rose bushes, or shrubs that have perhaps been unprotected during the winter except for their covering of snow, will benefit very much by having some protective material such as a light covering of long straw or strawy manure, or even a few fresh pine or cedar boughs placed so as to shield them at least partially from the parching wind and sun, that are more to be dreaded really than the frost.

BORDER PLANTS.

Border plants, such as biennial *Campanulas*, Hollyhocks, perennial *Phlox*, *Polyanthus* Primrose, and even violets, will be greatly

benefitted by a slight covering of some light protective material, if weather conditions exist in early March such as I have described. Premature spring weather often means a premature death of tender plant life, unless protective measures are taken in



FIG. 2557. NARCISSUS, VON STON.



FIG. 2558. BEGONIA MANICATA AUREA.

time. Even then it is difficult to pull them through the changeable weather often experienced in late winter and early spring.

BORDERS.

BULB BEDS OR BORDERS.—Beds or even clumps of bulbs in borders that have been protected during winter are oftentimes uncovered too hastily in early spring. Take the winter covering from these by degrees as warmer weather approaches. Examine the beds or borders about the end of March or early in April. If the frost is out of the covering, remove the wettest and most rotten part of the covering, replacing the drier portion of the covering and allow it to remain until more settled and warmer spring weather prevails, when it can be taken away altogether. This method of uncovering protected plants will apply

equally to all winter protected shrubs and plants. Never expose suddenly and entirely any tender plant or bulb, to the uncertain weather conditions of late winter or early spring. Always remove the covering from winter protected plants in dull showery weather if possible, as the bright sunshine is often as hurtful to tender plant growth in early spring as frosts.

WINDOW PLANTS.

FLOWERING BULBS.—Pots of any of these, such as Narcissus, Tulips and Hyacinths, should have a plentiful supply of water after they are well started into growth or when in flower. When the flowers have faded do not withhold water entirely from the plants, more especially the various kinds of Narcissus and Tulips. When the flowers of these begin to look shabby stand the pots a little in the background, where they can still have some light and perhaps a little sunshine, and dry the soil up gradually in the pots. Possibly the foliage will keep fresh for a week or two. When it shows signs of decay give the plant less and less water until the foliage has become quite yellow. In early spring plant the bulbs out in the open border as soon as the ground is in proper condition. Place a good sized stake to mark the spot where they are planted, and do not disturb them when digging the border. It may be two years before you get much bloom from them, but if they are left undisturbed they generally give good and constant results year after year when once they become established. Bulbs forced into flower early in the season in pots are of very little if any use for pot culture the second season. Most varieties of the Narcissi naturalize well when planted in the open ground, and are quite hardy.

FREESTIAS.—These should not be dried off hastily. Give them water less frequently after they are out of flower, until the foliage is quite yellow, when no more water should

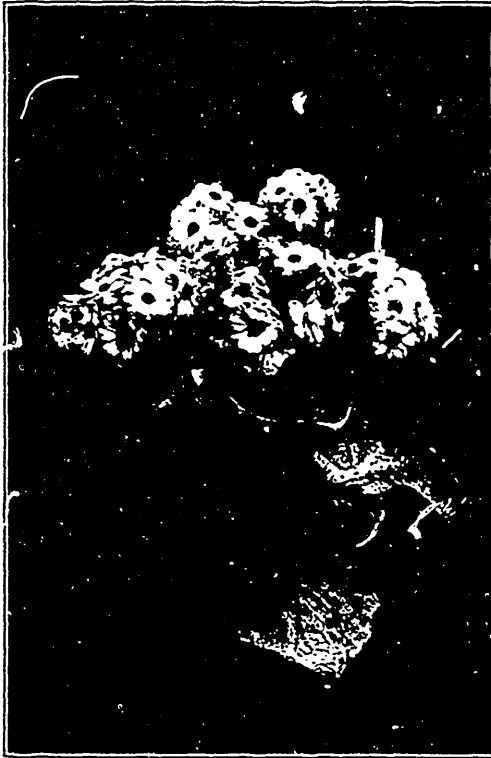


FIG. 2559. TALL BRANCHING CINERARIA.

be given them. Keep them dry until next season in the pots.

