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# Growing Fall and Early Winter Vegetables

By

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IN order to provide for harvestings of vegetables as long as possible throughout the year, and particularly to furnish supplies for the table during the months of the year when fewer vegetables are available from the garden, it is important to consider what vegetables can be grown for this purpose and ways and means of producing them.

There is a mistaken idea that because some vegetables are consumed during the fall and winter they are started comparatively late in the growing season. This may be true in a few cases in which the crops are quickly grown, such as radish and spinach, but in most instances fall and winter vegetables must be started several months before the intended time of harvesting.

This bulletin is intended to interest gardeners in the growing of fall and winter vegetables and to convey information to that end.

**Cabbage, cauliflower, Brussels sprouts, curly kale, and sprouting broccoli.** These crops, which are all members of the cabbage tribe, are grown for fall and early winter by sowing seed in an outdoor seed-bed in a handy place where the plants can be given proper attention during their six or seven weeks of growth. The seed should be sown thinly, about 18 to 24 seeds per linear foot, and covered about half an inch. Care should be taken in dropping the seed so that later on the plants will be standing about half an inch apart in the row. The rows should be far enough apart to permit cultivating for weed eradication—approximately 18 to 24 inches apart. For late cabbage and cauliflower it is often desirable to make two or three successive seedings for successional harvestings. One seeding, however, may be sufficient to provide plants of curly kale, sprouting broccoli, and Brussels sprouts. If dry weather prevails, it may be necessary to water the seed-bed so as to provide good germination. Water will be applied when giving treatments of corrosive sublimate solution as described below.

Cabbage maggots may infest the seed-bed. If known to be prevalent in the community in previous years, the precaution should be taken to apply a solution of corrosive sublimate to the soil about the plants in the seed row to keep the plants from being affected by the maggots. The corrosive sublimate (bichloride of mercury) should be mixed in one quart of hot water in a glass, wood, or earthenware vessel and diluted with water at the rate of one ounce of the bichloride to 12 gallons of water. This material is poured on the surface soil about the young plants in the row at the rate of one gallon to 20 to 40 linear feet of row. The first treatment should be applied soon after the plants are up, the second about ten days later, and the third after ten days. The cost is very small considering the protection given the plants, being about 7¢ to 10¢ per one thousand plants for three applications.

It is inadvisable to have the seed-bed soil for these plants too rich inasmuch as it will cause a succulent or leafy growth of the plant. The plants should be strong and stocky but not soft; otherwise they will transplant with difficulty in warm weather.

Fit the land well for the plants before transplanting. Select a spell of cloudy weather, if possible, or if the transplanting must be done in warm weather shade the plants on the southwest side with a shingle until established. The plants should be about seven to eight inches tall when set in their permanent place in the field. If the plants are larger and the weather is warm, remove a portion of the leaf surface. Soak the soil of the seed-bed about twelve hours or so before lifting to transplant. The following table shows varieties, planting distances, etc., of the various members of the cabbage family.

PLANTING TABLE—CABBAGE FAMILY

| Vegetable | Variety | Dates of seeding | Distances of transplanting | Harvesting season |
|---|---|---|---|---|
| | | | *Inches* | |
| Cabbage, Fall | Glory of Enkhuizen | April-May | 24x36 | Sept.-Oct. |
| Late | Danish Ball Head | April | 24x36 | Oct.-Nov.-Dec. |
| | Green Savoy | May | | |
| Cauliflower | Snowball | | 24x36 | Oct.-Nov. |
| Brussels sprouts | Long Island Improved | April-May | 24x36 | Oct.-Nov. |
| Sprouting broccoli | Green Calabrese | April-May | 24x36 | Sept.-Oct.-Nov. |
| Curly kale | Tall or Dwarf | April-May | 24x36 | Oct.-Nov.-Dec. |
| | Scotch Curled | April-May | 24x36 | Oct.-Nov.-Dec. |
| Cauliflower-broccoli | S. Valentine | May | 24x36 | Feb.-Mar. and Apr. of following year |

Aphis and green worms are liable to affect any of the plants of the cabbage tribe in the field, and the plants should therefore be dusted shortly after they are transplanted with a complete or All-in-One garden dust containing arsenate of lead, nicotine sulfate, and lime or sulfur as a carrier. Dusting may have to be repeated at intervals of 14 or 21 days, until the plants appear to be well protected from lice or worms. This material will not control maggots affecting the roots of the plant. Do not cultivate cabbage and cauliflower plants unless there are weeds to be killed or the top of the soil is to be prevented from crusting after a rain. If the soil already has a mulch and there is no rain, constant cultivation during a dry period is detrimental rather than beneficial. It will not conserve soil moisture as is generally thought.

