

OKLAHOMA A. AND M. COLLEGE—EXTENSION DIVISION
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IMPORTANCE OF FALL GARDENS

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Well-kept gardens add to the beauty of a home, and the exercise necessary to make a garden is essential to good health. It costs less to grow vegetables than to buy them. Again, as a rule a fresh supply of good vegetables is frequently not available on the market. They are a necessary addition to our fall and winter as well as our spring diet.

Vegetables and fruits furnish a large part of the essential salts which are absolutely necessary to the well being of the human system. The need of tonics and other medicines is due largely to the lack of vegetables and fruits in the diet. Home grown vegetables are fresh and have not been subjected to infection as those from the market. The home vegetable garden, and especially the fall gardens, should have increased attention from everyone who has or can secure available ground.



Speckled Pole Lima Beans in October

Why We Do Not Have More Fall Gardens

There are two principal reasons why we do not have more and better fall gardens. In the first place, when the harvest season begins too frequently the cultivation of the garden ceases. This is a serious mistake. Maximum results cannot be obtained from the spring garden because there is a competition between the vegetables and grass and weeds for moisture and food material. Again, where a soil mulch is not maintained there is an excessive loss of moisture.

It should be borne in mind that moisture is the principal limiting factor in successful gardening, and this is especially true in fall gardening.

Land intended for a fall garden should be kept cultivated during the growing season whether a crop is growing on it or not. This cultivation will conserve moisture and at the same time keep down grass and weeds. Too frequently the fall gardener is not prepared for the late summer rains and by the time the grass and weeds are removed and the seedbed prepared the moisture is gone. The gardener either plants his seed in a soil too dry to supply the necessary moisture for germination or concludes to wait for the next rain. Frequently by the time the next rain comes it is too late to plant.

After the maturity and harvest of an early spring crop another timely crop should be planted or the soil should be kept cultivated until time for the planting of a fall garden crop. The omission of a single cultivation, especially following a hard beating rain, may mean the lack of proper moisture at planting time. Cultivate as soon as possible after rains or irrigation.

A second reason why we do not have better fall gardens is that proper consideration is not given to the arrangement and selection of the different kinds of vegetables in our spring garden. The perennial vegetables, such as asparagus, rhubarb, etc., should be planted to one side of the garden. The longer-lived plants, such as carrots, tomatoes, okra, etc., should be grouped together. By this arrangement the early or short-lived vegetables, such as radishes, lettuce, spinach, mustard, peas, etc., can be harvested and the ground cleared and prepared for successive or fall plantings.

Naturally a home gardener is going to select vegetables according to the taste of his own family, but in this selection bear in mind that there are a good many vegetables that will remain in the garden from planting time until frost in the fall. By proper care and cultivation many of these vegetables will be available for table use in the late spring, summer, fall and winter.

Long-Lived Vegetables

Among the common long-lived vegetables that can be grown in Oklahoma are pole beans, carrots, celery (in the moist sections), swiss chard, collards, corn, cucumber, eggplant, cantaloupes, watermelons, okra, onions, parsley, black-eyed peas, peanuts, peppers, Irish potatoes, pumpkins, salsify or oyster plant, New Zealand spinach, squash, sweet potatoes and tomatoes. From the above list it is readily seen that by proper selection quite a variety of vegetables may be available for the table at the time that ordinarily the list is usually very limited.

Fall Planting

Among some of the more common vegetables that may be planted beginning in July and maturing before killing frosts are beans (bush and pole), beets, cabbage, carrots, corn, kale, lettuce, mustard, onions (for winter), cowpeas, Irish potatoes, sweet potatoes, radishes, rutabaga, spinach and turnips.

For fall plantings it is advisable to plant in straight rows, the rows at least far enough apart to use a wheel-hoe for most of the cultivation. Prepare the seedbed thoroughly. On account of heat and lack of moisture the late plantings should be made deeper than the spring plantings.