BEGONIAS.—Two of the very best varieties of these for window culture are *Begonia Manicata Aurea* and *Begonia Paul Bruant*. The first named of these makes a most attractive and lasting window plant. (Fig. 2558.) Its beautiful large leaves of pale glossy green, blotched and mottled with spots of a pale gold color, will of themselves entitle this plant to a place in the front ranks of this popular species of plants. But when its richly marked foliage is surmounted by its tall delicate racemes of pale pink flowers, it is indeed a plant of great beauty. I have known plants of this variety of *Begonia* kept and grown successfully in windows for several years without being removed, except for repotting or at house

cleaning time, and each year give a wealth of their delicate blossom at this season of the year, the foliage at all times being bright and attractive. *Begonia Paul Bruant* is another good window *Begonia*, but is not quite as robust or pretty a variety as *B. Manicata Aurea*. The plain leaved variety, *Begonia Manicata*, is also a good window variety, having almost as robust a habit, but is without the beautiful markings on its leaves. The leaves of both varieties of *B. Manicata* are of a thick leathery texture, a feature that makes them of so much value as house or window plants, being better able to resist the destructive influence that the dry atmosphere of a dwelling house usually has on this class of plant.

CINERARIAS.—Plants of these beautiful showy annuals are very subject to green fly



FIG. 2560. DWARF CINERARIA.

or aphid, more especially on the underneath side of the foliage. Tobacco water applied to the foliage infested with aphid is a good remedy, but is far more successful as a preventive, as these insects are very hard to dispose of on Cinerarias when they once get on the plants. By starting early in the season and applying regularly about once a week the tobacco solution so often recommended in these columns, the green fly can be kept from them. When the plants are

out of bloom throw them on the rubbish pile, as they are of no further use as decorative plants. Cinerarias are not profitable window plants, and are uncertain and fickle plants to grow, but as greenhouse plants they are very showy. (The accompanying cuts show both the tall and dwarf type of these plants.)

TUBEROUS BEGONIAS.—The tubers of these summer flowering Begonias can now be started into growth. As a rule it is best to start them in sand only. Fill a pot or a shallow box with fine sharp sand, place the bulb in the sand so that the top of the bulb or tuber is just under the surface of the sand. Water so as to moisten all the sand. Keep the sand moist, but not soddened. A temperature of 60 to 65 degrees will suit these Begonias to start in. In about two or three weeks the bulbs will require potting, or as soon as the roots are an inch in length. A five or six inch pot will usually suit an ordinary sized bulb, as these should average about an inch or perhaps two inches in diameter. The latter sized tuber would require a seven inch pot. Use plenty of drainage, and a fairly rich loamy soil, in which there has been mixed a small quantity of sand. Water well once after planting, then give water sparingly until the plants are well established. The tuber should be just under the soil when potted, as recommended in starting them. I prefer potting them into large sized pots at first, to repotting them as required into larger pots, as they