Cauliflower heads must be kept white by tying the large leaves together over the heads when the latter are forming. Within a week or so after leaf tying the heads will probably be ready to cut. Allow the cabbage plants to stand in the field until the heads are thoroughly firm before cutting. If the heads show signs of bursting, pull up on them, so as to loosen some of the feeding roots. For cabbage storage methods, see the circular on storage of vegetables obtainable in August or September from the State College. Separate mimeographed circulars are available on the growing of late cabbage and cauliflower. Brussels sprouts should be allowed to become solid before harvesting. This vegetable, as well as curly kale, is especially resistant to frosty temperatures.

**Head lettuce.** Lettuce is an important fall vegetable and can be grown from seed to harvest in from seventy-five to ninety days, depending

upon temperatures prevailing in the fall. Fall lettuce should be started late in the summer or just as soon as showers in July, August or early September permit seeding. Seed should be dropped thinly in rows eighteen to twenty-four inches apart, and the plants later thinned to stand 12 to 14 inches apart in the row. The best variety of head lettuce for fall and spring is New York No. 12. Lettuce heads are quite subject to injury when cold, frosty weather occurs; consequently there is no use in making a seeding of lettuce in the middle of the fall expecting to harvest a crop later. To have a crop of lettuce in October one must make seedings in early August; for a November crop seed the latter part of August. A good method of prolonging the home-grown lettuce season is to have some lettuce plants transplanted into a cold-frame which can be protected from cold and rainy weather, so that the plants will head through November and the early part of December. Such plants should be set in the frame no closer than 10 by 10 or 12 by 12 inches. If protection is given these plants by glass, treated cloth, or any other glass substitute, no bottom heat will be necessary in the frame for the maturity of the lettuce heads.

**Spinach.** Spinach is a quick-growing crop and can be grown in about five and a half to six and a half weeks under favorable temperatures. The seeds should be planted just as soon as any late summer or fall rains permit, preferably in August or the fore part of September, or if the land can be irrigated during these months seedings can be made so as to have spinach available during October and November, which are ideal months for this hardy vegetable. Rows of spinach are usually about 16 to 18 inches apart, with about 12 pounds of seed planted per acre. No thinning of the plants is required but the rows may profitably receive a side dressing of nitrate of soda or sulfate of ammonia during the early fall rains, in order to hasten the growth of the plant. If two or three successional seedings are made, there should be a sufficient supply of spinach to last until severe weather. Spinach seeds can also be dropped in the ground during October, so as to have plants that winter over and are ready for early harvesting the following spring. Improved Thick Leaf and King of Denmark are two good varieties of spinach.

**Celery.** Celery is a valuable fall and early winter vegetable. It must be started by transplanting plants in June to the middle of July, in order to have celery of varying age and height in the garden, which will provide a succession of bunches for the table. The plants should be set six to eight inches apart in the row and grown with level cultivation. The land should be well fertilized. A top dressing of 4-10-10 fertilizer is sometimes used, applying about one pound to every hundred linear feet of row. Celery must be irrigated at 10- or 14-day intervals. For blanching, use 1x12-inch boards against the plants when they are 14 inches high or so. A few plants should be boarded at one time. The boards should not stand against the celery longer than a normal time of blanch, usually 18 to 20 days; otherwise the celery will become hollow and pithy. When cold weather comes, give extra protection besides the blanching boards. Most celery growers spray or dust their plants with bordeaux before setting them in the field and repeat a few times afterwards, to control celery blight. Golden Self Blanching is the variety most commonly grown.

If you do not grow celery, grow the crop next mentioned, namely Celeriac.

**Celeriac**. Plant celeriac as you would parsnips, thinning out the plants to stand six inches or so apart in the row. The plants and the roots are hardy and will be useful in fall and early winter for soup or flavoring in place of celery.

**Chinese cabbage.** This is an excellent fall vegetable, individual plants, when fully grown, being capable of making a quantity of food for salad or cooked greens. The varieties commonly grown are Wong Bok, Chihli, and Pe Tsai. Sow the seed as early as possible after the summer drought breaks, preferably about August 10 to 15, and thin the plants to 12 to 16 inches apart in the row. The plants must grow steadily if not rapidly, otherwise they may run to seed. Allow the plants to grow to a good solidity of the bunch before harvesting.

**Mustard**. Varieties of mustard, including Southern curled, Fordhook Fancy, and Elephant's Ear, make fine crops of mustard greens for fall and early winter use. Sow at the same time as the Chinese cabbage or when the first rains in the late summer or early fall occur. Thin the plants to stand 6 to 12 inches apart in the row, depending upon the variety.

**Late carrots and beets**. Do not rely on March- or April-sown carrot and beet seed to produce crops of roots for the fall and winter. Seedings of these vegetables should be made again in early June, or even into early July, before or following summer rains or by means of irrigation. The varieties most widely used for this planting are Detroit dark red beets, and Chantenay carrots. The plants should stand from 2 to 3 inches apart in the row, with the rows 18 to 24 inches apart.