Pressing Soil Around Seed

After the seed drill is opened and the seed planted, press the seed in the soil by walking on them or running a wheel over them, such as a garden plow. Cover the seed as usual, leaving the soil loose on top, which acts as a mulch and conserves moisture. This firming or pressure will bring the moist soil in more direct contact with the seed. The required amount of moisture necessary for germination will be absorbed quicker and more prompt germination of the seed will be secured.

Approximate Time Required to Raise Vegetables

| Kind of Vegetables | Ready for Table |
|---|-----------------|
| Beans, bush (tender) | 40- 65 days |
| Beans, pole (tender) | 50- 80 days |
| Beets (semi-hardy) | 60- 80 days |
| Cabbage, early varieties (semi-hardy) | 90-130 days |
| Carrots (semi-hardy) | 75-110 days |
| Corn (slightly semi-hardy) | 60-100 days |
| Kale (semi-hardy) | 90-120 days |
| Lettuce (semi-hardy) | 60- 90 days |
| Mustard (semi-hardy) | 30- 60 days |
| Onions, sets (semi-hardy) | 40-120 days |
| Cowpeas (tender) | 90-120 days |
| Parsnips (semi-hardy) | 125 to 160 days |
| Potatoes, Irish (semi-hardy) | 90-100 days |
| Potatoes, sweet (tender) | 100-150 days |
| Radishes (semi-hardy) | 20- 40 days |
| Rutabagas (semi-hardy) | 60- 80 days |
| Spinach (semi-hardy) | 30- 60 days |
| Turnips (semi-hardy) | 60- 80 days |

In planning your plantings it will be well to take into consideration the period of time required to grow the different vegetables in order to reap a benefit from them. The vegetables which are marked tender will not stand frost and should be planted early enough to get the benefit from them before killing frosts. The semi-hardy vegetables will frequently grow after killing frost, even as late as November.

Cold Frames

While planning the fall garden, why not make the cold frame and use it during the winter months to supply the table with beets, lettuce and radishes after the frosts have come. All the plants thrive best under cool, fairly moist conditions.

The sides of the cold frame furnish a partial protection from cold winds. On cold nights and days the plants may be protected by covering the frame with a wagon sheet.

Lettuce and radishes may be planted together in the frame. The radishes will mature first and will be out of the way by the time the space is needed for the lettuce.

Beets may be planted after the radishes have been removed and will continue to grow after the lettuce has been harvested. Plant the lettuce and radishes late in August or early in September. Plant the beets the last of September.

Frost-Proof Cabbage

For full directions for the growing of frost-proof cabbage, lettuce and cauliflower, write to the Extension Division, A. and M. College, Stillwater, Oklahoma, for the special circular on the same.

Beans

Bush beans should be planted in late summer and successive plantings may be made up to within eight weeks of frost. Pole beans may be planted within ten weeks of frost.

In the late plantings of beans it is advisable to plant three to four seed in a place. In this way the seedlings will assist each other in pushing through the soil, especially if a crust is formed over the seed after planting. After bean seeds have been planted a few days, and previous to coming up, it is almost impossible to break a crust over them without destroying the seedlings.

Plant bush beans three to four to a place, about 8 to 12 inches apart in the row and the rows 24 inches for wheel-hoe cultivation, and the rows 30 to 36 inches apart for horse cultivation. Plant $1\frac{1}{2}$ to 2 inches deep, the greater depth applying to light soils.

Pole beans should be planted 4 to 6 inches apart, and after the seed have germinated the plants thinned, if too thick. Good varieties of beans are as follows: Bush—Green Pod Stringless; pole—Kentucky Wonder; lima—Henderson's Bush Lima, Pole Speckled Lima.

