

## Horticulture.

### The Raspberry, its Culture and Varieties.

The cultivated rasp is in its several varieties an improved form of the common wild rasp of our woods, the botanical name of which is *Rubus idaeus*. The varieties are not numerous, and those generally cultivated are the Red Antwerp, the Yellow Antwerp, Fastolf, October Red, and the October Yellow. Of these Fastolf is the best for a general crop. It is a vigorous grower and abundant cropper, and the fruit is very large and luscious. It has the merit also of being rather later than the Red Antwerp, lasting in the same circumstances fully a fortnight later than the latter, so that by growing both an advantageous succession of fruit may be obtained. The Yellow Antwerp is most prized for dessert, being less acid than the red varieties, and, consequently, more agreeable to most palates. The difference in color also supplies a pleasing variety to the dessert, but it is not so valuable for preserving. The October Red and October Yellow are chiefly valuable on account of their late cropping qualities, but as either of the previously named sorts may under the treatment required by the latter be induced to fruit in the autumn, there is no necessity for growing these specially should fruit be wanted at that late period. A new red sort, named the round Antwerp, sent out by Rivers of Sawbridgeworth, is likely to prove a favorite with those who require raspberries for dessert. It is large and showy, and mildly acid, with a very fine aroma. Where only fruit for preserving is wanted, the dependence for supply had better be placed on the red Antwerp and Fastolf.

The raspberry succeeds in any ordinary loam of good depth, but best in deep, dark, unctuous loam on a cool moist bottom. It is not naturally a deep-rooting plant, but if the soil is very dry, it is well to trench deeply in order to admit of a portion of the roots finding an easy way to some depth beyond the reach of extreme drought in summer when the fruit is in process of swelling. In hot, thin soils, a spot somewhat shaded from the midday sun should be chosen for them; indeed, in any soil the benefit of a little shade will show itself in the superior size and lusciousness of the fruit, so that, if possible, a somewhat shaded place should be selected. October is the best month in the year in which to plant the rasp, but it may be planted successfully any time during the winter months up till March. Planted later than the latter month, they do little good the first season without much care and attention, especially if the weather proves dry throughout the remainder of spring. When planted so late, the plants should be cut over close to the ground; they will not bear any fruit fit for use even if the canes are left the usual length, and as the leaving of the canes would only for a time be a source of weakness to the roots, it is better to remove them as soon as they are planted. Let the ground be well manured both in the upper and lower spits with good sound stable or cow manure, not very much decomposed in the bottom, but better rotted in the upper spit. When the ground is well trenched and prepared—and this should be done of possible a month beforehand—mark it off into squares four feet apart each way, and fix a stout stake in the corners of each square. The stakes should be about four and a-half feet above ground after being fixed sufficiently deep to make this a firm support to the canes. On one side of each stake a hole should be dug about a foot wide, and nine inches deep, scattering the earth removed over the surface equally. A quantity of compost of fresh loam, leaf-mould, and old frame dung, well rotted and equal in bulk to the size of each hole, should be prepared in equal proportions well mixed together. This should be laid down beside each hole before selecting the canes and planting them are commenced. The best canes to select are the strongest. If only weak ones can be obtained, cut them over as soon as they are planted. Three canes should be planted together in each hole, filling in the compost to within three inches of the surface only at present, and making all firm with the foot. When all are planted lay a mulching of good fresh manure in the hole, in the space left unfilled, and water over that, after which fill in the rest of the compost and dress the surface, and make it level with the spade. It is not advisable to tie the canes to the stakes just at once. There will necessarily some sinking of the ground take place for a little time after the planting is done, and if the canes are tied up at once they are apt to become suspended by the stakes instead of resting on the ground. Should ground be scarce, a crop of cabbage may be taken off the space between the rows immediately. A row or a couple of rows between each line, if cut in spring, and cleared away before the young plantation makes much way in growth, will be found advantageous no doubt; but if there is plenty of land in hand it is not advisable to im-

