



## HOME GARDEN CELERY IN EASTERN NORTH CAROLINA

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Celery (*Apium graveolens* L. var. *dulce*) can be grown to be harvested in June or October and November. It is not an easy crop to grow. Although it is a cool-season crop, exposure of juvenile plants to temperatures below 40 to 50°F for more than 5 to 10 days can cause premature bolting, ruining the crop. Special attention must be given to maintaining a steady water supply and providing the proper amount of nutrients to allow for constant growth.

**Varieties** – Varieties more resistant to premature bolting should be used for spring crops in North Carolina. Although a few people blanch celery, most celery is green celery (sometimes called pascal).

**Transplanting** – It is best to grow your own transplants (see *Vegetable Transplant Bulletin* AG-337). One seed packet contains about 500 seeds (1/128 oz) and will produce transplants for 100 ft of row. Transplant flats that have cavities <sup>3</sup>/<sub>4</sub> to 1 <sup>1</sup>/<sub>4</sub> inches square can be used effectively. Smaller cells require more careful water and nutrient management. Using the most vigorous seedlings increases uniformity of stalk size at harvest and total yield. Whether the soil is dry or moist, transplanting must always be immediately followed by sprinkler irrigation. Additional irrigations should be applied to keep the soil moist for the first 3 weeks after transplanting.

**Spacing** – Plants should be spaced about 7 inches apart in single rows with 24-inch

centers. Double-row plantings should be made on 14-inch beds with 40-inch centers, with the plants spaced 7 to 10 inches apart.

**Soils** – The best soil for celery is fertile muck or soils with high levels of organic matter. However, celery can be grown on most fertile, medium-textured mineral soils with irrigation.

Varieties	Seed Source	Brief Description
Starlet (664-B)	2	Tall plants, slow bolting, resistance to fusarium yellows race 1 and 2, harvest 120 D.A.T.
*Tall Utah 52-70R	1,3	Tall, heavy yielding, main season, resistant to boron deficiency and western celery mosaic, harvest 100 to 120 D.A.T.
*Tall Utah 52-75R	1,2	Medium tall, tight, few suckers, good for muck and Improved mineral soils, slow bolting, main season, tolerance to western celery mosaic, resistant to brown check and adaxial crackstem, harvest 90 to 100 D.A.T.
Ventura	2	Medium tall, medium tight, few suckers, early season, some tolerance to fusarium yellows, harvest 100 to 110 D.A.T.

\* These varieties have performed well in North Carolina trials.

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## Seed Source

1. Johnny's Selected Seeds, Foss Hill RD., Albion, ME 04910 (207/437-9294)
2. Nunhems Seed Corp., P.O. Box 18, 221 E. Main St., Lewisville, ID 83431 (208/754-8666)
3. Sun Seeds, 2320 Technology Parkway, Hollister, CA 95023 (408/636-9505)

## Fertilization

**Lime** – Optimal pH range for celery production on mineral soils is 6.0 to 6.5. On organic soils, apply lime if soil pH is below 5.5.

**Macronutrients** – Celery uses large quantities of fertilizer. Apply 6 lbs of 10-10-10 per 100 ft<sup>2</sup> preplanting before transplanting.

**Supplemental Applications** – Sidedressing 2 to 5 times with 10 lbs of 10-10-10 per 100 ft<sup>2</sup> is usually needed during the growing season. Sidedress from 4 to 6 weeks after transplanting and 3 to 4 weeks before harvest. The slight changes in color of the foliage will help determine the nitrogen needs and when sidedressing should be done.

**Irrigation** – Successful production of celery requires continuous growth. To achieve this, irrigation immediately after transplanting is required. Frequent irrigation of 1 to 1.5 inches of water per week during the growing season is needed. Irrigation during the 6 weeks prior to harvest is especially important due to rapid plant growth. Adequate irrigation can help prevent blackheart, a physiological disorder. This disorder occurs when young leaves in the center of the plant do not get enough water and calcium to stay alive. The resulting dead tissue turns black and often decays.

**Insect Control** – Major insect pests of celery include aphids, leafhoppers, carrot weevils, flea beetles, leafminers, armyworms and loopers. It is important to control leafhoppers, a common carrier of viruses. See the current *N. C. Agricultural Chemicals Manual* or your county extension agent for the latest recommendations.

**Disease Control** – Major diseases of celery include damping-off, rootrot, pink rot (*Sclerotinia sclerotiorum*), basal stalk lesions (*Rhizoctonia*), early blight (*Cercospora apii*), late blight (*Septoria apiicola*), bacterial blight (*Pseudomonas cichorii*), western celery mosaic virus, cucumber mosaic virus (CMV), aster yellows, fusarium yellows (*Fusarium oxysporum*), and nematodes. Soil samples should be taken to determine whether nematode control is necessary. Nematodes can be controlled by fumigation. See the current *N. C. Agricultural Chemicals Manual* or your county extension agent for the latest disease control recommendations.

**Harvesting** – Celery should be harvested when the petioles (stalks) from the soil line to the first node are at least 6 inches long. Plants must be compact and tight without excessive open space in the center of the stalk. The crop should be ready for harvest 85 to 120 days after transplanting, depending on the variety. Quality of the crop will decline with time due to increased amount of pithiness, yellow leaves and seed stalks.

**Post Harvest** – Celery should be refrigerated as soon as possible after harvesting. If celery is to be stored, the humidity should be near 95%, and the temperature between 31 and 32°F.

## Nine Tips for Successful Celery Production

1. Test soil for nutrients and nematodes, and follow recommendations.
2. Use your own transplants.
3. Irrigate immediately after transplanting.
4. Never let the crop stop growing; maintain adequate moisture and nutrient levels at all times.
5. Sidedress after transplanting and when necessary to maintain good foliage color and growth.
6. Maintain an effective weed control program as celery is a poor competitor.
7. Maintain crop quality by controlling diseases and insects.
8. Increase crop surveillance during last six weeks before harvest.
9. Handle harvested celery gently and pre-cool to 32°F immediately after harvest.