Beets

Beets will stand fairly heavy frosts where planted in summer and hardened naturally in the fall. The beet is one of the best vegetables for late gardens. The seed germinate slowly. It is frequently advisable to soak the seed in warm water over night. The following day drain the water off and roll the seed in dry sand or soil so as to absorb the excessive moisture. Otherwise it will be difficult to separate the seed in planting. Plant the seed quite thickly, and when the plants are 4 inches tall, thin to 4 to 6 inches apart. Extra plants may be used for greens. Plant seed about 1 inch deep, rows 24 inches apart. Beet seed should be planted in August.

Early Blood Turnip, Extra Early Egyptian and Eclipse are good varieties.

Cabbage

The growing of fall cabbage in the central and western portions of the State is rather difficult, the two principal difficulties being the green cabbage worm and the growing of plants to be set out in late summer.

The best way to control the worms is with arsenate of lead or paris green.

Plant the seed in a semi-protected place from the southwest winds and sun. The north side of a building is preferable. Prepare a good seedbed and plant the seed in rows in June or the first part of July. Grow the plants slowly and by the middle of August good, tough plants should be available. Transplant the cabbage plants to their permanent growing place the 1st to 10th of August. Set the plants deeply, firm the soil well about the roots and water thoroughly and finish filling the hole with loose soil to form a soil mulch. If it is hot and dry at transplanting time, shading for a few days may be necessary. Keep well cultivated until late fall. Watch carefully for worms throughout the entire growing season. Cabbage for the table should be available in October. The last of October or the first part of November, harvest and store in a soil kiln or cellar.

Use only early varieties for the fall crop because the length of the growing season is limited. The following are desirable varieties: Early Jersey Wakefield, Charleston Wakefield and All Head, the latter variety being a flat-headed variety a little later and larger than the first two.

Carrots

Fall planting of carrots should not be necessary as a supply should be available from the spring garden. Carrots will stand hard frost and freezes after up, and well started. Year before last year, which was an unusually

cold one, carrots stood in the ground during the winter. They will continue to grow pretty well through October. The seed should be planted the last of July to the first of August. Where a favorable season prevails, the better results will be from the earlier planting.

Plant the seed $\frac{3}{4}$ of an inch deep. Drill the seed in rows 2 feet apart. Thin the plants to 2 or 3 inches apart in the row when the plants have reached a height of 2 inches.

Good varieties are: Early Scarlet Horn, Oxheart and Danvers.

Corn

The planting of a late crop of corn, especially in the drier and warmer portions of the State is frequently a risk. However, where space is available, a limited planting is advisable. Figure on early-maturing varieties and plant when the season is right in June or July. Mexican June and Squaw are good varieties.

Kale

Kale is a semi-hardy vegetable and will stand rather hard freezes. It is a good vegetable for fall and early winter greens. Plant the seed in early August. In case of a mild winter, or if the plants are mulched heavily with straw, they will stand over winter and give extra early salad in spring.

Plant the seed in rows about $\frac{3}{4}$ of an inch deep. The rows should be 2 feet apart. Thin the plants in the row until they stand 6 inches apart, using the thinnings for greens. The later harvesting should consist of removing a portion of the leaves from time to time. Try a small planting of kale if it is new to you. Dwarf Curled Scotch and Dwarf Green German are popular varieties.

Lettuce

Lettuce is one of our most popular garden crops and is easily grown early and late. When planted too early in the late summer, the seed will frequently remain dormant until the weather conditions become cool. Thus it is seen by planting in a cool, moist location, such as to the north of a building, germination of the seed can be secured earlier. Successive plantings can be made from the last of July to the first part of September. Where winter lettuce is desired, plant the seed in August and transplant to the cold frame in early September.

Late plantings on the south side of a building will furnish a supply for the table during late fall and early winter.

Good, popular varieties of head lettuce are: Big Boston, Improved Hanson; while Grand Rapids and Black-Seeded Simpson are good leaf varieties.

Mustard

Mustard is one of our standard vegetables for greens, and on account of its being easy to grow, should be found in every fall garden where it is liked.

