

Growing Okra

Okra, *Abelmoschus esculentus*, is a member of the mallow family and is related to hibiscus and cotton. It is native to the African continent. Okra has become a popular vegetable in ethnic markets and may be referred to as “Ladyfingers,” “Gumbo,” “Gombo,” “Bhindi” (India), or “Bamyah” (Arabic).

Okra, which has been grown successfully for many years in the Southeastern United States, is adapted to the hot and often dry summers of Maryland. However, it is very sensitive to cold temperature and frost, which may limit its potential in some of the northern and western counties.

Types and Varieties

Unlike other, more popular, vegetables, only a few varieties of okra are currently available. Following are some recommended varieties:

- Clemson Spineless—the first spineless type; now an older variety; not sensitive to day length; widely grown; heavy yielding
- Clemson Spineless 80—improved uniformity over Clemson Spineless
- Annie Oakley II—short plants (3- to 4-foot tall)
- Burgundy—fruit are dark red prior to cooking
- Emerald—smooth pod; early maturity; suitable for processing

For fresh market sales, the varieties with suture ridges are usually preferred over the smooth varieties.

Preparing and Fertilizing the Soil

Areas selected for production should have the soil tested for both fertility and nematodes. Okra is very susceptible to injury from nematodes, so proper and timely sampling is important.

Follow soil test recommendations for liming and fertilization. The optimum pH range for okra is 6.2 to 6.5. This will insure that the nutrients in the soil will be available for use by the plants. Broadcast a complete fertilizer and disk in prior to planting. Side-dress 25 to 50 pounds per acre of nitrogen 3 to 4 weeks after planting and again 4 to 6 weeks after planting.

Planting

The best time to seed fields is from May 20 to June 1, depending on location in Maryland. Only one seeding is usually necessary, since once harvest begins the plants will continue to yield if pods are picked every 2 to 4 days. Drill seeds $\frac{1}{4}$ to $\frac{1}{2}$ inches deep, planting 3 or 4 seeds per foot of row. Keep rows $3\frac{1}{2}$ to $4\frac{1}{2}$ feet apart, depending on the variety. When plants are about 5 inches tall, thin to 12 to 15 inches apart in the row for shorter varieties (those under 4 feet tall) and 18 to 24 inches for standard varieties.

Okra takes from 50 to 60 days from planting to harvest under ideal conditions. The optimum temperature range is 70 to 85° F. Soil temperatures should be at least 60° F with an optimum range of 70 to 95° F. With a soil temperature of about 60° F, germination takes 27 days, whereas with a soil

With some experience, you can snap off pods without using a knife or pruning shears. Store okra at 50 to 55° F and at a relative humidity of 85 to 90 percent. Chilling injury may appear when pods have been held at temperatures below 50° F and then warmed to 68° F or above. Market okra within 36 hours of harvest for best quality, although with ideal storage it may have a shelf life of 8 to 10 days.

Wear thin leather gloves and long sleeves when harvesting okra: okra produces tiny, almost invisible spines on the leaves and stems, which can stick to your fingers and arms during harvest. Spineless varieties basically solve this problem for the home gardener, but the commercial grower must still wear leather gloves and long sleeves; otherwise, after an hour or more of picking, the harvester is likely to suffer intense itching from an accumulation of tiny spines on fingers or arms.

Yields

Okra yields about 4,000 to 12,000 pounds per acre, depending on how early the plants start producing and how long the plants keep bearing pods without interruption from drought, cool weather, and other adversities.

Marketing and Use

Okra contains moderate levels of Vitamins C and A; a 100-gram serving provides one-half of the Vitamin C requirements for an adult. It also provides calcium, phosphorus, and potassium as well as high levels of thiamine, riboflavin, and niacin.

Okra, which is becoming a popular vegetable, can be prepared in a number of different ways. Commonly served as a main dish vegetable in the South, okra is cooked by breading and frying sliced pods or by boiling whole pods. It is commonly used to thicken soups and stews such as chicken gumbo. The fashionable Cajun cooking from Louisiana and the Gulf States is now becoming popular throughout the country. This cuisine makes extensive use of okra or gumbo, as it is often called. A large fast-food

chain serves fried okra just as others serve french fries, and a cafeteria chain now serves okra as a main dish vegetable.

