



# Planting the Garden

## When to Plant

by

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How early you can plant depends upon the hardiness of the vegetables and the climate in your area. In Northwestern Wisconsin, our climate does allow us to grow many of the fruits and vegetables we enjoy, however, we must pay close attention to planting date and relative maturity of the variety we are planting.

The dates of the last 32°F freeze in the spring and the first 32°F freeze in the fall can help you determine safe planting times. From weather data collected at the Spooner Ag Research Station, the average last killing frost date is May 27. The earliest recorded last killing frost was on April 11, and the latest recorded last killing frost was on June 24. The average date of the first killing frost in the fall at Spooner is Sept 23. The earliest a killing frost has come is Aug 15 and the latest a killing frost was recorded was October 10.

Certain vegetables can withstand frost, while others cannot. Vegetables are classified as very hardy, frost tolerant, tender and warm-loving, according to their ability to withstand freezes, cold temperatures, or heat.

**Very hardy** vegetables withstand freezing temperatures and hard frost without injury. They can be planted as soon as the ground can be prepared. Spinach and lettuce seeds even may be planted in the fall or broadcast on late snows over soil prepared in the fall.

**Frost-tolerant (semi-hardy)** vegetables can withstand light frosts. Their seeds germinate in cool soil temperatures, but not as readily as seeds of the very hardy group. The very hardy and frost tolerant vegetable seeds germinate in cool soil, the plants withstand frost, and they grow and develop best in the cooler weather or early spring or fall.

**Tender (not cold-hardy)** are injured or killed by frost and cold, and their seeds do not germinate well in cold soil.

**Warm-loving (heat-hardy)** vegetables are intolerant of frost and cold, and they require warm soil and air temperatures for germination and good growth. Most are tolerant of high summer temperatures and thrive when there is ample soil moisture.

Cool-season and warm-season vegetables are listed in the next column according to when they should be planted and weather they are best started from seed or transplants.

### Cool-Season Vegetables for Early Spring Planting

#### VERY HARDY

(Plant 4-6 weeks before average frost-free date.)

Seed	Transplants
Kale	Asparagus (crown)
Kohlrabi	Broccoli
Leaf lettuce	Brussels sprouts
Onion	Cabbage
Pea	Horseradish (root)
Rutabaga	Onion (set or plant)
Salsify	Parsley
Spinach	Potato, irish (tuber)
Turnip	Rhubarb (root)

#### FROST-TOLERANT

(Plant 2-3 weeks before average frost-free date.)

Seed	Transplants
Beet	Cauliflower
Carrot	Chinese cabbage
Chard	
Mustard	
Parsnip	
Radish	

### Warm-Season Vegetables for Late-Spring Planting

#### TENDER

(Plant on average frost-free date.)

Seed	Transplants
Bean, snap	Tomato
Corn, sweet	
New Zealand spinach	
Squash, summer	

#### WARM-LOVING

(Plant 1-2 weeks after average frost-free date.)

Seed	Transplants
Bean, lima	Eggplant
Cucumber	Pepper
Muskmelon	Potato, sweet
Okra	
Pumpkin	
Squash, winter	
Watermelon	

## Preparing the Garden Improving Soil Tilth

The soil provides plant nutrients, air, water and support. If these constituents are not available, or if the soil is in poor condition (hard and crusty when dry or sticky when wet, or very sandy) vegetables will not grow and develop properly without a little help. Good soil is essential for a successful garden.

A soil that is in good “tilth” (physical condition) is loose and easy to work, and it has water-holding capacity, drainage, and aeration. You can IMPROVE SOIL TILTH BY ADDING ORGANIC MATTER, MANURE, COMPOST or similar materials to the soil before you plant.

The table below lists some organic materials that may be applied to your garden. Those materials with high carbon contents such as wood chips, sawdust, or straw will require additions of nitrogen to help break down the materials. If you use grass clippings make sure that the grass has not been treated with pesticides.

Organic Material	Material per 100 square feet	Nitrogen to be added per 100 pounds of material*
Corncobs	50 pounds (2 bushels)	1-1½ pounds
Sawdust	50 pounds (2 bushels)	1¼ - 1½ pounds
Woodchips	50 pounds (2 bushels)	1¼ - 1½ pounds
Leaves	75 pounds (3-4 bushels)	½ to 1 pound
Straw	60 pounds (1 bale)	½ to 1 pound
Hay	60 pounds (1 bale)	None
Peat moss	6-10 cubic feet	None
Compost	10-20 cubic feet	None
Lawn clippings	4 bushels	None

\*1 pound of nitrogen = 10 pounds of 10-10-10 fertilizer or ~3 pounds of high nitrogen turf fertilizer (28-0-5); organic sources of nitrogen such as manure or compost can also be add to help break down the high carbon materials

## Liming the Soil

To find out the amounts of available nutrients in you soil, you should really have it tested. Soil test information also includes the pH or acidity or the soil. Soils that are too acid will not have as many nutrients available and as a result plant growth and performance will be poor.

The table below shows the number of pounds of limestone to be added per 1,000 square feet of garden area to adjust the soil to the desired pH. Wood ashes can be substituted at ~4 cups for each lb of lime.

Actual Soil pH	POUNDS OF LIMESTONE TO RAISE pH TO 6.5-6.8, PER 1,000 SQ. FT.		
	Sandy Soil	Loamy soil	Clayey soil
5.8 to 6.1	80	120	120
5.4 to 5.7	120	160	200
4.8 to 5.3	160	240	280

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