



New plant hardiness data compiled by Natural Resources Canada over a 50-year period reveals that Burlington, ON has moved from plant hardiness zone 6(a) to 6(b). The general frost free period extends from April 29th to October 15th.

Gardeners identify the proper time to plant vegetables through checking soil temperature. The standard for measuring soil temperature is to take the temperature 10cm (4") deep at 8 a.m.. Many plants can be started indoors and then transferred outdoors after a period of hardening off. If a dip in temperature is forecasted young plants can be protected using a thin row cover that allows in light, but helps to maintain soil heat.

Hardy Cool Season Crops

Cool-season crops planted when air temperatures are between 15 to 26°C (60 to 80°F). These include broccoli, cabbage, kohlrabi, onions, lettuce, peas, radish, spinach, leeks, parsnips, radishes and turnips. Plant when soil temperatures warm up to 2 to 5°C (35 to 40°F).. In general, cool season crops can be planted two weeks before the last frost date. Most cool season crops germinate at maximum soil temperatures of 32°C (90°F), except for lettuce and spinach, which require temperatures of less than 21°C (70°F).

Tender Warm Season Crops

Warm-season vegetables categorized as tender crops include corn, beans, celery, cucumber and summer squash. In general, these crops may be planted close to the last frost date for the area. However, when transplanting cucumbers and summer squash, wait until the temperatures warm to those recommended for very tender vegetables. Other tender crops germinate at soil temperatures ranging from 15 to 38°C (60 to 100°F), depending on the crop.

Very Tender Crops

Very tender crops are not tolerant of any frost or cool winds. Planting typically occurs two weeks after the last frost date and when air temperatures are consistently above 13°C (55°F) during the daytime. Germination occurs for very tender crops when soil temperatures are between 15 to 38°C (60 to 110°F). Very tender crops include lima beans, watermelons, tomatoes and peppers which prefer air temperatures between 21 to 35°C (70 to 95°F).

Succession Planting

Once you have a list of vegetables you would like, keep in mind, you are not going to plant everything all at once. Take into account how quickly a crop will mature and be harvested and what might be planted after it to keep the harvest coming over many months.

For example: where you grow lettuce in your garden in the spring, is where you will grow cucumbers in the summer, and radishes in the fall. You may grow some early-summer green beans, and then in that same spot in the garden you will plant broccoli in the fall.

Take your list of crops and divide it into three groups:

Frost-hardy plants

Warm-weather plants

Cool-weather plants.

When you make your plan, take into account that some warm-weather crops lend themselves to growing on a trellis or fence and can save space. Cucumbers, pole beans, and some squash can be grown vertically on stakes.

Many gardeners find that the late season, from late summer into fall, is the most productive part of the year. Many crops that thrive in the spring, actually do better in the fall, because the days are getting shorter and cooler, rather than longer and hotter. If you want to get the most out of late season planting, you will have to plan for it. Sometimes it's hard to find vegetable transplants in midsummer, so you may have to grow your own transplants, unless you have a source where you can buy them.

Vegetable Planting Guide								
Vegetable	Germination Temperature 1			Plant Spacing 2	Planting Depth	Days to Germination	Typical Days to Harvest	Age of Transplants (weeks)
	minimum	optimum	maximum					
Cool Season Crops								
Beets	40°	80°	90°	4-6"	¾-1"	7-10	60	
Broccoli	40°	80°	90°	18"	½"	3-10	65T	5-7 a
Cabbage	40°	80°	90°	18"	½"	3-10	85T	5-7 a
Carrots	40°	80°	90°	2-3"	¼"	10-17	70	
Cauliflower	40°	80°	90°	18"	½"	3-10	65T	5-7 a
Kohlrabi	40°	80°	90°	7-9"	½"	3-10	50	
Leeks	40°	80°	90°	4-6"	¼"	7-12	120	
Lettuce (leaf types)	35°	70°	70°	7-9"	¼"	4-10	60	
Onion, green	35°	80°	90°	2-3"	¼"	7-12	60	