Plant the seed in rows from the last of July to the first of September. Thin the plants until they stand 6 to 10 inches apart in one row. Use the thinnings for greens. Giant Southern Curl is a good variety.

Onions

There are too few winter onions found in our gardens. They are easily grown, and at least a limited planting should be found in every home garden. Where ordinary spring onion sets can be obtained and set out in drills 3 inches deep in August or first of September, green onions will be available during late fall and winter. As the weather turns cold, fill in the trench with soil, gradually mounding the soil about the base of the onions for a protection during the winter.

Regular winter onion sets should be set out in August or first of September. Early onions will be available in the spring from these sets about the time ordinary spring gardening begins.

Cowpeas

There are several varieties of cowpeas frequently grown in the garden, the most popular varieties being Black-Eyed Peas or the Brown Crowder. Cowpeas are very drouth-resistant and can be planted in May, June, or up to the middle of July.

As a rule they are planted after some early crop is harvested. Frequently they are planted in between the Irish potatoes and after the potatoes are dug, the peas occupy the ground. For the maximum yield of peas, plant the seed in rows and cultivate them two or three times.

Parsnips

The cultural directions for carrots are applicable to parsnips, except parsnips require a longer time in which to mature. Plant parsnips not later than July. Hollow Crown and Guernsey are good varieties of parsnips.

Potatoes (Irish)

As a general rule the average attempt to raise a second or fall crop of Irish potatoes is a failure. This is due usually to the fact that the soil has not the proper amount of moisture in it and it is too hot. The Irish potato, for its best growth and development, requires cool, moist conditions. These conditions do not exist very often in July, the usual time for planting the second crop. In order to best meet these conditions, especially on upland soil, the soil should be kept cultivated from spring on. As soon as the soil is plowed, a soil mulch should be kept on the ground just as though a crop was growing. By keeping up the above cultivation the soil will be moist and fairly cool when planting time comes. Do not overlook cultivation after each rain. Keep a mulch on the ground all the time, even after the second crop is planted and before the plants have come up.

Seed from the spring crop is most frequently used. Potatoes from the previous year's crop which have been kept in cold storage, as a general rule, are preferable.

The "Bliss Triumph" is preferable to the "Early Ohio" or "Irish Cobler" for the second crop.

"Lookout Mountain" is the best variety of potato for the second crop. This variety is grown in the Southern Gulf States quite extensively and is usually found advertised in the agricultural papers. This is a strictly fall variety and will keep from harvest time in the fall until planting time in July without sprouting when kept in a cool place.

For the fall crop of Irish potatoes it is desirable to sprout the seed before planting. It is desirable to store the seed after harvested in a cool, dry place where the sun will not strike them for a week or ten days after harvesting them. In order to sprout the seed, place them under a tree or in the shade on loose soil or sand and cover with straw. Keep the soil and straw moist. The seed, if properly cared for, will begin to sprout in about a week or ten days.

Where small seed are used, plant them whole; in case of large seed, cut them in pieces to average not smaller than half the size of a hen egg. Plant the seed about two inches deeper and thicker than the spring plantings. Keep the soil cultivated even before the plants come up. Moisture is the principal factor in growing a second crop of Irish potatoes.

Sweet Potatoes

The majority of sweet potatoes are set out in May and early in June; however, the plants may be set as late as the first part of July, and with a fair season make a pretty good crop. On account of lack of moisture it is

not advisable to make high ridges on which to set the plants; especially is this true late in the season.

For "slips" or "draws" for late planting, vine cuttings may be substituted. In fact, potatoes produced from vine cuttings are less apt to be diseased than potatoes produced from "slips" or "draws".

Vine cuttings are made by cutting pieces 8 to 12 inches from the runners of growing plants. When the season is moist the runners need not be so long. In case of long cuttings, the base of the stem is coiled around the hand and the coil is placed in the ground, leaving 3 or 4 inches of the top projecting above the ground.

