

Department of Plant Sciences

OKRA FOR THE TENNESSEE VEGETABLE GARDEN

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Crop Description

Okra is a unique crop that holds a unique place in southern gardens and on southern tables. Okra (*Abelmoschus esculentus*) is a member of the mallow family, which is the same family as cotton and hibiscus. It is the only common vegetable garden crop in the Malvaceae family.

Native to western Africa or Asia, okra has been grown in the United States for hundreds of years. Okra is a tropical annual plant with large leaves that can be from three to six feet tall in the garden and vary by cultivar. Okra flowers are relatively large and somewhat ornamental. They are open for a short period of time and are often self-pollinated. The flowers drop quickly, and pods can be harvested for eating or preserving four to six days later.

An important first step in successfully growing okra in Tennessee is waiting until soil and air temperatures are warm enough for good germination and growth. There is typically only one crop of okra planted each growing season and it can be harvested and cooked fresh or preserved in a variety of ways. Okra can be found in a range of heirloom to hybrid cultivars and in many pod colors from very light to dark green as well as burgundy/red. Pod height to width ratios as well as ridges and spines are key cultivar characteristics.



Planting and Growing

When selecting a site for okra, good drainage is essential. Sandy to sandy loam and/or soils with high organic matter are common. While it is typical to grow okra in traditional, in-ground gardens, dwarf cultivars may be appropriate for larger raised beds. Okra prefers soil pH slightly below neutral 6.0-6.8.

In more eastern and northern locations in Tennessee, okra could be grown as a transplant. Use caution because the seedlings can become tall and leggy quickly. It is most commonly direct seeded, and spacing varies with the mature size of the okra plant. Seeding is generally done in late spring to summer with common seeding dates of late April through July in West Tennessee and May through July in East Tennessee. However, soil temperature should be the critical factor in determining seeding time rather than simply dates.

Okra	Cultivar suggestions
Traditional green okra	Clemson Spineless, Jambalaya, Annie Oakley II (dwarf), Baby Bubba (dwarf), Cajun Delight
Red/burgundy okra	Candle Fire, Texas Hill Country, Burgundy, Carmine

Okra germination will not proceed at temperatures below 60 F and will still take two to three weeks when soil temperatures are below 70 F. Optimum germination is actually 85-95 F, and while it is certainly not necessary to wait until the soil is this warm, it does provide a clear picture of the fact that okra is a tropical crop. Okra also has a hard seed coat and can be soaked prior to sowing to speed germination once in soil. Okra can be grown on black plastic mulch to provide warmer soil temperature for optimum germination and growth earlier in the season. Growth is best for okra when temperatures are between 65 and 95 F.



Optimum production of okra depends on good soil nutrition. So, preplant fertilizers are applied according to soil test recommendations either as a broadcast or as a band 2-3 inches from the row to provide rapid access to nutrients and prevent burning young plants with the fertilizer salts. For larger stature plants with wider row spacing, this banding method may well be the most efficient.

Crop	Planting dates in TN		Seeding Depth	Seed Spacing In Row/ Between Rows	Distance between plants after thinning	Days to harvest
	East	West				
Full sized cultivars	May 15 to July 30	April 15 to August 15	1-1 ½ inches	3-4 inches / 3-4 feet	12-18 inches	50-65
Dwarf cultivars				3-4 inches / 4-5 feet	18-24 inches	

As with many other fruiting crops, okra is also often given fertilizer sidedressing (banded along the row of growing plants) to supply nitrogen to the growing crop. For okra, sidedressing is typically done three to four weeks after planting and then again six to eight weeks after planting. For each 100 feet of row, either 0.5 to 0.75 pounds of ammonium nitrate, two pounds of calcium nitrate, or three pounds of 12-0-0 bloodmeal would be recommended. Overfertilization with nitrogen can result in vigorous plant growth and less flower and fruit production.

Fertilizer can also be applied as fertigation throughout the summer if drip irrigation is used. While okra can manage under some dry conditions, the best production and sustained growth occurs when water is consistent throughout the summer and supplied at a rate of one to two inches per week (varying based on temperature).

No support or training is needed for okra, and it is considered a relatively low maintenance crop in the garden aside from routine weeding (especially when the crop is small). An interesting production practice that is sometimes used on okra is called ratooning. Ratooning is the process of cutting okra stems down to six to 12 inches in mid-summer. This cutting back is followed by fertilization to support plant growth. Ratooning is essentially a rejuvenation procedure to enable another round of harvest on new growth in the later summer to early fall. While more common in

commercial growing, it could also be a method to extend the growing season of okra in the home garden.

Harvesting and Storage

Okra pods are typically harvested by cutting at three to four inches in length, and this can occur only four to six days after flowering. With this rapid time of flowering to harvest, harvest should be done every other day during peak season. Frequent picking will keep the plant flowering and producing to keep fruit set consistent and attain maximum yield. The picking of pods frequently and when small will also maintain high quality and reduce the tougher or more fibrous textures in pods. There can be many influences on pod tenderness, and cultivar differences are often seen in textures and age of pods. Okra does not have a long storage window for fresh use, so it should be prepared or preserved within a few days. Also, as a tropical crop, okra pods are sensitive to chilling damage and should not be stored below 50-55 F.

Common Pests, Diseases and Issues in Okra Crops

Description	Possible cause(s) and indicators	Prevention/ Control Steps
Wilting plants	<ul style="list-style-type: none"> - Soil borne root diseases (Fusarium, Verticillium) - Southern blight (soil borne lower stem disease) -Damping off (death of young plants) 	<p>Lab ID may be needed for confirmation.</p> <p>Crop rotation (often long rotations are needed), well-drained sites.</p> <p>To reduce damping off, make sure the soil is warm enough for good germ when seeding.</p>
Leaf feeding/defoliation	<ul style="list-style-type: none"> - Caterpillars (holes chewed in stems or leaves and occasionally pods) - Leaf feeding beetles (skeletonized leaves) 	<p>Often damage is minor enough to not require treatment, but insecticide may be needed.</p>
Deformed pods	<ul style="list-style-type: none"> - Feeding by stink bugs or other sap sucking bugs 	<p>Weed control on garden edges can reduce overwintering sites.</p> <p>Insecticides are the most reliable means of control.</p>



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