



ROOT VEGETABLES

Home Garden Guide

Root vegetables are a delicious and nutritious addition to any garden, and Illinois' climate makes it possible to grow various crops in the early season. This guide focuses on increasing cool-season root vegetables such as carrots, radishes, turnips, beets, and parsnips. These crops do best when grown in the 'shoulder' seasons of spring or fall, preferring cooler temperatures.

These crops are grown for their robust root. Root crops require loose soil free of significant-sized stones or soil clods to maximize productivity. Roots that encounter an obstacle will grow around it, creating an unusual shape.

The size of each of these crops is relatively small compared to other popular garden vegetables, such as the tomato, but one plant produces one root therefore multiple plants are required for a bountiful harvest.



Illinois Climate

Illinois features a temperate climate with hot summers and cold winters, making early spring ideal for planting root vegetables. These crops thrive in cool weather, and most seeds germinate best in soil temperatures between 45-85°F. Proper timing is needed to ensure a bountiful harvest.



Beets

Beets are prized for their sweet, earthy roots and nutritious greens. Cultivars are available that produce red, yellow, white, or striped patterns on the roots.

- **Planting:** Beets prefer loose, well-draining soil with a pH of 6.0-7.0. Sow seeds ½ inch deep and one inch apart. After germination, thin seedlings to 3-4 inches apart by carefully pulling unwanted plants or by cutting unwanted plants with scissors. Planting can begin two to three weeks before the average last frost date and at two-week intervals for a continual

harvest. High temperatures can diminish the quality of the root. Spring and fall crops are recommended. Plant the fall crop to allow enough time to develop prior to the first frost.

- **Care:** Water deeply and evenly throughout the growing season. Irregular moisture may result in woody or cracked roots. Remove weeds carefully to avoid damaging shallow roots. Avoid excess nitrogen to prevent lush tops at the expense of roots.
- **Harvest:** Ready in 50-70 days. Harvest when roots are 1-3 inches in diameter or greens are four to six inches tall. Remove green tops, leaving one inch to prevent to prevent root wilting and deterioration. Store leaves separately in the refrigerator

Outsider Tip

Choose cultivars identified as “AAS winners”. In independent trials, these varieties have outperformed other varieties.



Carrots

Carrots are a versatile and nutritious root vegetable that thrive in Illinois gardens with the right care and preparation. Carrots are available in a wide variety of colors, shapes, and sizes.

- **Planting:** Loose, sandy loam soil with good drainage is best. A pH of 6.0 to 6.8 is desired. Direct sow seeds 2-3 weeks before the last frost when soil temperatures have warmed to at least 45 degrees F. Plant seeds $\frac{1}{4}$ inch deep, and 1 inch apart. Seeds take two weeks to germinate. Thin seedlings to 2-3 inches apart by gently pinching off the unwanted plants or using a sharp, needle-nosed pruning snip. Space rows eighteen to twenty-four inches apart. For a continual harvest, plant at intervals of 2-3 weeks through July.
- **Care:** Carrots do best with consistent growing conditions. Provide 1 inch of water per week from planting to harvest. Dry soil conditions during germination may reduce success. Inconsistent moisture during root development may result in small, woody roots, mulch to retain moisture, and hand-pull weeds.
- **Harvest:** Ready in 60-80 days. Full-sized carrots are ready for harvest when the tops are 0.75" to one inch in diameter. Loosen the soil before gently pulling the roots. Remove all but one inch of the top vegetation after harvesting.

Radishes

Radishes are one of the easiest and fastest root vegetables to grow, making them perfect for beginners. Depending on the variety, radishes can be planted in spring or late summer. Radishes planted in late summer often take longer to mature, are larger, and have a stronger flavor.

- **Planting:** Radishes prefer loose, well-draining soil with a pH of 6.0-7.0. Direct sow seeds $\frac{1}{2}$ inch deep and 1 inch apart. Thin seedlings to 2-3 inches apart. Plant spring and summer radish varieties starting six weeks before the last frost; replant every two weeks for a continual harvest. When soil temperatures are above 50 degrees F, germination occurs within a week.



- **Care:** Keep soil consistently moist, and harvest within 3-4 weeks to avoid bitterness in spring plantings. Radishes planted in late summer can be harvested in 7-8 weeks. Consistent growth is important for flavor development. If growth slows and/or weather is too hot, the flavor can become hot. Plant in a part shade location or utilize shade cloth if growing during warm weather.
- **Harvest:** Spring radishes should be harvested small, when roots are no more than one- and one-half inch diameter. Harvest white varieties of radishes when they are three quarters inch diameter. radishes when they reach their mature size, typically 1 inch in diameter. Late season radishes have an extended harvest window. Remove the green tops to one inch and tap root for improved storage capability.



Turnips

Turnips are a dual-purpose crop, grown for both their roots and leafy greens. Roots are usually white with a purple top.

- **Planting:** Ensure loose soil with a pH of 6.0-6.8. Incorporate organic matter to improve fertility. Sow seeds ½ inch deep, spacing rows 12 inches apart. Thin seedlings to 4-6 inches apart. Turnips will tolerate light shade. Spring planting can be done six weeks before the frost-free date; seeds will germinate in soil temperatures as low as 40 degrees F. Plant two or three plantings every two weeks for an extended harvest. Fall crops can be planted beginning in late July. The fall planting should mature before the first frost.
- **Care:** Water regularly and mulch to control weeds and retain moisture. Supplemental nitrogen may be necessary if growing for leafy greens. Supplemental nitrogen is usually not necessary if harvesting the root crop.
- **Harvest:** Harvest roots when they are 2-3 inches in diameter and pick greens when young and tender. Turnips are more frost-hardy than other root crops and can remain in the into early winter without experiencing frost damage. Cover with a straw mulch to keep soil warmer and make winter harvesting easier.



Parsnips

Parsnips are a sweet and hearty root vegetable that improves in flavor after a frost. Parsnips are grown like carrots but require a much longer growing period to reach maturity.

- **Planting:** Deep, loose soil with a pH of 6.0-7.0 is crucial for long roots. Remove rocks and debris. Sow new seeds ½ inch deep and 2-3 inches apart, thinning to 3-6 inches. Germination can take up to 3 weeks. Plant parsnips 120 days prior to the average first frost date. Two weeks of exposure to near-freezing temperatures produce better flavor in roots.
- **Care:** Water consistently and mulch to maintain moisture. Parsnips require a long growing season of 100-120 days. Parsnips may cause an allergic reaction in some people. Long-sleeved tops and pants are recommended. Germination is slow. To prevent soil from crusting over seed prior to germination, radish seeds can be planted among parsnips to help break the soil surface and indicate the location of the planting.
- **Harvest:** Harvest after a frost for the sweetest flavor. When roots are allowed to be exposed to cool temperatures, plant starches are turned into sugars. If harvested before the weather cools, store the roots at temperatures just above freezing to mimic the process and make the roots sweeter. Use a fork to loosen the soil before pulling.

Outsider Tip

Illinois Extension offers in person and on line trainings.

Visit

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for more

information.

General Tips for Success

Root crops are a great way to begin the gardening season. Many can be planted in mid-April in northern Illinois with success. Soil preparation, succession planting, weed management, and consistent watering are key to produce a robust crop.



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