



# Pole Beans

## COMMERCIAL VEGETABLE PRODUCTION



THE UNIVERSITY OF GEORGIA  
**COOPERATIVE EXTENSION**  
Colleges of Agricultural and Environmental Sciences & Family and Consumer Sciences

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Pole beans can be grown anywhere in Georgia. However, commercial production is concentrated in the lower coastal plain of southwest Georgia and in the mountain area of northeast Georgia. The lower coastal plain climate permits spring and fall crops to be grown. The mountain area is limited to one crop a year, but the climate allows a long harvest period.

### PREPARING TO PLANT

**Soil Selection.** Grow pole beans on well-drained soil with a pH of 5.5 to 6.0. Lime soils that are acid (pH below 5.5) before beans are planted. If a soil test indicates that lime is needed, apply *dolomitic lime* in the amount recommended. The soil should be well supplied with organic matter.

**Crop Rotation.** Good land management will help prevent weed and insect problems. Pole beans should not follow other related crops, such as peas and bush beans. Deep-rooted crops can be grown in rotation with beans. Alfalfa and rye are good companion crops. If rye is plowed under before beans are planted, broadcast 50 pounds of nitrogen and plow it under with the rye crops to speed up crop decomposition and help in the production of humus.

**Soil Preparation.** To permit faster decay of plant material, shred and turn under all previous crop residue before seeding. Free the seedbed of clods and debris. Form rows on raised beds in the southern part of Georgia; leave rows level in the northern part.

### FERTILIZER

**Rates and Analysis.** It is best to test your soil and follow the recommendations based on the soil test. A general recommendation is to apply 6-12-12 fertilizer at the rate of 600 to 800 pounds per acre, depending on the soil type.

**Method of Application.** Place the fertilizer in bands 3 inches to the side of the row, and 3 inches deep. If all the fertilizer is drilled directly into the row, delay seeding for seven to 10 days.

**Sidedressing.** Additional nitrogen will be required after the beans are up. Heavier soils require 40 pounds of actual nitrogen per acre; lighter soils require 60 pounds. Apply half the nitrogen when the plants have run halfway up the trellis and the remainder when the plants are 1 to 2 inches long.

### SELECTING A VARIETY

Buyers at most fresh market outlets in Georgia prefer the Kentucky Wonder type pole bean. Other varieties can be grown for specific markets. Be sure to plant a variety that is acceptable for your market.

**Kentucky Wonder 191.** The most popular fresh market pole bean grown in Georgia, Kentucky Wonder 191 produces pods 6 to 10 inches long. The pods are slightly rough, and fairly thick and wide. The seeds are white.

**Stringless Blue Lake.** Several strains of this variety are available. Blue Lake is noted for its excellent quality as a processed bean, and most of the newer strains are stringless, regardless of age. This is a round-podded bean, dark green and somewhat shorter than Kentucky Wonder. The variety is noted for its low fiber content. The seeds are white.

**McCalsan.** This pole bean produces pods that are flat, dark green, slightly curved and brittle when young. The seeds are white.

**Dade.** This bean's pods are somewhat flat, medium dark green, and 7 to 8 inches long. The variety is resistant to common and Southern bean mosaic. The seeds are white.

### PLANTING

**Time to Plant.** Plant spring beans in the lower Coastal Plain about March 10; in middle Georgia, April 10; and in the mountain area, May 1. The fall crop in the lower Coastal Plain can be seeded during August. Beans seeded after Sept. 1 might not produce a full crop before frost kills the vines.

**Seed Source.** Only certified seed grown in the western states are recommended, because the dry weather in the West does not permit some bean diseases, such as bacterial

blight and anthracnose, to develop and be transmitted on seed.

**Seeding Rates.** If pole beans will be tied to overhead wires, the seed can be drilled in the row. When poles are used as a trellis, plant the beans in hills. Hill planting requires 20 to 30 pounds of seed per acre, and 50 to 80 pounds per acre are required for drilling.