**Radish**. Fall-grown radishes are usually free from maggots but any radish plantings can be kept from being injured by maggots by covering the bed with a muslin screen, having approximately 20 to 30 threads to the inch. Instead of having a single long row for radishes, plant several short rows so as to form a rectangular bed which will be covered by the muslin attached to four boards of 1x8 or 1x10 inches, forming the outside of the bed. The purpose of such a screen is to keep the maggot fly from laying eggs, thus prohibiting any entrance of the maggots to the roots. Radishes can be planted at various intervals up to October 15. There is a large range of varieties varying in color and shape. The Scarlet Turnip white-tipped variety is very popular.

**Turnips**. Seedings of turnips can be made either broadcast or in rows. If there is danger of maggots affecting the roots a broadcast sowing should provide for an ample supply of roots for the table even though a certain percentage of them are affected with the maggots. Seedings can be made at any time in late August up to the first part of October. If broadcast seeding is used, the land should be clean of weeds. There are three types of varieties that may be grown, white, yellow, and purple and white. A small rectangular bed can be screened as for radishes.

If table rutabagas are grown of the Golden Heart variety, the rows should be far enough apart for cultivation and the plants thinned to about six inches apart in the row. One can sow in the middle of the summer for a fall crop.

**Sprouting or green broccoli.** This is a valuable fall and early winter vegetable which is hardy to frost, forming heads of a green color in the

center of the plant. After this head is cut, numerous lateral branches are formed which produce small heads about the size of a carnation. These and the tender stems bearing them make fine greens. The green heads as well as the buds should be harvested before they begin to break or open. Successional seedings and transplantings will give a continuous harvesting of this valuable vegetable. The crop is grown in a manner similar to fall cabbage or cauliflower.

**Cauliflower-broccoli.** This form of broccoli makes white heads in the early spring following the year of transplanting the plants. It is in many respects similar to cauliflower, varying mainly in its hardiness to survive the ordinary western Oregon winter. The crop is grown in a manner similar to late cabbage and cauliflower as discussed above. (See planting table—Cabbage family, page 4.)

**Pumpkin and squash.** Seeds of these fall and early-winter vegetables should be planted from May 10 to 20 either in hills 8 by 8 feet apart or in rows 8 feet apart, the plants to be thinned to about 2½ to 3 feet in the row. A handful of a complete commercial fertilizer may be mixed with the soil of each hill or a forkful of rotted manure applied to the soil where the seeding is to be done. The varieties of winter squash most widely grown are Golden Delicious, Delicious, Banana, Hubbard, Marblehead, and the small Table Queen. The most widely grown variety of pumpkin is the Orange Winter Luxury. If the plants are grown by the hill method, they should be thinned to three strong plants per hill. The plants may need to be protected from injury by the twelve-spotted beetle by dusting early with nicotine sulfate or the All-in-One dust previously mentioned for cabbage insects. A separate circular will be available late in the summer regarding the best methods of storing squash and pumpkins as well as other vegetables.

**Kohl-rabi.** This vegetable is easily grown and makes an excellent addition to the list of roots available for the table. Kohl-rabi produces a swollen stem which is like a round turnip and is cooked and eaten like the latter. When turnips are affected with maggots kohl-rabi is often entirely free. Plant seeds in late summer or very early fall of White Vienna and thin to 6 inches or so in the row. The plants may also be grown and transplanted like late cabbage in July.

**Swiss chard.** This vegetable is of particular value in any garden because of its use during both cool and warm weather. Seed of chard planted in the spring or even early summer will furnish a continuous supply of greens through the summer, fall, and early winter. The plants will also bear a new crop the following spring before running to seed. Lucullus has been the variety grown for many years, but some new, improved strains of chard are available, producing larger and wider stalks that can be used like asparagus and dark green, smooth or wrinkled leaves. Chard plants should stand about a foot or so apart in the row.

**Salsify.** This vegetable should be more widely planted for fall and early winter use in flavoring soups. The crop is grown in a similar manner to late carrots or parsnips. Mammoth Sandwich Island is the variety grown.

**Forced rhubarb.** Rhubarb plants that have been growing in the garden for a few years can be dug up in November, December, or January with the intention of forcing a growth of fine tender stalks for winter use. The entire plant should be dug up, allowed to freeze and then placed in a dark cellar, shed, frame or under the bench of the greenhouse. The plants should be covered with two inches or so of soil, watered and kept at a temperature of 50 to 60 degrees F. About four weeks from the time of setting in the forcing place pink stalks of from 12 to 16 inches may be harvested and the plants will continue to bear for about four weeks if the stalks are kept pulled. After production has ceased, discard the plants or set them back in the garden to recuperate for harvesting in future years. A few new plants should be set out each spring to make up for those that are dug each winter for forcing.

## OTHER PUBLICATIONS USEFUL IN HOME VEGETABLE GROWING

Extension Circular 443. **The Farm Vegetable Garden.**

Extension mimeograph Circular 268. **A Monthly Schedule of Operations in Growing Vegetables for Home Use on the General Farm.**

Oregon Experiment Station Circular of Information 48. **Vegetable Crop Insect Pest Control Program.**