poverish the spaces between the newly planted roots, nor to consolidate the ground so much as it would necessarily do to crop between the rows. In order to have what is called an autumn crop of rasp, variety may be selected for the purpose. In spring, the canes of last year's growth must be cut over. The growth of new canes will, in consequence, be very rapid, but in plants that are treated in this way there will also be many weak canes. These must be carefully thinned out, leaving only the matter of three or four of the very strongest to grow and bear fruit. Those may be allowed to grow till they attain the height of four or five feet, when they must be cut back to about three feet from the ground. This will induce them to start the lateral buds, which would, in ordinary treatment remain dormant till next year. But though thus started prematurely, they are none the less fruit bearers, and will bloom and carry fruit which may be in use in October and November, or in exceptionally dry seasons they may be in use even later than that, though what with diminished heat and light they are, it must be admitted, a rarity in the way of fruit of rather doubtful quality, very pretty to look at, but not quite so pleasing to the palate as to the eye. In the general routine management of the rasp, the principal points are pruning and thinning out the canes; the latter process is too often delayed till too late in the season. It should be done in summer when the growth is fresh, and as soon as the leading canes show themselves by their extra strength. Four, or at the most five, of the strongest should be selected and tied up carefully; the rest should be cut away entirely. The pruning or cutting away of the worn-out shoots that have borne fruit the current season should be done early in the autumn, and the shoots that are to bear fruit next year should then be shortened and tied to the stakes.

### Culture of Cabbage.

Many persons complain that they cannot have any luck with cabbage; it will not head for them. The cabbage is just as easily grown as any other plant if its natural wants are met in the surrounding conditions. These wants, although not many, nor difficult to meet, are imperative and must be met if success is to be secured. A little study of its nature will give some insight into the character of these wants.

The cabbage is a biennial plant, and all its efforts during its first year's growth are directed toward laying up in its stalk and thick stems and leaves as large an amount of plant food as possible, to be drawn upon for the production of seed during the second year. As the formation of good heads requires a rapid growth, the first necessary condition is a very rich soil. It is very difficult, if not impossible, to have soil too rich for cabbage, provided it is thoroughly rotted. And it is next to impossible to secure satisfactory results without a rich soil.

This plant is a native of the seacoast of Europe, and grows in a moist soil and atmosphere. From this it would seem that the nearer these conditions can be met the better. Where it can be secured, a moist but not wet soil should be selected. But one of the most essential conditions of success in cabbage raising is, frequent and thorough cultivation. Without this success can seldom be achieved; with it, fair success may be had even when other things are not very propitious. It is hard to overdo in this matter. Cabbage should be thoroughly cultivated with plough or hoe at least twice each week. This frequent stirring of the soil keeps it constantly in a porous and moist condition, so that the demands of this succulent growing plant are fully met. No one should attempt to raise this plant for profit who is not willing to give this thorough culture.—*Cor. Ohio Farmer.*

### Storing and Keeping Apples.

The size of my fruit house is 24 by 33 feet, two stories eight feet each, set over a cellar with a seven foot wall. Common fence boards are used for studding and sheeted on the outside with good matched stuff, and on the inside a lining of cheap, common boards. Between the studding and these sheetings it is filled with tan bark excepting one space near each corner, which are left open to act as ventilators or chimneys, having a connection with air tubes running through the building under the joists, fixed with valves on the outside to open or close at will. Under the joists of each story it is ceiled, and a coating of two or three inches of tan bark spread over it. The floors are of common fencing laid open about one-fourth of an inch so as to admit a free circulation of air from below, passing into the ventilating chimneys through holes cut through the inside sheeting, and passing into the open loft and escaping through the ventilators on the centre of the roof, regulated by movable slides and cut-offs. Inside of the lining is another course of matched stuff nailed on the fur ring an inch thick, thus making a dead air space.

