

College of Agriculture & Life Sciences  
Department of Horticultural Science

## TURNIPS AND RUTABAGAS

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(Turnip green production is discussed in Horticultural Information Leaflet No. 16, *Greens For Market*.)

Turnips and rutabagas are among the most commonly grown and widely adapted root crops. They are members of the *Cruciferae* or mustard family and belong to the genus *Brassica*. Turnips are (*Brassica rapa*) and rutabagas are (*Brassica napobrassica*). The two are similar in plant size and general characteristics. Turnip leaves are usually light green, thin and hairy, while the rutabagas are bluish-green, thick and smooth. The roots of turnips generally have little or no neck and a distinct taproot, while rutabaga roots are often more elongated and have a thick, leafy neck and roots originating from the underside of the edible root as well as from the taproot.

Turnips and rutabagas are cool-season crops and will make their best root growth during relatively low (40 to 60°F) temperature growing conditions.

**Note:** They can be grown as either a spring or fall crop; however, rutabagas require a longer growing season and should be planted as early in the season as possible.

These crops are biennials which implies seed production during the second year.

However, if an extended period of cool weather occurs after spring-planted turnips or rutabagas are well along in development, they may form seedstalks which renders them unsalable.

**Soils** - A moderately deep, highly fertile soil with pH 6.0 to 6.5 is best for growing turnips and rutabagas. A soil test should be taken and lime added as needed.

**Varieties** - Varieties differ mainly in color and shape of root. There are white- and yellow-fleshed varieties of both crops, although most turnip varieties are white-fleshed and most rutabaga varieties are yellow-fleshed.

### Turnips

**Purple Top White Globe** - 58 days from seed; bright purple crown, white below the crown, 5 to 6 inches in diameter, globe; leaves dark green and cut.

**Just Right F1**, - 35 to 40 days; white root; 7 to 8 inches in diameter; flattened globe; light green leaves that are deeply cut. Use only as a fall crop.

### Rutabagas

**American Purple Top** - 90 days; deep purple crown; yellow below the crown; globe-shaped root; 5 to 6 inches in diameter with yellow flesh color; medium size, blue-green, cut leaves.

Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.

Employment and program opportunities are offered to all people regardless of race, color, national origin, sex, age, or disability. North Carolina State University, North Carolina A&T State University, U.S. Department of Agriculture, and local governments cooperating.

**Laurentian** - 90 days; purple crown; light yellow below crown; globe- shaped roots 5 to 5 1/2 inches in diameter with yellow flesh; medium blue-green, cut leaves.

**Fertilization** - Fertilizer applications should be based on soil test recommendations. A general recommendation for turnips and rutabagas is 40 to 60 pounds nitrogen (N), 40 to 60 pounds (P<sub>2</sub>O<sub>5</sub>) and 60 to 100 pounds K<sub>2</sub>O per acre. Apply 1 to 2 pounds of boron per acre either in the fertilizer or spray solubar.

	<b>Planting Dates</b>	
	<b>Spring</b>	<b>Fall*</b>
Coastal Plain	Feb. 1 to April 15	Aug. 1 to Sept. 15
Piedmont	Feb. 15 to April 30	July 15 to Sept. 15
Mountains	March 1 to July 1	Aug. 15 to Sept. 15

**\*Note:** Rutabaga must be seeded roughly 2 1/2 to 3 months before heavy frost.

**Stand Establishment** - Multiple rows on a raised seedbed will increase production efficiency per unit of land. Seedbeds can range from 3 to 5 feet wide depending on planting and cultivating equipment. Seed should be drilled 1/2 inch deep, 4 inches in row, in rows 12 to 15 inches apart, which will result in more uniform growth and greater ease of handling at harvest. Approximately 1 1/2 to 2 pounds of seed per acre will be required. Thinning is not normally necessary if the planter is properly adjusted but if needed, plants should be thinned to 3 or 4 inches apart in the row.

### **Pest Management**

**Weeds** - If cultivation is used to control weeds that emerge, it should be shallow (less than 2 inches deep). For herbicide recommendations check the latest issue of the NCCVR (North Carolina Commercial Vegetable Recommendations, AG-586) or your county extension center.

**Insects** - Turnip aphids, flea beetles, root maggots and wireworms are serious pests. Root maggots and wireworms attack the roots and control requires preplant applications of the proper insecticides to the soil. Aphids and flea beetles damage the tops and a spray program may be needed to control them.

**Diseases** - Clubroot, root knot, leaf spot, white rust, white spot, anthracnose and alternaria are several disease problems.

Certain insects and diseases can be controlled chemically, while others may require cultural operations. Consult the latest issue of the NCCVR (North Carolina Commercial Vegetable Recommendations, AG-586) or your county extension center for specific recommendations.

**Irrigation** - Turnips and rutabagas require an abundant supply of moisture to insure a high quality product. Most soils will require 1.5 inches of water every 7 to 10 days.

**Harvesting** - Turnip roots are harvested for bunching when 2 inches in diameter. Turnip roots which will be topped are harvested when 3 inches in diameter. Rutabagas are harvested when roots are 4 or 5 inches in diameter. Turnips with tops are washed and tied in bunches of about four to six plants. Topped turnips and rutabagas for the general market are sold by either volume or weight. Topping is recommended for sales in most wholesale and retail outlets. "Topping" is the removal of the leaves from the fleshy root. The roots are commonly packed in transparent film bags for individual consumers.

**Storage** - Storage requirements are temperatures of 32 to 35 °F and relative humidities of 90 to 95 percent.

**Yields** - Good average yields of turnips are 300 cwt/acre while rutabagas will yield around 400 cwt/acre.

## **Steps to Successful Production of Turnips and Rutabagas**

1. Find a market. (This can be difficult for rutabagas.)
2. Select a friable, moderately deep soil.
3. Soil test for lime, fertilizer and nematicide needs.
4. Lime to pH 6.0 to 6.5.
5. Choose a recommended variety.
6. Plant in time to allow harvest for your market.
7. Irrigate.
8. Harvest before pithiness begins.
9. Store at 32 to 35 °F and high humidity (90 to 95%).