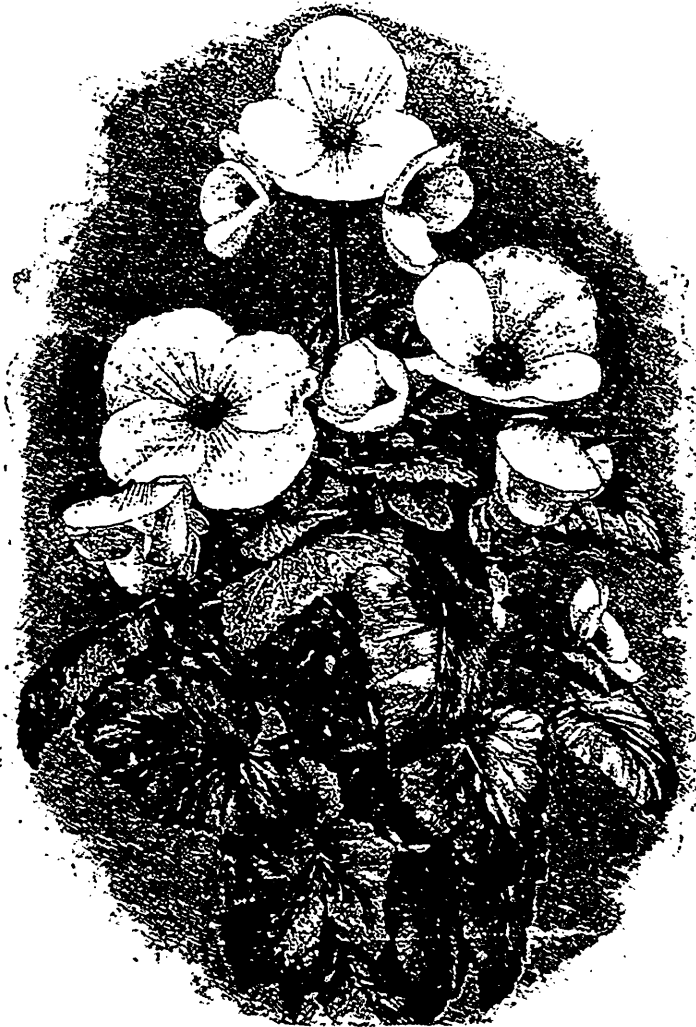


FIG. 2561. TUBEROUS BEGONIA—SUTTON'S QUEEN OF THE WHITE.

are tender and difficult to repot sometimes. Place an inch of broken pot at the bottom of the pot for drainage.

SEEDS FOR BORDERS.

BORDER FLOWER SEEDS. — Sweet Peas, Zinnia, Mignonette, Antirrhinum, Sweet William, Aquilegia, Dianthus, Marguerite Carnation and Gaillardia, as well as the annual Wallflowers, are amongst the varieties of flower seeds that should be sown as early as possible in the open ground. No flower garden should be without the last named variety of these sweet-scented English flowers that are such favorites with every one that loves a delicately perfumed and easily grown flower. The annual type of

these plants is very similar to the perennial type, except that the plants are not as strong growing and the flowers not quite as large, but their long and continuous habit of flowering and their delicious perfume make them indispensable in a collection of garden flowers. I picked large handfuls of these as late as November 10th, after most all of the border flowers were spoiled by early frosts. If sown early in April in a pot in the window and transplanted in the border early in May, they can be had in flower in July. The other varieties mentioned (except the Sweet Pea and possibly the Mignonette), as well as other kinds of annuals and perennials, can be sown indoors in pots or boxes for transplanting outside, so as to secure early flowering results.

Question Drawer

SCAB IN POTATOES.

SIR,—Will the mixture of lime, sulphur and salt cure scab in potatoes.

JAMES WALKER, Fairville, N.B.

For scab in potatoes I have found copper sulphate solution an excellent remedy. It is useful both for treating the seed previous to planting and for spraying the growing plants to prevent rust, etc. Lime, sulphur and salt, or lime and sulphur without salt, is not suitable for foliage in any case. Used at one-third of what we consider normal strength it will defoliate peach trees very quickly. Other fruit trees are slightly more resistive.

G. E. FISHER, Burlington.

WHALE OIL SOAP.

SIR.—Where can Whale Oil Soap be purchased, and what is the usual price for it in 2,000 lb. lots? Is there any simple way of testing quality?

QUEENSTOWN. WM. BURGESS.

I know of no firm in Canada making Whale Oil Soap. David Morton & Sons, of Hamilton, made our last year's supply, and delivered it at four cents per lb.

They do not keep the necessary material on hand, and do not make it except in large lots. Morton's soap was the best we have used.

G. E. FISHER, Freeman.

STICKY BANDAGE.

SIR,—Is the mixture of resin and castor oil applied to the bark of the trunks of the trees?

FAIRVILLE, N. B.

JAMES WALKER.

In using the sticky bandage (castor oil and resin) the trees should be very carefully scraped at any convenient height—that is, a strip six or eight inches wide around the trunk—and the mixture applied with a brush, making a sticky bandage about two inches wide right on the bark. These two inches will soon spread to four inches, and if the weather warms up it will spread more. The first treatment will be absorbed by the bark and must be repeated. The second application will remain sticky a long time.

G. E. FISHER, Burlington.

THE VEGETABLE GARDEN

MANURE HOT BEDS.

