



**COMMERCIAL POTAO PRODUCTION
IN EASTERN NORTH CAROLINA**

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Varieties - Performance

Superior	Maturity - Early Yield - Fair Chips - Good Tablestock - Very good Comments - Stands?
Norchip	Maturity - Medium early Yield - Good Chips - Very good Tablestock - Poor Comments - Shapes?
Coastal Chip	Maturity - Midseason Yield - Excellent Chips - Excellent Tablestock - Good Comments - Like Atlantic, w/o heat necrosis
Pungo	Maturity - Midseason Yield - Excellent Chips - Very good Tablestock - Poor Comments - Heat sprouts
Atlantic	Maturity - Midseason Yield - Very good Chips - Excellent Tablestock - Fair Comments - Internal heat necrosis

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Varieties - Performance

<p>Steuben</p>	<p>Maturity - Mid-Late Yield - Very good Chips - Very good Tablestock - Poor Comments - Susceptible to scab</p>
<p>Red Pontiac</p>	<p>Maturity - Midseason Yield - Good Chips - Poor Tablestock - Good Comments - No disease resistance. Red</p>
<p>Red LaSoda</p>	<p>Maturity - Midseason Yield - Very good Chips - Poor Tablestock - Good Comments - Quality? Red</p>
<p>Dark Red Norland</p>	<p>Maturity - Early Yield - Good Chips - Poor Tablestock - Good Comments - Superior color</p>

Seed Stock - Use only certified or registered seed potatoes that have been treated with Mertect. Inspect on arrival for in-transit damage.

Cut seed pieces to average 1 ³/₄ to 2 ounces each. Discard seed pieces less than 1 ¹/₄ ounce or greater than 2 ¹/₂ ounces. Seed requirements will vary from 12.5 to 22.0 cwt per acre (it takes 18.4 bags in 36 inch rows with pieces spaced 9 inches).

Eyes on seed pieces should be “breaking” when planted. If not, condition seed by holding at 66°F. Hold at 40 to 45°F if already “sprouting” upon arrival, but warm for 2 to 3 days before planting. **If seed is cut in advance of planting, hold at 60 to 65°F with very high relative humidity (90 to 95%) and good ventilation for 2 to 3 days or longer to heal cut surfaces. Prevent water condensation.**

Control of Seed Piece Decay - It is suggested that seed be purchased that has been treated*. After the seed has been cut, it should be properly cured (see above), and treated with a fungicide before being

planted to prevent decay caused by Fusarium spp*. Dust is preferred to dip. If the seed pieces are dip treated, they should be drained and planted as soon as possible following treatment. If seed pieces are to be held before planting, spread out to dry in a cool place.

Soils - Follow a three year crop rotation. Take soil samples in the fall to determine fertility, pH, and potential nematode problems. Select fertile, well-drained soils with pH of 5.5 to 6.5. If scab has been a problem, maintain soil pH in the range of 4.8 to 5.2.

Avoid fields known to have a history of bacterial wilt, Southern blight (*Sclerotium rolfsii*), and *Verticillium* wilt.

If nematodes are a problem use a fumigant nematicide in the fall or use a contact nematicide at planting*.

Fertilization - Have soil tested and apply nitrogen (N), phosphorous (P), and potassium (K) according to needs.

If not tested use 140 to 160 lbs N, 140 to 160 lbs P₂O₅ (phosphate), and 140 to 160 lbs K₂O₅ (potash), (for example 1400 to 1600 of 10-10-10). If soil is known to be low in potash, use 140 to 160 lbs N, 140 to 160 lbs P₂O₅, but 180 to 240 lbs K₂O.

Be sure fertilizer is properly banded. If broadcast increase application rate 10 to 15%.

Planting - Prepare and maintain high beds for optimum drainage. Use rows 3 to 3 1/2 feet wide and space seed pieces 8 to 12 inches in the row. Close spacings result in high yields and will reduce number of oversize tubers.

Plant during February and March in East; March, April, and May in the West. Cover seed pieces at least 4 inches, and such that the bottom of the row middle is lower than the seed pieces.

Avoid very wet and cold planting periods.

PEST MANAGEMENT

Weeds - If planted early, tear down (drag off) beds before plants emerge. Cultivate shallow and only to control grass and/or use "post-plant" herbicides*.

Lay by early leaving a high broad bed, especially wide for late varieties.

Insects - European corn borer and Colorado potato beetle are the most destructive insects on potatoes. Systemic insecticides at planting will control potato beetle, aphids, and flea beetle up to 6 weeks. Colorado Potato Beetle control with foliar insecticides varies from field to field and county to county as a result of the development of resistance to most insecticides. Hence, it is very important to monitor for resistance and rotate potato fields as well as insecticides to minimize the development of insecticide resistance. European corn borer may be controlled with properly timed foliar applications in May. Insecticide resistance can be determined by hatching egg masses and testing with various chemicals. See your county Cooperative Extension center for more information.

Leafhoppers are often a serious problem in western North Carolina. Leafhopper damage (hopper burn) late in the season is often confused with maturity of

the plants (damaged leaves first turn brown along the margins but foliage is often green). Mature foliage turns yellow before margins become brown.

For proper diagnosis and identification of insect problems, contact your County Extension center. They have the latest information on methods, chemicals, and time of application for the control of these and other insects.

Diseases - If a disease problem develops in a field, make sure that the problem is properly identified before control measures are initiated. The local County Extension Agent, or a consultant, may be of assistance in diagnosing a problem. There are several practices that a grower can utilize to manage diseases and they should utilize all practices, such as rotation, field selection, resistant varieties, time of planting, time of harvest, proper storage conditions, etc. However, some diseases will still have to be controlled by utilizing a fungicide if they are a problem in a particular field.

Late blight, caused by *Phytophthora infestans*, is an occasional problem. Sprays should be applied on a 14-day schedule will prevent the fungus from spreading to uninfected plants. Sprays should be applied on a 14-day schedule until the threat of the fungus spreading is over (e.g. hot, dry conditions)*.

Early blight, caused by *Alternaria solani*, is present in most potato fields every season and may contribute the early dying problem. Early blight is rarely a problem in early harvested potatoes. It may be damaging in late potatoes. This disease may be controlled by spraying with one of several fungicides*. Since the rate varies depending upon the formulation selected, be sure to read and follow all label directions.

For season long control of early blight, fungicide should be applied every seven to ten days. However, some growers prefer to not go to such expense and only make a limited number of applications of a fungicide when they are applying an insecticide and after early blight is present in the field. In such a program, sprays applied a week or so before bloom and for a few weeks after bloom are generally more beneficial than the same number of sprays applied late in the season.

To obtain satisfactory control of foliar diseases, fungicides should be applied at high pressure (200 to 400 PSI) and in sufficient water to provide good coverage. Some of the fungicides listed above may also be applied through an irrigation system.

Harvesting - For fresh tablestock markets, start harvesting when potatoes are mature or the skin is reasonably well set.

Rotobeat (remove) vines before harvesting or use chemicals* to kill the vines. If blight is present, remove vines and wait at least two days before harvesting. This will also help to “set” the skin.

Operate harvester at the proper speed to minimize skinning and bruising. Bruising is a greater problem in North Carolina than previously thought.

Pad trucks and equipment at the packing house and handle potatoes carefully if shipping to tablestock markets.

Park loaded trucks in shade to prevent overheating and sunburning.

Precool to 40°F for fresh tablestock market to remove field heat quickly. Loads may be “bunker iced” but should be kept cool in transit.

Green tubers are mildly poisonous and should not be eaten. Sort them out.

*Consult the latest *North Carolina Agricultural Chemicals Manual*.