**Seeding Depth and Spacing.** Plant seed in moist soil ½- to ¾-inch deep in heavier soils, and 1½ to 2 inches in lighter soils. If you use an overhead wire trellis, plant three to five seeds per foot of row. If poles are used, plant two to four bean seeds per hill.

**Supporting and Training.** Beans can be trained to climb cotton twine (South Georgia) or poles (mountain area). If you build an overhead trellis especially for pole beans, space the posts 20 feet apart in the row. Posts should extend 5½ to 6 feet above ground.

The overhead wire should be at least a No. 12. Secure the support string (of three- or four-ply twine) around the base of the plant with a nonslip loop. This arrangement permits more than one plant to climb a single string. If poles are used, tie four poles together teepee style. River cane can be used.

Regardless of the system used, have the trellis in place before the beans begin to run. If the climbing tip of the vine touches the soil, the tip will rot, preventing the plant from climbing the trellis.

## WEED, DISEASE AND INSECT CONTROL

**Cultivation and Weed Control.** Several herbicides are approved for use on pole beans. The *Georgia Pest Control Handbook* offers recommendations, rates and time of application for herbicides.

If cultivation is required, cultivate deep enough to control weeds, but not deep enough to damage bean roots. Set cultivation equipment to run as shallow as possible, because bean plants have very shallow roots. When pole trellises are used, it is essential to clear the field of weeds when the poles are set, because cultivation within the poles is not possible. During periods of heavy rainfall soil becomes packed, so cultivate to improve soil aeration. If soil fungicides were used at planting, do not place untreated soil next to plants during cultivation.

**Seedling Diseases.** Beans planted in the summer and fall are exposed to soil fungi that can kill the plants soon after they come up. This problem is common in tall beans seeded in South Georgia. Soil fungi such as *Pythium* and *Rhizoctonia* can invade the plant and kill it by the time the plant reaches the four-leaf stage.

Reduce seedling losses by treating the seed and soil. This preventive treatment is considerably less expensive than overseeding to get an acceptable stand.

**Insects.** The lesser cornstalk borer can cause severe stand reductions during some seasons, especially in South Georgia. The worm bores a hole in the bean stem near the soil line and eats a tunnel in the stem, causing the plant to wither and die.

Soil application of insecticides is the only way to control this pest.

**Plant.** Bean plants can be attacked by various biting, chewing and sucking insects. Among the most troublesome are leafhoppers, green stink bugs and Mexican bean beetles.

## PHYSIOLOGICAL PROBLEMS

**Blossom Drop and Malformed Pods.** If air temperature goes above 90°F during the pollination period, pollen production and growth can be reduced. Unpollinated blooms may drop off. Blossom retention can be increased by maintaining adequate soil moisture and by keeping good leaf growth on the vines. Poor pollination can cause pods to be misshapen.

## HARVESTING

**Picking.** Pole bean quality and market value depend largely on the time of picking and development of the pods. Pickers must be careful to harvest only those pods that are at the proper state of maturity. Emphasize careful, clean picking to maintain high quality.

**Grading.** While some markets will accept ungraded beans, higher prices are paid for beans that have been graded. The simplest grading process involves training pickers to discard dull beans in the field. Some growers use a belt grader; others use a tabletop system. You can quickly establish a reputation for growing quality beans if your pickers properly grade each picking.

**Packing.** Most fresh markets require that beans be packed in tall bushel hampers with lids. Each hamper should contain 30 pounds of beans, unless otherwise specified by the buyer. Some markets require that the full hamper gross 35 pounds, providing an average of slightly over 30 pounds net weight. Prevent damage to the beans by carefully placing lids on the hampers.

**Containers.** Always pack pole beans in new hampers for better appearance. Used hampers break down in transit, and result in an economic loss to the buyer. The slightly higher cost of new hampers will be more than offset by higher prices paid for your beans.

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