THE construction and management of hot-beds is an exceedingly simple matter, and yet it requires careful attention to keep plants growing in a healthy condition. Manure beds are most commonly used, horse manure being preferable to any other ready available substance. Fresh manure recently removed from the stable is the best, but if collected in too small quantities, it should be frequently spread through the winter in order to keep it from heating and spoiling before spring. If a good proportion of fine straw or forest leaves are used in the bedding it improves the manure greatly for hot-bed purposes.

When ready to begin operations the manure should be forked over, shaken out finely and *thrown into a high conical heap to heat*; if anyways dry it should be watered until well dampened throughout the heap. Leave it standing in this heap about a week and it will surely heat and begin smoking like a small volcano.

There are two methods of forming the bed, some digging a pit and sinking the manure in it, and others simply building the manure up into a square bed and setting the

so we will let labor vs. manure decide which you shall adopt.

Fig. 2563 shows a perspective view of a bed constructed on the manure without a pit. If the manure is fine, and contains little or no long straw, it will be found necessary to put a plank frame around it to keep it in position. After levelling the manure there should be three or four narrow boards laid across it on which to rest the hot-bed frame, so that after the manure heats all will settle together, otherwise the weight of the frame and sash will force it down into the manure, and the centre of the bed will appear to raise and perhaps displace the plants.

Of course you should select a spot for the bed which is sheltered as much as possible on the north and west by some building or high board fence. The sash should slope gently towards the south or east, both in order to carry off the rain water readily and to catch the sun's rays and gain light and warmth.

The most common sashes are 3 x 6 feet. The frame should therefore be made six feet wide and as long as necessary to accommodate the number of sashes to be used.

A vital point always to be observed in making a hot-bed is *to spread the manure down while hot*, it then continues to heat, but if spread down cold it will heat very slowly or unevenly or perhaps not at all. Early in spring, when considerable cold weather may yet be expected, it will be necessary to use about a common wagon box full of manure to each sash, but later in the season, when forming beds in which to transplant seedlings, one-half that quantity will suffice.

The soil to be used should be prepared in advance. It must be light, loose and rich.

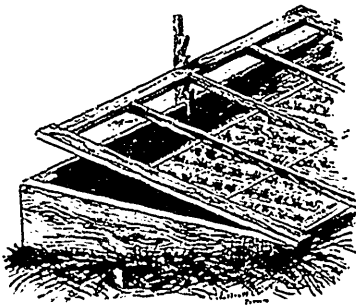


FIG. 2562. OLD FRAME.

frame on it; the first named method requires the most labor, the second the most manure,

Good sod placed in a heap with alternate layers of cow manure and allowed to stand and decay for about one year, makes a fine compost for starting a hot-bed. In removing the soil from an old hot-bed, shovel out some of the fermented manure with it each year, this will keep it loose and in good mechanical condition. The poorest article I ever saw used in a hot-bed was sand washed

ger of running up spindling, transplant again.

In transplanting tomato plants, the stem should be set down well into the soil, and will take root wherever covered. The object sought is plenty of fibrous roots on a short stocky stem. The temperature of the beds must be closely watched, though it may vary considerably. The mercury may run

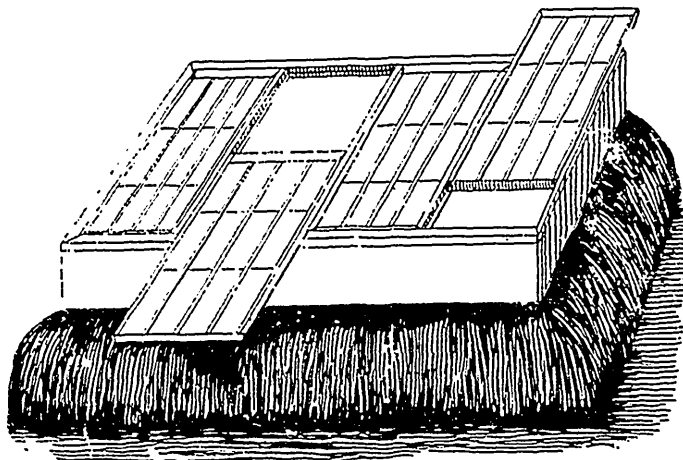


FIG. 2563. HOT BED.

from the road, which it was thought would be rich and nice, but it packed down so hard that the whole bed was a failure.