Most of the fresh okra sold in the Washington-Baltimore area is shipped from Florida or the Carolinas. It is often 5 to 7 days old before it is purchased in the store and has sometimes started to brown around the edges of the pods. Therefore, there is a market for locally produced fresh okra in this area.

For the most part okra is not often grown on a large commercial scale in Maryland. This makes finding adequate production information difficult. The budget shown in Table 2 only addresses material costs of growing okra. Growers must also add labor and handling costs. The price of seed is quite variable, as well. Older varieties may cost as little as \$4 per pound whereas new hybrid varieties may cost as much as \$110 per pound. The data in Table 2 represent reasonable costs and returns.

Table 2. Costs and Returns

Yield and Price Assumptions		
Yield	Price/pound	
	\$0.55	\$0.75
8,000 lb	\$4,400.00	\$6,000.00
Estimated Costs Per Acre		
Cover crop seed (vetch and rye)	\$	25.00
Lime (1,000 lbs.)		9.00
Fertilizer: 500 lbs of 10-20-20		70.00
50 lbs of urea		8.50
Seed (6 lbs @ \$ 79 per lb)		474.00
Chemicals: Herbicide		9.95
Insecticide		25.25
Total		\$621.70

temperature of about 75° F, germination may take only 13 days. The plants will grow to a height of about 6 feet with a spread of from 4 to 6 feet. The depth of the root system is about 4 to 4½ feet.

Weed Management

Timely cultivation is a good method of reducing weed competition. Laying black plastic mulch in the row and straw between the rows will suppress weeds, and the plastic mulch will help warm the soil, which results in earlier yields.

Growers who choose to use an herbicide can apply trifluralin, sold as Treflan 4E and presently the only preemergent material recommended for this crop. Apply the herbicide at a rate of 1 to 2 pints per acre as a preplant incorporated application. See EB 236, “Commercial Vegetable Production Recommendations—Maryland,” revised and updated, for more details.

Disease and Insect Management

For the most part diseases and insects are not major problems with okra. Growers must rely on crop rotation for the control of fusarium and verticillium wilts. To reduce the

potential for fruit rot problems, be sure that plants have good air circulation. Reduce damping-off of seedlings by using seed treated with thiram plus Apron XL at 0.32 to 0.64 fluid ounces per 100 pounds of seed. Refer to EB 236, “Commercial Vegetable Production Recommendations—Maryland,” for more details.

For control of insects, see Table 1.

Harvesting the Crop

Okra is grown for its immature seed pods, which can be harvested over a relatively long period of time. Like squash, cucumbers, and many other vegetables, the crop must be harvested on a regular basis for best yields. If the pods are allowed to mature on the plant, flowering will be reduced and further pod production will be limited. Mature pods that are allowed to dry are sometimes used in dried flower arrangements, so some excess pods can be marketed for that purpose.

An okra pod usually reaches the harvest stage about 4 to 6 days after the flower opens. Pods should be about 3 to 3½ inches long, tender, and free of fiber. Harvest pods every other day. Remove overgrown pods that were missed during picking and discard them; this will encourage the plant to continue bearing over a long period of time.

Table 1. Insect pests of okra and insecticides for their control.

Insect	Insecticide	Rate of Application	Remarks
Aphids	Malathion	1.5 pt 57EC/A	General use, 12-hr reentry, 1 day to harvest
Corn earworm	Sevin 80 S/A or OLF	1.25 to 2.5 lb	General use, 12-hr reentry, 0 days to harvest
Japanese beetle	Malathion	1.5 pt 57EC/A	General use, 12-hr reentry, 1 day to harvest
Stinkbugs	Sevin 80S/A or OLF	1.25 to 2.5 lb	General use, 12-hr reentry, 0 days to harvest

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Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, University of Maryland, College Park, and local governments. Thomas A. Fretz, Director of Maryland Cooperative Extension, University of Maryland.

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P2000

