

**The Garden.**

**HORSE RADISH AS A CROP.**

Select a cool, moist soil, break it deep, harrow well and mark 16 to 18 in between rows. Cuttings are made of roots from 1/4 to 3/8 in in diameter, 4 in long. Cut the top square off, the lower end slanting so as to prevent getting the roots in upside down. Plant 6 to 8 in apart in the row in holes punched 6 or 8 in deep. The tops should be 2 in below the surface when planted. When done planting harrow, then let alone until plants are well up, then cultivate with horse and a fine-tooth cultivator. When foliage covers the ground, let alone till last of Nov, then dig with a breaking plow set deep, top and bury in shallow, narrow, long pits. Do not trim the roots till you are ready to use. Plant every year. Roots 2 yrs old are worthless. You can plant on same ground for a number of years, but will have to keep the volunteer plants well cut out.

There are many kinds of machines for grating horse radish. Not finding one to suit me I invented one. It is a wooden wheel 1 1/2 in thick on which is nailed a tin band 4 in wide, projecting beyond the wood 2 1/2 in on one side. This 2 1/2 in is punched full of holes so as to form a grater. It can be turned by a crank or a band. The material cost 80c. A wheel of this kind 2 or 3 ft in diameter will grate many gallons in an hour. As fast as you grate put it into stone jars and put on the vinegar. I use white wine vinegar, as it adds much to the looks of the goods, but cider vinegar keeps it better. Of late I compromise the matter by using both, making it half and half and thus gain both points. If the goods are not sold at once they should be sealed. I use pint and quart glass cans.—[W. L. Anderson, Montgomery Co, Ind.]

**STORING THE ROOT CROP.**

Cabbage, squash and onions are often much higher in winter than at the harvesting season. A profit is thus suggested by keeping them until the great rush which depresses markets about frost time is over. Still greater profits are often secured by those who can keep their crops in sound condition until spring.

A cellar may be more valuable than the building that stands on it when the farmer has learned just how to control its temperature and dryness for the best keeping of his vegetables. A cellar had better naturally be too cool than too warm, for by outside banking, the use of double windows or of kerosene stoves for extra cold nights, it is easier to make such a cellar sufficiently warm than it is to make an over-warm cellar sufficiently cool.—[J. H. Gregory, Mass.]

**Insects in Peas and Beans**—If as soon as peas or beans are harvested they are heated to a temperature of 145 degrees F, the larvae in the peas will be killed and will not change to the blackish "bugs." At this time a large proportion of the larvae are not yet full grown. All "buggy" peas and similar large seeds should be kept in closed receptacles so that beetles cannot escape. By placing a little benzine, gasoline or bisulphide of carbon in an air-tight vessel in which the peas and bugs are, the latter will be killed by the fumes.—[Prof C. M. Weed, N H Exp Sta.]

**In Storing Celery for Winter**, it is first dug and corded in small heaps of 100 each, the roots to the center, and covering the roots and stalks with 6 in of earth to keep out the first October frost. The best cellars for storing celery are constructed of stone. They can be kept at a lower temperature than those made of wood. This difference was remarked or it, the warm autumn we had last year. In the cellar a path runs up the middle about 2 1/2 ft wide and on each side the space is divided into divisions 6 by 3 ft, with inch boards 10 in broad. In these the celery is packed upright and put in tight, part of the roots being trimmed to facilitate close packing. Be sure not to put sand or soil between the stalks of celery. Generally enough earth sticks to the roots, if not, put about 3 in of damp sand on the floor of the cellar. When all

these divisions are filled on the floor a second story or shelf is made above the celery, and again filled in like manner. Be sure and have good ventilation and keep the cellar as cool as possible without freezing. Every cellar should have a trimming and packing room attached, to prepare the celery for market with a stove in it to make the room comfortable. For family use a few hundred stalks can be packed away in boxes in the same way, and kept in a cool cellar.—[R. Brodie, Levee Co, Que.]

**For Pulling Cabbage** cut a forked stick, leaving the forks about 18 in long and the handle about 4 ft. By placing the prongs of a stick of this shape beneath the heads and pulling up, a boy can tip out more cabbage than a man by hand pulling or digging.—[M. T. Haxton, Bradford Co, Pa.]

Onions may be kept in the cellar or by freezing. Select a dry cellar where you can keep the temperature below 40 degrees, put onions on slat-made platforms, open work to admit the air, and do not have them over 8 or 10 in in depth, beginning near bottom of cellar and having platform above platform (which may be of loose boards) with 3 in between each. Keep the cellar dark to prevent sprouting. Keep a thermometer and kerosene stove in the coolest spot and when temperature falls to near 34 degrees light it. With the warmer weather of spring, air by night and close by day. If cellar feels at all damp, open a cask or two of stone lime to air-slack. If onions are not wanted until spring is advanced spread 18 in deep in any convenient loft and when hard freezing weather comes, cover with 2 ft of waste hay on top and between sides of heap and sides of building.

Cabbage is a paying crop and may be set in fall or spring. There is some risk in setting in fall, as they sometimes winterkill. If planted in fall they should be good, stocky plants and put out about Sept 15 or as soon as fall rains have soaked the ground well. Fall cabbage should not be set on heavy land, as that is liable to heave and throw the plants out. Cabbages are gross feeders and must have plenty of food, either naturally in the soil or applied.—[C. E. Flint, Whatcomb Co, Wash.]