Soil should be placed on the manure to a depth of from four to six inches, and the glasses adjusted properly. After the soil becomes warm, sow the seed in rows about four inches apart and scatter them quite thickly in the rows. Never sow broadcast, as the labor of keeping free from weeds is much greater. When the seedlings are about three inches high, they should be transplanted into rows, 3 x 6 inches, and as soon as these need more room, or are in dan-

ger from 50 to 80 degrees, though the mean, 65 degrees, should be as closely kept as possible for tomatoes, pepper, etc. Cabbage and cauliflower plants require much less heat, and should never be placed in the same bed with tomatoes. In fact, very little or no bottom heat is required to produce good early cabbage plants. Fit a frame, as for a hot-bed, except to omit the manure for bottom heat, cover it with sash, and sow the bed early in March, and better plants will usually result than if bottom heat is used. (See Fig. 2562).—*Tillinghast Manual*.

GINSENG CULTURE.

SIR.—Please give me full information on Ginseng Culture.

Queenstown.

W. B.

To give detailed instruction would take much time and space. We would, therefor,

refer our correspondent to a small book entitled "Ginseng", by M. G. Kains, published by the Orange Judd Co., New York City; or to the Dept. of Agriculture, Washington, D. C., for the Farmers' Bulletin on this subject.

TOMATO GROWERS

A MEETING AT HAMILTON - ADVANCE PRICES DEMANDED.

A MEETING of tomato growers of Wentworth county was held at the Dominion hotel Saturday for the purpose of considering what steps it would be advisable to take to get better prices from canners for tomatoes grown this summer than were paid last fall. There was an exceptionally good attendance, nearly 100 tillers of the soil being present. It took them a long time to get down to business, there being no person anxious to accept the responsibility of setting the wheels in motion, but when they did get started they transacted a large volume of business in a remarkably short space of time.

The first question discussed was whether or not it would be advisable to form a Tomato Growers' Association, and recognising the fact that in union there was strength, it did not take long to decide in the affirmative. The association starts out with about 75 members, and the officers expect that this number will be doubled when the farmers generally understand what the aims and objects of the association are. As an evidence of good faith, those who joined on Saturday deposited 25 cents each with the secretary. The election of officers was next proceeded with. R. H. Lewis, of Bartonville, was the unanimous choice for president, and E. J. Mahoney was elected secretary.

Having completed their organization the tomato growers started in to discuss other matters, the first of which was the price to be demanded for tomatoes next fall. Last fall the canners paid only 20 cents a bushel for tomatoes, and it was agreed that this figure was far too low. Some thought 30 cents a bushel should be the minimum. Others wanted to split the difference by setting the price at 25 cents a bushel. After

much discussion it was decided to allow every grower to make the best bargain he could with the canners, but every member of the association affixed his signature to an agreement not to accept less than 25 cents a bushel. If the canners will not contract for tomatoes at this price, there will be few of them grown this fall, as the farmers are very much in earnest in their demands. They have little fear of outside competition, as the freight rates are sufficiently high to protect them, and as they consider that their grievance is a just one they intend to fight to a finish.

The growers have another grievance against the canners, which they intend to have settled before setting out their plants this spring. The contracts which they have been asked and practically compelled to sign in former years contained an objectionable clause. It gave the canners the privilege of saying when the tomatoes were to be delivered. Frequently they were not prepared to accept delivery when the tomatoes were ripe, and the growers had no alternative but to let them rot on the ground. Later the canners would compel them to deliver the quantity contracted for. This clause of the contract will have to be struck out or modified. The growers will insist on being allowed to deliver their goods when they are ready.

Some of the canners had a talk with the officers of the Growers' Association after the meeting, and signified their willingness to comply with the demands of the association. The officers of the two associations will probably meet in the near future to talk the matter over, and to draw up a new form of contract.

WINTER AND SPRING CULTURE OF ASPARAGUS.