The doors and windows are all made double with blinds for the latter. Near the centre of the building are trap doors through all the floors with hoisting apparatus. The

advantages expected to be gained by this mode of building is to be able to control the temperature evenly; both against the warm days of this season of the year, which is so great an obstacle to keeping fruit in the North-west, and the severe frosts of winter, without an artificial heat or cellar. The cost all completed, and painted, is about \$700.

The description is given thus particular, as I feel that there is a necessity for something of the kind more than ordinary buildings, so that fruit growing may be made a success in the West by obviating the premature decay of our best fall and winter apples. If any of my brother fruit growers have any better plan for the handling of apples from the picking to marketing, I hope it may be made known through your columns, that new encouragement and a new impetus be given to apple-raising. B. B. OLDS.

P.S.—The packages I use I find very convenient in picking and transferring from the orchard to the fruit-house, as well as for storing; which are crate boxes, made of common lumber for the ends, ten by eleven inches, and lath cut in the middle and nailed on to three sides, with one piece on each edge of the top, so they can be set upon each other, either in the wagon or fruit-house. The apples may be marketed in these boxes or easily transferred to barrels.—*Cor. Michigan Farmer.*

### Grafting from Nursery Trees.

In answer to the question: "Will apple trees grafted with scions cut from nursery rows, as is commonly done by nurserymen, be likely to come into bearing as soon as trees grafted with scions taken from bearing orchards?" Mr. M. B. Bateham writes to the *Country Gentleman*:—The propounder of this inquiry deprecates the practice of nurserymen referred to; as he has adopted the common belief that the habits of the parent tree, as well as the variety of fruit, are continued or reproduced by the scion. This, however, is not the opinion of the majority of those who have given much attention to such matters. In my own experience as a nurseryman, years ago, I used annually many thousands of scions of both the classes mentioned, and on noticing the result the only difference perceived was that, as a rule, the scions from bearing trees did not make as good a growth the first season, owing to the shoots on bearing trees being generally less thrifty than those on the nursery trees; and hence the latter were preferred when they could as well be had of the desired kinds, and the wood well ripened.

I saw afterwards thousands of these trees set in orchards and come to bearing age, but could discover no difference or fault in regard to fruiting. Indeed some of the kinds were disposed to begin to bear quite too early—even while standing in the nursery; while others, like the Northern Spy, require ten years or more to arrive at bearing age. This habit, like that of the usual form of the tree, is of course a peculiarity of the variety, and is continued through successive generations by grafting; but not so the condition of an individual tree as to thrive or fruit-bearing, which is consequent upon age or accidental circumstances. If this were so, the using of scions from old trees, as is sometimes done, would tend to produce premature age and decay in the young trees on which the scions were grafted. But no such result is seen. Again, we may reverse the case, as is done in taking scions from seedling pears, only one or two years old, and grafting these upon bearing trees, for the sake of speedily testing the variety. Here we see that the stock, and not the scion, has the most to do in the matter of inducing fruit-bearing. The same is true where a scion from an old tree is grafted on a young stock. It seems at once to assimilate with the stock in its youthfulness, and disposition to grow instead of to bear fruit. Why this is so, is like the why and wherefore of a good many other things pertaining to the influence of stocks and grafts upon each other; we can only say that as yet we do not know. It is right for us to leave many of these problems for posterity to solve. They will have better advantages at the start than we had, and ought to make greater progress in discoveries.

### Grapes as Food.

We have on former occasions referred to the value of fruits as articles of diet, both in health and in sickness. Grapes may deservedly claim a high rank among the fruits in this respect. They contain a considerable amount of hydrocarbonaceous matter, together with potassium salts, a combination which does not tend to irritate, but, on the contrary, to soothe the stomach, and which is consequently used with advantage even in dyspepsia. According to Dr. Hartsen, of Cannes, in France, who has recently contributed an article on the subject to a foreign medical journal, the organic acids in the grape, especially tartaric acid, deserve more consideration than they have generally received. Their nutritive value has, he thinks, been much underrated.