The Mougri is one of the garden novelties of the day. It is a queer vegetable, indigenous to the island of Java. The plant attains the height of about 20 in. A singular peculiarity of this plant is that the pods are sometimes 3 ft in length. These pods are quite solid, tender and crisp. Before they are full grown they may be eaten the same as radishes. They make excellent pickles and are good for salads. This plant might also be termed the bush asparagus. If the pods are boiled while in the growing state they are most delicious, greatly resembling asparagus in flavor.—[S. L. Watkins, El Dorado Co, Cal.]

**In Keeping Squashes** don't leave them outdoors after gathering, exposed to cold rains, as they will be apt to spot and rot after storing. Squashes will keep their natural color better in dry cellars than in houses built purposely for preserving them, but when brought out of such cellars, to the charge of the marketmen, they soon rot. They are best handled on a large scale by keeping in specially erected buildings having platforms, where they are to be piled two or three deep. Such houses should have the doors and windows open for the air as late in the season as possible and when closed have the temperature about 45 degrees. The poorest ripened ones should be placed in the warmest part of the house. Squashes that have spotted may be kept awhile by putting a little air-slacked lime into the hole from which the rot has been cut out.

**Grape Cider** or unfermented wine is made by pressing juice from grapes and heating for a short time to about 180 degrees, but not allowing it to boil. It is then put in air-tight cans or sealed bottles, just as fruit is canned. Carefully done, the juice will keep sweet many years. It is a healthful, delicious beverage.—[S. S. Crissey, Chautauqua Co, N Y.]

**Large and Small Fruit.**

**GRAPE ROT.**

Mrs S. A. H. wants to know the cause of her grapes, when about grown, rotting. A small brown spot forms on one side which spreads all over the grape. They turn brown, dry but do not become soft. The disease may be either black or brown rot. Both are fungous diseases but the fungus causing black rot is different from the fungus of brown rot. Both attack the foliage as well as the fruit. They may be separated by the fact that berries attacked by black rot show numerous minute black pimples all over the surface as soon as they begin to shrivel, while brown rot berries do not show such pimples.

Both diseases may be prevented by the same treatment. The vines should be sprayed with bordeaux mixture as follows: Just as the pink tips of the first leaves appear. From 10 to 15 days after the first spraying. Just after the blossoming. Ten to 14 days after the third spraying. If a fifth treatment is necessary, let it follow the fourth after an interval of from 10 to 14 days. If a later treatment seems desirable, use ammoniacal solution of copper carbonate as that is less liable to stain the fruit. The number of treatments should be governed by weather conditions and the severity of the disease. If the vineyard is not badly diseased and there is not an excessive amount of hot, wet weather, four treatments may be found sufficient for all practical purposes. The early treatments are extensively important and thorough work is essential to success. As far as possible all diseased fruit should be removed from the vineyard because if allowed to remain it will be a source of infection to the following crop.—[F. C. Stewart, N Y Exper Sta.]

**The Best Strawberries**—Those who want the largest, best and most beautiful berries should grow the Marshall for early, Gandy or Empress for late, and the Wm Belt, Downing's Bride, Sample, Nick Ohmer and Margaret. Those who want "good berries and lots of them" should grow August Luther or Johnson's Early for early, Klondike or Hunn for late, and Senator Dunlap, Wm Belt, Sample, McKinley, Warfield and Ridgeway. Those who grow for market without seeking the highest quality, but want big berries that will sell well should add to the list Clyde, Bubach, Haverland, Parker Earle, Parsons' Beauty. Because I have not mentioned a number of other new varieties in these lists is not because I do not think they belong there but because I have not yet seen enough of them to be satisfied that they do.—[M. Crawford, Summit Co, O.]

**The Largest Orchardist in the U S** is Fred Wellhouse of Kan. Although without money in '75, he had a definite knowledge of tree growing and orcharding, acquired by years of close observation combined with practical experience, and full of faith of the possibilities of Kan for fruit growing. L. E. Wheat of Leavenworth owned three tracts of 437 a of land which was not profitable. Mr Wellhouse closed a contract with Wheat to plant this, 160 a near Fairmount and 117 a near Glenwood in Leavenworth Co, and 160 a in Miami Co near Gardner, with apple trees. These lands had cost Mr Wheat with improvements about \$10,000 and could be rented for perhaps 1 p a. He furnished the land, fenced it, erected buildings for tenants, dug wells, etc. Wellhouse & Son furnished the trees, planted, cultivated and took care of them until they came into bearing, getting all grain grown on unoccupied land between the trees, and paid taxes for the first 5 yrs. After that Mr Wheat paid taxes and each party was to bear one-half the expenses and each receive one-half the income until Wellhouse & Son should receive 15 bu p tree, or so long as the trees might bear. The Glenwood orchard was planted in the spring of 1876, the Miami county tract in 1878, and the Fairmount orchard in 1879, with varieties as follows: Glenwood tract, Ben Davis 60 a, Winesap 16 a, Missouri Pippin 41 a, Miami Co tract, Ben Davis 80 a, Missouri Pippin 42 a, Maiden's Blush 8 a, Cooper's Early 8 a, Winesap 22 a, Fairmount tract, Ben Davis 80 a, Jonathan 40 a, Cooper's Early 8 a, Maiden's Blush 8 a, Winesap

24 a. From 1880 to 1895 these orchards produced 410,417 bu, giving a net income of \$104,000, or 52,000 as a result of the venture to each party during the 15 yrs active life of the orchards. The account practically closed with the year 1895. Wellhouse & Son now own 1220 a younger orchards, located in Leavenworth and Osage counties. About one-third of these are now laden with fruit.

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