Vegetable gardening in the fall

By planning and planting a fall vegetable garden it is possible to have fresh vegetables available up to and even past the first frosts.

At the time when retail vegetable prices are on the rise, you can be reaping large and varied harvests from your still-productive garden site!

When to plant for fall harvest

Many cultivars of vegetables can be planted in mid- to late summer for fall harvests. Cool-season crops, such as kale, turnip, mustard, broccoli, and cabbage, grow well during the cool fall days and withstand light frosts.

Timely planting is the key to a successful fall garden. To determine the time to plant a particular vegetable for the latest harvest in your area, you need to know the average date of the first killing frost and the number of days to maturity for the cultivar grown. Choose the earliest maturing cultivars for late plantings, and use the formula below to help determine when to start your fall garden.

DAYS TO COUNT BACK FROM FIRST FROST DATE =

Number of days from seeding or transplanting outdoors to harvest

+ Number of days from seed to transplant (if you grow your own transplants)

+ Average harvest period

+ Fall Factor (about two weeks)

+ Frost Tender Factor (if applicable)

The Frost Tender Factor is added only for those crops that are sensitive to frost (corn, bean, cucumber, tomato, squash), as these must mature two weeks before frost in order to produce a reasonable harvest.

The Fall Factor takes into account the slower growth that results from cooler weather and shorter days in the fall and amounts to about two weeks. This time can be reduced by two to five days by presprouting seeds. (Almost any crop that isn't grown from transplants can benefit from presprouting.) Sprout seeds indoors, allowing them to reach a length of up to two centimeters. Sprouted seeds may be planted deeper than normal to help prevent drying out, and they should be watered well until they break the soil surface. Care should be taken not to break off the sprouts when planting them.

Planting fall crops

When planting fall crops, prepare the soil by restoring the nutrients removed by spring and summer crops. A light layer of compost or aged manure or a small application of a complete chemical fertilizer will boost soil nutrients in preparation for the fall crop.

Dry soil may be difficult to work and seed germination may be inhibited during the midsummer period. Therefore, plant fall vegetables when the soil is moist after a rain, or water the area thoroughly the day before planting. Seeds may also be planted in a shallow trench to conserve moisture. Cover the seeds about twice as deeply as you do in the spring.

An old-time trick for germinating seeds in midsummer is to plant the seeds, water them in well, then place a board over the row until the sprouts just reach the soil surface. At that time, remove the board.

Mulching between the rows can help keep the soil cool and decrease soil drying. In severe hot weather a light, open type of mulch, such as loose straw or pine boughs, may be placed over the seeded row. This must be removed as soon as seedlings are up so they receive full sun. Starting transplants in a shaded coldframe or in a cool indoor area is another possibility.

Once young plants are established, a heavier mulch may be used to hold moisture and control weeds. Irrigate when necessary so that the young plants have sufficient moisture.

A good cover of mulch on the fall crop will conserve moisture and smother weeds. © Tracy Kittilsen, Dalhousie.

Fall plantings often have few insect problems, as they avoid the peak insect activity period of midsummer. However some insects, such as cabbageworm and corn earworm, may be even worse than in summer, so vigilance is still required! Also, you can avoid some pests and diseases by planting crops of different families than were originally in that section of the garden.

Some of the best-quality vegetables are produced during the warm days and cool nights of the fall season. These environmental conditions add sugar to sweet corn and crispness to carrots. Also, parsnips, rutabaga, and Jerusalem artichokes are examples of crops that are very much improved by a touch of frost. Many gardeners heavily mulch parsnip late in autumn, and don't dig them until winter for best flavour!

The fall garden gives you a chance to try again any spring failures you might have encountered. And some crops in fact grow well only in the fall in certain areas. In the Activity below, you will find a worksheet that can be used to determine the best planting dates for fall, and to check if it is feasible to plan a fall harvest in your area.

Care of fall crops

The start of fall garden care comes when the weather and the radio station announce the first arrival of frost. Your main concern then should be to harvest all ripe, tender crops. Tomato, summer squash, melon, eggplant, cucumber, and pepper, are some of the crops that cannot withstand frost and should therefore be picked immediately. Store the vegetables until needed for eating or processing.

