

# Okra

## Planting and Spacing

Seed 12 to 18 inches apart in rows 36 inches apart. Seed only after the soil has warmed to 65°F to 70°F for several days. Black plastic mulch with drip irrigation will increase yields. Transplants can be used for early production.

## Fertilizing

**Lime:** To maintain a soil pH of 6.0 to 6.5. Okra is very sensitive to low pH soils.

**Preplant:** N: 40 pounds N per acre preplant broadcast and disked in prior to seeding. P<sub>2</sub>O<sub>5</sub>: 0 to 200 pounds per acre. K<sub>2</sub>O: 0 to 300 pounds per acre. Adjust according to soil type, previous management, and soil test results.

**Sidedress N:** Apply 40 pounds N as a sidedress after the first harvest.

## Harvest

Okra should be harvested every 2 to 3 days to maintain optimal market size (2- to 4-inch long pods). Frequent harvesting increases overall yield since the plant will reset pods faster. Okra will yield 8,000 to 10,000 pounds per acre. Okra can be stored at 45°F to 55°F and 90 percent to 95 percent relative humidity for 7 to 10 days.

## Pesticide Use in Greenhouses

Before using any pesticide, always read the product label for mention of greenhouse restrictions. See Selected Information About Recommended Fungicides (page 79), Selected Information About Recommended Herbicides (page 69), and Selected Information About Recommended Insecticides (page 54).

## Disease Control

### Recommended Controls

#### **Wilt of Multiple Crops - Fusarium Fungus**

**Crop rotation** Rotations of several years may reduce Fusarium wilt severity. Avoid fields with Fusarium wilt.

## Weed Control

Weeds in okra can be managed with cultivation and hand-weeding, plastic or other mulches, and herbicides. Because okra is a warm-season, transplanted crop, there should be enough time in the spring to prepare a stale seedbed before planting, which should reduce weed pressure in the crop. Herbicide choices are limited, and the products that can be broadcast do not control many broadleaf weeds, so it is important to include mechanical control in the weed management plan.

### Recommended Controls

#### **Burndown or Directed/Shielded Applications Broadleaf and Grass Weeds**

**glyphosate formulations (glyphosate)** 0.75-3.75 lbs. acid equivalent (ae) per acre. Use formulations containing 3 lbs. ae per gal. (4 lbs. isopropylamine salt per gal.) at 1-5 qts. per acre, or formulations containing 4.5 lbs. ae per gal. (5 lbs. potassium salt per gal.) at 0.66-3.3 qts. per acre. Broadcast at least 3 days before transplanting, or apply between crop rows with hooded or shielded sprayers. Use low rate for annuals and higher rates for perennials. See label for suggested application volume and adjuvants. Remove herbicide residue from plastic mulch prior to transplanting. REI 4-hour. PHI: 14-day.

#### **Burndown or Directed/Shielded Applications Broadleaf Weeds**

**Aim EC® (carfentrazone)** 0.5-2 fl. oz. per acre. Apply prior to transplanting or apply between crop rows with hooded sprayer. Do not apply before direct seeding. Do not allow spray to contact crop. Use COC or NIS. Weeds must be actively growing and less than 4 inches tall. Do not exceed 6.1 fl. oz. per acre per season. REI: 12-hour.

#### **Preemergence Broadleaf and Grass Weeds**

**Caparol 4L® (prometryn)** 3 pts. per acre. Apply after seeding before crop emergence. Or apply 1.5 pts. per acre after seeding before crop emergence and apply 1.5 pts. per acre as a post-directed spray when okra has 7-9 leaves and weeds are less than 2 inches tall. Do not exceed 3 pts. per acre per year. REI: 12-hour. PHI: 14-day.

**Dual Magnum® (s-metolachlor)** 1-2 pts. per acre. Indiana, Michigan, and Ohio only. Apply to okra at least 4 inches tall before weeds emerge. Direct the spray to minimize contact with crop foliage, or apply only between crop rows. Do not incorporate. Do not exceed 2 pts. per acre or 1 application per crop per season. REI: 24-hour. PHI: 60-day.

**trifluralin formulations (trifluralin)** 0.5-1 lb. a.i. per acre. Use 4EC formulations at 1-2 pts. per acre. Use 10G formulations at 5-10 lbs. per acre. Use low rate on soils with less than 2% organic matter. Broadcast and incorporate before transplanting. Not effective on muck or high organic matter soils. REI: 12-hour.

### **Preemergence Broadleaf Weeds**

**Callisto® (mesotrione)** 6 fl. oz. per acre. Band to row middles prior to weed emergence. Leave 1 foot over row or 6 inches on each side of row unsprayed. Do not apply directly over the planted okra row or severe injury may occur. Injury risk is greatest on coarse-textured soils (sand, sandy loam, or loamy sands). A postemergence hooded application can be made at 3 oz. per acre when okra is at least 3 inches tall at time of application. Add 0.25% NIS v/v to spray solution. Avoid any contact with okra plant foliage. Do not exceed 1 application and 6 oz. per acre per year. REI: 12-hour. PHI: 28-day.

**Sandea® (halosulfuron)** 0.5-1 oz. per acre. Apply between rows of direct-seeded or transplanted crop. Use lower rates on coarse soils with low organic matter. Add 0.5-1 pt. of NIS per 25 gals. of spray solution if emerged weeds are present. Avoid contact of the herbicide with the crop. Avoid contact with surface of plastic mulch if present. Effective against nutsedge. Do not exceed 2 oz. per acre per 12-month period. REI: 12-hour. PHI: 30-day.