Onions, dry (seed)	35°	80°	90°	4-6"	¼"	7-12	110	
Onions, dry (sets)				4-6"	1-2"			
Parsnips	35°	70°	90°	5-6"	½"	15-25	70	
Peas	40°	70°	80°	4-6" or 3" x 8"	1"	6-15	65	
Potatoes	45°			12-15"	4-6"		125	
Radish	40°	80°	90°	2-3"	½"	3-10	30	
Spinach	40°	70°	70°	4-6"	½"	6-14	40	
Swiss Chard	40°	85°	95°	7-9"	1"	7-10	60	
Turnips	40°	80°	100°	4-6"	½"	3-10	50	

Warm Season Crops

Beans	50°	80°	90°	6" or 4" x 12"	1-1½"	6-14	60	
Cantaloupe	60°	90°	100°	36-48"	1-1½"	3-12	85	2-3 b
Corn	50°	80°	100°	12" x 30" or 9" x 36"	1-1½"	5-10	60-90	
Cucumbers	60°	90°	100°	6" trellised 24-36" untrellised	1"	6-10	55	2-3 b
Eggplant	60°	80°	90°	18-24"	¼"	7-14	60T	6-9 c
Pepper	60°	80°	90°	15-18"	¼"	10-20	70T	6-8 c
Tomato	50°	80°	100°	trellised: 24" between plants	¼"	6-14	65T	5-7 c
Squash, Summer	60°	90°	100°	36-48"	1-1½"	3-12	50	2-3 d
Squash, Winter	60°	90°	100°	36-48"	1-1½"	6-10	100	2-3 d
Watermelons	60°	90°	110°	36-48"	1-1½"	3-12	85	2-3 d

1 Germination temperature – Soil temperature is one of the best methods to determine spring planting time. Plant when soils reach minimum temperature measured at 8 a.m., 4 inches deep. Beans are an exception, being measured at 6 inches deep. Optimum temperatures listed in the table are useful for starting seeds indoors. Maximum temperatures are listed in regards to high soil temperatures that may interfere with seed germination in the summer.

2 Plant spacing – Spacings given are equal-distance spacing for crops grown in block or close-row style beds. For example, beets, with a spacing of 6 inches are thinned to 6 inches between plants in

all directions. In other words, beets are thinned to 6 inches between beets in the row and 6 inches between rows. The closer spacing listed should be used only on improved soils with 4-5% organic matter. Close-row or block style planting works well for raised bed gardening, with blocks/beds 4 feet wide (any length desired) and two-foot wide walkways between blocks/beds.

a. Cool Season Crops – Cool season crops prefer a cool soil. Lawn clipping and newspapers make an excellent mulch for these crops by cooling the soil, preventing weed germination and conserving water. Apply fresh grass clippings only in thin layers (less than half-inch) and allow it to dry between applications. Thick layers will mat and smell. Do not use clipping from lawns treated with weed killers or other pesticides. Several layers of newspapers covered with grass clippings also work well between rows. Do not use glossy print materials.

b. Transplanted cole crops – Since cole crops (cabbage, cauliflower, broccoli, and Brussels sprouts) germinate better in warmer soil, they are typically started from transplants in the spring. Days to harvest are from transplants. In the warmer areas of Colorado, these crops produce the best quality when direct seeded mid summer (early July for the Front Range area) for harvest during cooler fall weather. Before planting out, harden off seedlings.

c. Transplanting vine crops – Vine crop (cucumbers, squash, melons) roots are extremely intolerant of being disturbed, and perform best when grown by direct seeding rather than by transplants. With the use of black plastic to warm the soil, direct seeded crops germinate rapidly. If using transplants, select small, young plants, not more than two to three weeks from seeding.

d. Tomato family transplants – The tomato family is traditionally planted from transplants. In warmer areas of Colorado, they can also be direct seeded with minimal delay. Days to harvest are from transplants.