If the frost warning is mild (i.e. no lower than -1ºC), try covering any tender plants in your garden that still hold an abundance of immature fruit. Baskets, burlap, boxes, blankets, or buckets help protect them from the frost. The warm days after the frost will still mature some of the fruit as long as the plants have this nightly frost protection. However, much will depend on the garden's microclimate. If your spot is low and unsheltered, it is likely to be a frost pocket, whereas gardens sheltered from winds and on the upper side of a slope are less susceptible to early frost damage.

Heavy plastic is used here as a quick measure on a cold night. The plastic is anchored against the wind with garden soil. © R. Campbell, Dalhousie.

When using a coldframe to extend the harvest season, be sure to close the top on frosty nights to protect the plants from the cold. When the sun comes out the next morning and the air warms, open the coldframe again. Leave it closed if daytime temperatures are low.

Cool-season crops such as cabbage, cauliflower, broccoli, spinach, and Brussels sprouts can withstand some cold. In fact, their flavour may be enhanced after a frost. They cannot stay in the garden all winter, but do not need to be picked immediately when frost comes. Kale, spinach, evergreen bunching onion, lettuce, parsley, parsnip, carrots, and salsify are some crops that may survive into winter in the garden. Mulch these vegetables with 20 cm (8") of mulch to prevent heaving of the soil. Most of these vegetables can be dug or picked as needed until there is hard frost or deep snow cover.

Potting herbs allows for a quick and easy move inside when the weather turns cold. © R. Campbell, Dalhousie.

Care of perennial vegetables

Fall is the time to prepare perennial vegetables for winter, too. Most will benefit from a top-dressing of manure or compost and a layer of mulch, which reduces damage from freezing and thawing of the soil.

Dead leaf stalks of perennial vegetables, such as asparagus and rhubarb, should be cut to the ground after their tops are killed by frost, although some people prefer to leave asparagus stalks until late winter to hold snow over the bed.

When tender crops have been harvested and overwintering crops cared for, pull up all stakes and trellises in the garden, except those stakes that are clearly marking the sites of overwintering plants. Clean the remnants of plant materials and soil from stakes and trellises. Hose them down and allow to dry. Tie stakes in bundles, and stack them so that they won't get lost over the winter. If possible, roll up wire trellises and tie them securely. Store these items inside your attic, barn, or shed in an area where they are out of the way and where rodents and other animals cannot get to them to use as winter nests.

Activity

Calculate fall planting and harvest dates.

Select four of the vegetables in the following worksheet. Calculate the fall planting (P) and harvest (H) dates. Mark 'P' or 'H' in the appropriate squares on the worksheet. The information you will need is:

- your local average first frost date (check with local gardeners and plant nurseries or visit one of these websites: http://www.almanac.com/content/frost-chart-canada or http://www.veseys.com/ca/en/learn/reference/frost/canada)
- the formula given above in 'When to plant for fall harvest'
- information about days to harvest given in the 'Specific crops' section of this website
- if using transplants, information on the number of days from seed to transplant (see 'Sowing seed indoors' on this website).

FALL VEGETABLE PLANTING DATES WORKSHEET

Instructions: Write the date of your average first fall frost in the space above the 00 column. From there, fill in the dates before that frost, to the left of the 00 column, each 10 days prior to the last. For example if your average first frost date is October 1, write October 1 above 00. Then write September 20 above the column marked 10 to the left of the 00 column, September 10 in the next column to the left, etc. Then to the right of the 00 column, write October 11, October 21, October 31, etc. This will vary depending on location. (*USE TRANSPLANTS)

DATE																										
Days	160	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10	00	10	20	30	40	50	60	70	80	90
Beans, bush																										
Beans, wax																										
Beets																										
Broccoli*																										
Brussels sprouts																										
Cabbage*																										
Chard, Swiss																										
Chinese Cabbage*																										
Collards																										
Cucumber																										
Endive																										
Kale																										
Kohlrabi																										
Leek																										
Lettuce, Bibb																										
Lettuce, Leaf																										
Onion (seed)																										
Garden peas																										
Potato																										
Radish																										
Rutabaga																										
Spinach																										
Turnip																										