

# Okra, Gumbo

*Abelmoschus esculentus* is a member of the Malvaceae (mallow) family.

Okra varieties include Lee, Emerald (8-inch, smooth, dark green mature pods; 5-foot plant), Annie Oakley, Burgundy (red pods), Perkins Spineless (7-inch ridged green pods; 3-foot plant), Dwarf Green Long Pod (7- to 8-inch, slightly ridged green pods; 3-foot plant), Clemson Spineless (6-inch, moderately ridged green pods; 4- to 5-foot plant), and French Market.

The okra fruit (gumbo), a large, erect pod, is harvested immature. Okra is an herbaceous, shrub-like dicotyledonous annual plant with woody stems growing 3 to 6 feet tall. It has alternate broad leaves. The flower has five yellow petals and a purple area at the base. It is a tropical native of Africa and is related to cotton. Varieties are available with pods of differing lengths and colors (white, red, green, and purple).

## Market Information

Green okra is the common type, but red or burgundy okra is considered a specialty crop.

**Current production and yield.** Top U.S. shipping states are California, Florida, and Texas. Most production is from June through November. Mexican imports are available year-round, but peak from May through October.

**Use.** Cooks use fresh okra pods to make gumbo, a well-known soup dish of the American South. The pods are also boiled as a vegetable dish, used in soups or stews, or fried, and are dried and used in the winter in certain parts of the country. Some people roast the seeds, grind them, and brew the resulting powder as a coffee substitute. The swelling gum (mucilaginous material) in okra is greater than in any other common vegetable, and may take getting used to.

## Culture

**Climatic requirements.** Okra seeds are sensitive to cold, so they should not be grown until the ground has become warm. The plant grows best when minimum and maximum mean temperatures, respectively, are 65° and 95°F.



*Okra growing in the Coachella Valley. (Photo: Hunter Johnson)*



*A red-podded okra variety. (Photo: Hunter Johnson)*

**Propagation and care.** Sow the seed  $\frac{1}{2}$  to 1 inch deep, and then thin the plants to every 12 inches in the row. The rows are usually far enough apart (36 to 40 inches) to permit cultivation. Cotton equipment can be used for planting, fertilization, and cultivation. One ounce of seed will plant 100 feet of row (about 8 pounds per acre). Soaking the seed in room-temperature water for 24 hours will improve uniformity of germination. If the plants

grow too tall, they may be cut back to about 2 feet and then fertilized with nitrogen for a new flush of growth. Okra does not tolerate wet, poorly drained, or acidic soils. In the desert valleys of southern California, growers can make early plantings from early February through March. In the San Joaquin Valley, an early planting can be made between the first of April and the middle of May.

**Harvest and postharvest practices.** Individual okra flowers open for only a day or so. The pods then develop quickly, and are ready for harvest 4 to 10 days after flowering, when the pods are 3 to 4 inches long. Because the pods develop so quickly, they must be harvested at least every other day. Typically, growers snap the okra pods from the plants by hand. Touching the plant causes skin irritation, so field workers should wear gloves and long-sleeve shirts when harvesting. Okra pods should be ready for first harvest about 70 to 80 days after planting, and will continue to bear for weeks.

To be graded US No. 1, pods must be fresh, tender, not badly misshapen, and free from decay and damage. Okra requires careful handling to prevent bruising (bruises blacken within a few hours), and should be packed into containers or baskets with net weights of 15, 18, or 30 pounds. Containers must be well ventilated because of okra's high respiration rate at warm temperatures. Okra should be

cooled promptly upon harvest. Because it deteriorates rapidly, okra normally is stored only briefly.

The USDA storage recommendation is 45° to 50°F at 90 to 95% relative humidity, with an approximate storage life of 7 to 10 days for okra in good condition. Okra is sensitive to chilling — temperatures below 45°F cause discoloration, pitting, and decay.

See USDA Agricultural Handbook No. 66 for more detailed information on postharvest handling of okra.

**Pest and weed problems.** Pests that occur occasionally on okra are, in their order of importance, cotton aphid, corn earworm, nematodes, Verticillium wilt, green stinkbug, harlequin bug, and pink bollworm. The pink bollworm does little damage to okra, but the crop serves as a bothersome host in quarantine programs. Because of the limited market for okra, there have been few programs to develop pesticide registrations and control recommendations for the pests. For current registrations, contact your local farm advisor or agricultural commissioner.

Cultural practices such as destroying or burying crop residues in the winter will help suppress bollworms. Crop rotation will control or suppress weeds, plant diseases, nematodes, and some insect pests.

## Sources

### Seed

NOTE: Okra seed is widely available.

### More information

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