C. L. ALLEN, NEW YORK.

THE asparagus bed is quite apt to be neglected at this season, or the care required to keep it to a high state of productiveness overlooked. Before the first of December the tops should be cut and the bed or field cleared of weeds. It is highly important that all the seed should be taken off, as the greatest enemy the asparagus has, in the way of weeds, is asparagus, and it is almost impossible to get clear of superfluous plants when once established. When this work is finished, cover the bed to the depth of three inches with coarse manure, which will not only enrich the soil, but will keep out the frost, which is highly essential. Like all other siliceous plants, the asparagus is making preparations in winter for its spring work. This it cannot do if the soil is frozen. In climates where freezing and thawing alternate in rapid succession, the buds will be greatly benefited if covered sufficiently deep with leaves or seaweed, on top of the manure, so that it will be impossible for the frost to reach the crown of the plants. The first work in spring should be to remove all the covering except the fine manure, which should be carefully forked in so that the crowns will not be injured by

the tines of the fork. While the asparagus is, apparently, a hardy plant, and one almost impossible to exterminate, there is no plant that resents injury so quickly, as will be seen by the difference in the size and number of edible shoots it will send up. Forking the beds should not be neglected, as the early admission of the sun and rain into the ground induces the plants to throw up shoots of superior size. Another step in the right direction is to keep the ground entirely free from weeds the entire season, as these take from the plants the strength required for their own growth, and the asparagus needs it all.

Although there is a difference of opinion as to the benefit of salt on asparagus, most of the best growers on Long Island cover their beds with salt as soon as the ground is cleared and the manure forked in in the spring, to a depth of half an inch in some cases. Although that much may not be required, it certainly does no harm, but an application of salt so that the ground appears as if covered with snow is considered by many an absolute necessity if best results are to be expected.

GARDEN PEAS.

TWO years ago I recommended the Gradus Pea as the best early garden pea that I had ever grown. I am still of the same mind, but some of my friends have written that they have tried the Gradus and been disappointed. They must have been misled by the catalogues. Some of the lat-

ter offer the Gradus or Prosperity. I have tried that. It is not the genuine Gradus. I got my genuine stock lately from John A. Bruce & Co., Hamilton, but had it direct from a friend in England before it was offered for sale in Canada.

Mitchell.

T. H. RACE.



The Canadian Horticulturist

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LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events or doings of Horticultural Societies likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of Horticulturists.

ILLUSTRATIONS.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or other remarkable plants, flowers, trees, etc., but he cannot be responsible for loss or injury.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

DISCONTINUANCES.—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrears must be paid. Returning your paper will enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given. Societies should send in their revised lists in January, if possible, otherwise we take it for granted that all will continue members.

ADDRESS money letters, subscriptions and business letters of every kind to the Secretary of the Ontario Fruit Growers Association, Department of Agriculture, Toronto.

POST OFFICE ORDERS, cheques, postal notes, etc., should be made payable to G. C. Creelman, Toronto.

THE INDEX for this Journal for 1902 is now ready, and may be had from the secretary on application; to whom, also, orders for binding the Journal should be addressed. We have a fine stamp for the back and sides, which may be finished in black or in gold.

THE SPIRAEA ANTHONY WATERER, which was distributed among our subscribers, would bloom more freely in late summer if cut down closely in the spring. The bushes will be more compact and more attractive. Many other summer flowering shrubs would be better of similar treatment.

GIDEON MEMORIAL.—At their December meeting the Minnesota Horticultural Society called for subscriptions toward a memorial to the late Peter Gideon, the originator of the Wealthy apple. One novel method adopted was the building of a large pyramid of Wealthy apples on a table in the hall, which were sold to the members at \$1.00 a piece.

THE LATE MRS. JOHN COWAN.—On the morning of the 23rd of January, at Montreal, there passed away, at the age of 86, one to whom the readers of this Journal are indebted for many poetical contributions on Garden lore, signed "Grandma Servan." She was a native of Edinburgh, Scotland, and came to Canada about the year 1858.

CORRECT SPRAYING.

Thorough spraying cannot be done with a poor pump, and antiquated methods. The necessity for fast work, the importance of having a pump which is simple to operate and to keep clean, point very clearly to the Hardie Spray Pump as the practical ideal for use in a modern, well-kept orchard.