Make the rows 3 to 3½ feet apart and set the plants 18 to 24 inches apart in the row. Keep up surface cultivation until the vines prevent.

Nancy Hall, Pumpkin Yam and Bradley Yam are the most popular varieties for Oklahoma.

Radishes

There are three classes or varieties of radishes, the early small-sized, the later long-shaped, and the winter radishes. The length of time required for maturity is in the order of classes as named. The winter varieties require the longest time to mature.

The small, round or oblong varieties, such as French Breakfast, Scarlet Globe and Red Scarlet Turnip, will require only three to four weeks to mature from seed.

Two of the most popular long-shaped varieties are the White Icicle and Red Chartier. The winter varieties, such as Black Spanish and White Chinese, have not proven to be very popular. Plant the seed from the last of July to the middle of September. Plant seed in rows 18 inches apart and about ½ inch deep.

Rutabagas

The culture of rutabagas is the same as for the turnip, except rutabagas require a little longer time to mature. Plant the seed the last of July to the middle of August.

Spinach

Spinach is a semi-hardy vegetable and thrives best during the cool, moist portions of the growing season, namely, spring and fall. Since the foliage is the edible portion, a greater yield will be secured from a soil rich in nitrogen. A liberal application of well-rotted barnyard manure applied and well-mixed in the soil previous to planting the seed will give good results. Spinach seed are slow in germinating, and it is frequently advantageous to soak the seed previous to planting, as explained under beets.

Lay off rows 18 inches apart and plant the seed 1 inch deep. Plant the seed thickly in the drill and thin later to a stand, using the thinnings for greens.

Plant the seed in August. During the cold months of December, January and February, mulch with straw. Long-Standing and Prickley or Winter are good spring and fall varieties.

New Zealand Spinach

New Zealand spinach is one of our most drouth-resistant plants for greens, and will grow and furnish greens during the spring, summer and fall.

Plant the seed early in the spring, placing several seeds to the hill, making the hills about 3 feet apart. The seed germinate slowly. Prepare the soil thoroughly. A soil rich in organic matter and nitrogen will give the best results. The plant spreads widely and trails on the ground with numerous branches. The foliage and young growing tips are the edible portions, and are available for eating in about six weeks from the time the seed are planted until cold weather.

The plants mature seed which lie dormant during the winter and come up early in the spring.

On account of the long available season, every one who likes spinach should secure a few seed for spring planting.

Turnips

Turnips are usually regarded as the principal fall garden crop. On account of the greens and turnips furnished in the fall, and turnips during the winter where cared for rightly, entitles it a place in every fall garden.

Where turnips are planted too early and followed by dry, hot weather, the quality is usually poor, being tough in texture, strong in flavor and difficult to cook.

Turnips being a root crop, require a loose soil, free of rock and gravel.

There seems to be a difference of opinion as to which is the better method of planting turnip seed, in rows or broadcast. Under the average conditions, the row method is preferable. The chief advantages in the row method are: Insures a better stand, does not require so much seed, cultivation may be practiced, and under average care the turnips will be larger.

Where seed are planted in rows, the seed may be pressed after being distributed in the drill previous to covering them with loose soil.

In case of soil foul with grass and weed seed, the row method is a distinct advantage. The grass and weeds may be kept in check by cultivation, which at the same time will conserve moisture and loosen the soil. Where turnips are thinned properly in the row the turnips will be larger and of a more uniform size.

There are two general types of turnips, namely, flat and globe-shaped. Any of the Milan varieties are good ones of the first type, while Purple-Top White Globe is a standard variety of the second type. The flat-shaped are earlier than the globe-shaped varieties.

The thinning of the turnips should begin just as early as the foliage is large enough for greens in order to give space for the other plants to grow. As the turnip is a semi-hardy vegetable, it will stand considerable freezing. The turnips which are left at the approach of very cold weather may be stored in a soil bank for winter use.



Swiss Chard in October