### **Postemergence Broadleaf and Grass Weeds**

**Glyphosate products.** See details above for Burndown or Directed/Shielded Applications.

### **Postemergence Broadleaf Weeds**

**Aim EC® (carfentrazone)** See details above for Burndown or Directed/Shielded Applications Broadleaf Weeds.

**Sandea® (halosulfuron)** See details above for Preemergence Broadleaf Weeds.

### **Postemergence Grass Weeds**

**Poast® (sethoxydim)** 1-1.5 pts. per acre. Use 1 qt. of COC per acre. Spray on actively growing grass. Use high rate on quackgrass. Do not exceed 5.5 pts. per acre per season. REI: 12-hour. PHI: 14-day.

## **Insect Control**

### **Recommended Controls**

#### **Aphids**

**Admire Pro® (imidacloprid)** 1.3-2.2 fl. oz. per acre foliar application, 7-14 fl. oz. per acre soil application. Do not exceed 6.7 fl. oz. per acre per season. REI: 12-hour. PHI: 0-day for foliar applications, 21-day for soil applications.

**Assail 30SG® (acetamiprid)** 2-4 oz. per acre. REI: 12-hour. PHI: 7-day.

**Beleaf 50SG® (flonicamid)** 2.8-4.28 oz. per acre. REI: 12-hour. PHI: 0-day.

**Malathion 5EC® (malathion)** 1.5 pts. per acre. REI: see label. PHI: 1-day.

**Movento® (spirotetramat)** 4-5 fl. oz. per acre. REI: 24-hour. PHI: 1-day.

**Sivanto Prime® (flupyradifurone)** 7-14 fl. oz. per acre. REI: 4-hour. PHI: 1-day.

#### **Corn Earworm/Fruitworm Caterpillar**

**Bacillus thuringiensis formulations for Lepidoptera**  
(*Bacillus thuringiensis aizawai* strain ABTS-1857, *Bacillus thuringiensis aizawai* strain GC-91, *Bacillus thuringiensis kurstaki* strain ABTS-351, *Bacillus thuringiensis kurstaki* strain EVB-113-19, *Bacillus thuringiensis kurstaki* strain SA-11) See label. Different Bt subspecies may have different insect control properties. Check labels for pest insects controlled before use. Follow label directions for rates, timing of application and required safety equipment. REI: 4-hour. PHI: See label.

**Baythroid XL® (beta-cyfluthrin)** 1.6-2.8 fl. oz. per acre. Do not exceed 16.8 fl. oz. per acre per season. REI: 12-hour. PHI: 7-day. *RUP*.

**Brigade 2EC® (bifenthrin)** 2.1-6.4 fl. oz. per acre. Do not exceed 12.8 fl. oz. per acre per season. REI: 12-hour. PHI: 7-day. *RUP*.

**Coragen® (chlorantraniliprole)** 3.5-7.5 fl. oz. per acre. REI: 4-hour. PHI: 1-day.

**Entrust SC® (spinosad)** 3-6 fl. oz. per acre. Do not exceed 29 fl. oz. per acre per season. REI: 4-hour. PHI: 1-day. *OMRI-listed*.

**Exirel® (cyantraniliprole)** 7-13.5 fl. oz. per acre. Do not exceed 61 fl. oz. per acre per season. REI: 12-hour. PHI: 1-day.

**Harvanta® (cyclaniliprole)** 20.9-26.4 fl. oz. per acre. Use with adjuvant. Do not exceed 65.6 fl. oz. per acre per season. Allow 5 days between treatments. REI: 4-hour. PHI: 1-day.

**Radiant 1SC® (spinetoram)** 5-10 fl. oz. per acre. Do not exceed 34 fl. oz. per acre per season. REI: 4-hour. PHI: 1-day.

**Sevin XLR Plus® (carbaryl)** 1.0-1.5 qts. per acre. Do not exceed 6 qts. per acre per season. REI: 12-hour. PHI: 3-day.

### **Japanese Beetle**

**Brigade 2EC® (bifenthrin)** 2.1-6.4 fl. oz. per acre. Do not exceed 12.8 fl. oz. per acre per season. REI: 12-hour. PHI: 7-day. *RUP*.

**EverGreen Pro 60-6® (piperonyl butoxide, pyrethrins)** 2-12.6 fl. oz. per acre. REI: 12-hour. PHI: 0-day.

**Malathion 5EC® (malathion)** 1.9 pts. per acre. REI: see label. PHI: 1-day.

### **Mites**

**Acramite 50WS® (bifenazate)** 0.75-1.0 lb. per acre. Do not exceed 1 application per season. REI: 12-hour. PHI: 3-day.

**Zeal® (etoxazole)** 2-3 oz. per acre. Do not exceed 1 application per season. REI: 12-hour. PHI: 7-day.

### **Stink Bugs**

**Baythroid XL® (beta-cyfluthrin)** 1.6-2.8 fl. oz. per acre. Do not exceed 16.8 fl. oz. per acre per season. REI: 12-hour. PHI: 7-day. *RUP*.

**Brigade 2EC® (bifenthrin)** 2.1-6.4 fl. oz. per acre. Do not exceed 12.8 fl. oz. per acre per season. REI: 12-hour. PHI: 7-day. *RUP*.

**Sevin XLR Plus® (carbaryl)** 1.0-1.5 qts. per acre. Do not exceed 6 qts. per acre per season. REI: 12-hour. PHI: 3-day.