The fruit grower has learned by sad experience that rubber or leather valves are a delusion and a snare; that working parts, which are made of iron and cheap metals, are very annoying, on account of their liability to corrode and to get out of order; that a pump which requires an expert mechanic to adjust it is almost more trouble than the insect life, which it is supposed to exterminate. In short, a modern fruit grower demands a simple practical spray pump, where the working parts are of brass, made on the true mechanical principal in a simple, convenient and practical shape—in other words he wants a "Hardie"

The growth of the Hardie Spray Pump business, due to the extreme reliability of the pump, is growing by leaps and bounds. The demand from Canada alone, is sufficient to warrant the erection of a factory at Windsor, to take care of this territory.

SEED BUYING.

As THIS is about the time when farmers and gardeners begin planning about their crops for the coming season, and laying in their seeds, the following table may be of general service:

RELIABLE TABLE SHOWING THE QUANTITY OF SEED USUALLY SOWN UPON AN ACRE.

	lbs.	bush.
Barley, Broadcast	48	2 to 3 bush.
Beans, dwarf, in drills	60	1½ bush.
Beans, pole, in hills	60	10 to 12 qts.
Beets, table, in drills		6 lbs.
Beets, Mangel-Wurzel		5 lbs.
Buckwheat	48	1 bush.
Cabbage in beds to transplant		¼ lb.
Carrot, in drills		3 to 4 lbs.
Clover, red	60	20 lbs.
Clover, white	60	12 to 15 lbs.
Clover, Alsike	60	10 lbs.
Clover, Lucerne or Alfalfa	60	20 lbs.
Corn, in hills		8 to 10 qts.
Corn, for fodder	56	3 bush.
Cucumber, in hills		2 lbs.
Flax, broadcast	56	1½ bush.
Grass, Kentucky blue	14	3 bush.
Grass, orchard	14	3 bush.
Grass, English rye	24	3 bush.
Grass, red-top	14	3 bush.
Grass, timothy	48	½ bush.
Grass, Hungarian	48	1 bush.
Grass, lawn	15	4 bush.
Melon, musk, in hills		2 to 3 lbs.
Melon, water, in hills		4 to 5 lbs.
Millet	48	1 bush.
Oats, broadcast	34	2 to 3 bush.
Onion, in drills		6 to 8 lbs.
Onion, for sets, in drills		50 lbs.
Onion sets, in drills		6 to 12 bush.

Parsnip, in drills		4 to 6 lbs.
Peas, round, in drills	60	1½ bush.
Peas, wrinkled, in drills	60	1¼ bush.
Peas, broadcast		3 bush.
Potatoes, cut tubers	60	8 bush.
Pumpkins, in hills		3 lbs.
Radish, in drills		8 to 10 lbs.
Rye, broadcast	56	1½ to 2 bush.
Spinach, in drills		15 lbs.
Squash, bush varieties, in hills		4 lbs.
Squash, running varieties, in hills		3 lbs.
Tomato, to transplant		¼ lb.
Turnip, in drills		2 lbs.
Turnip, broadcast		2 lbs.
Vetches, broadcast		2 to 3 bush.
Wheat, broadcast	60	1¼ to 2 bush.

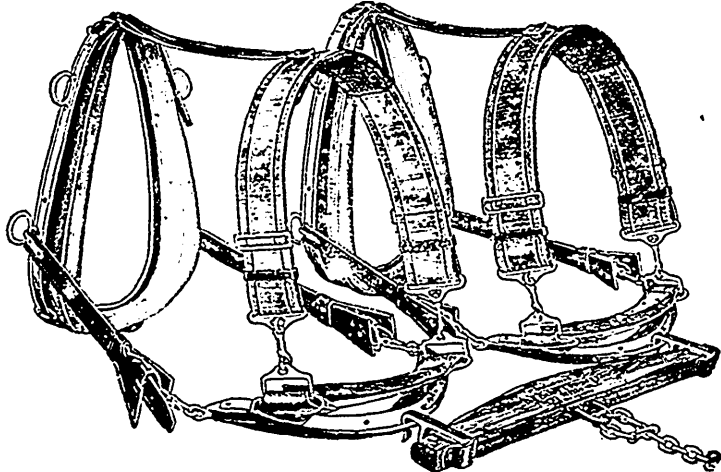
QUANTITY OF SEED REQUIRED FOR SPECIFIED LENGTH OF DRILL.

Asparagus	1 oz.	for 60 ft. of drill.
Beet	1 oz.	for 50 ft. of drill.
Beans, dwarf	1 qt.	for 100 ft. of drill.
Beans, pole	1 qt.	for 150 hills.
Carrot	1 oz.	for 150 ft. of drill.
Cucumber	1 oz.	for 50 hills.
Corn	1 qt.	for 200 hills.
Leek	1 oz.	for 100 ft. of drill.
Melon, water	1 oz.	for 30 hills.
Melon, Mask	1 oz.	for 50 hills.
Onion	1 oz.	for 100 ft. of drill.
Onion sets, small	1 qt.	for 40 ft. of drill.
Parsley	1 oz.	for 125 ft. of drill.
Parsnip	1 oz.	for 150 ft. of drill.
Peas	1 qt.	for 100 ft. of drill.
Pumpkin	1 oz.	for 40 hills.
Radish	1 oz.	for 75 ft. of drill.
Salsify	1 oz.	for 70 ft. of drill.
Spinach	1 oz.	for 75 ft. of drill.
Squash, early	1 oz.	for 50 hills.
Squash, marrow	1 oz.	for 20 hills.
Turnip	1 oz.	for 150 ft. of drill.
Cabbage	1 oz.	for 2000 plants.
Cauliflower	1 oz.	for 2000 plants.
Celery	1 oz.	for 3000 plants.
Lettuce	1 oz.	for 3000 plants.
Pepper	1 oz.	for 1000 plants.
Tomato	1 oz.	for 1500 plants.

VITALITY OF SEEDS.

	Years.		Years.
Artichoke	5 to 6	Parsley	2 to 3
Asparagus	2 to 3	Parsnips	2 to 3
Beans, all kinds	2 to 3	Pea	5 to 6
Beet	2 to 3	Pumpkin	8 to 10
Broccoli	5 to 6	Rhubarb	3 to 4
Carrot	3 to 4	Squash	8 to 10
Cress	3 to 4	Lettuce	3 to 4
Corn kept on the cob	2 to 3	Melon	8 to 10
Cucumbr.	8 to 10	Mustard	3 to 4
Egg plant	1 to 2	Okra	3 to 4
Endive	5 to 6	Spinach	3 to 4
Leek	2 to 3	Tomato	2 to 3
Cauliflower	5 to 6	Turnip	5 to 6
Celery	2 to 3	Pepper	2 to 3
Chervil	2 to 3	Radish	4 to 5
Corn salad	2 to 3	Salsify	2 to 3
Onion	2 to 3	Lavender	2 to 3

BAKER'S TRACELESS HARNESS



No Whiffletrees—No Traces

This harness is indispensable to every fruit grower—vineyardist or orchardist. Saves time, labor and patience. Pays for itself many times over every season in the saving of injury to trees and vines and damage to growing fruit, which always occurs from the use of ordinary whiffletrees and traces. One of the handiest of farm equipments.

We have hundreds of testimonials from every State, like the following:

Charlotte, N. Y., Dec. 6th, 1902.
B. F. BAKER COMPANY, Burnt Hills, N. Y.:

Gentlemen, - In reply to yours of the 2nd inst., I would say that the harness I bought of you this year gave splendid satisfaction. I think it paid for itself in one day's work in a five acre block of peach trees I have that are headed very low. I have over sixty acres of orchard and I have used it a great deal this summer, with a great saving to men, horses, harness and tree. - Wishing you success, I remain, sincerely yours, FRANK E. YARKER.

Don't delay—write us to-day for illustrated catalogue of this valuable harness, mailed free. Live agents wanted everywhere.

B. F. BAKER COMPANY, 231 Main St., Burnt Hills, N. Y., U. S. A.

All of our readers who are interested in new and improved varieties of strawberries and seed potatoes should not fail to send to Flansburgh & Pierson Leslie, Mich., for their new catalog for 1903. These people enjoy an enviable reputation for square dealing, and their new catalog is thorough, up-to-date and full of information about the new and improved varieties and how to grow them. Send for it.

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