Okra - Horticulture

Major update by Ben Phillips, Liz Maynard – Oct 2020
Reviewed by Liz Maynard – Sep 2024

Crop Description

Okra (*Abelmoschus esculentus*) is a subtropical plant related to hibiscus that is grown for its young green fruit. Okra requires warm weather for best growth. Some varieties have many small spines, similar to vine crops, which can irritate the skin when harvesting. There are also spineless varieties and red-fruiting varieties. Though okra is often listed on pesticide labels along with eggplants, peppers, and tomatoes, they are not a related species and share few pests.

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

pH: Maintain a soil pH of 6.0 to 6.5. Okra is very sensitive to low pH soils.

Before planting, apply 40 pounds N per acre, 0 to 200 pounds P_2O_5 per acre, and 0 to 300 pounds K_2O per acre based on soil test results and recommendations from your state.

Sidedress with 40 pounds N per acre after the first harvest.

Harvesting

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. Time from seeding to harvest ranges between 50 to 65 days; transplants can produce pods in 30 to 40 days.

Okra - Diseases

Reviewed by Dan Egel – Aug 2023

Wilt of Multiple Crops - Fusarium Fungus

Non-Pesticide

Use disease-free seed and transplants. Avoid fields with a history of the disease. Rotate to non-solanaceous, non-cucurbit crops for >6 years. Use raised beds and mulch to improve drainage and reduce splashing. Prompt destruction of the finished crop with tillage to rapidly breakdown tissue is an important method to prevent disease build-up.

Okra - Insects

Major update by Laura Ingwell, Marissa Schuh – Sep 2021
Reviewed by Raymond Cloyd – Aug 2024

Aphids

Pesticide

Admire Pro (imidacloprid) | 1.3-2.2 fl. oz. per acre foliar application, 7-14 fl. oz. per acre soil application. REI: 12-hour. PHI: 0-day for foliar applications, 21-day for soil applications. IRAC 04A.

Assail 30SG (acetamiprid) | 2.0-4.0 oz. per acre. REI: 12-hour. PHI: 7-day. IRAC 04A.

Beleaf (flonicamid) | 2.8-4.28 oz. per acre. REI: 12-hour. PHI: 0-day. IRAC 29.

Malathion 5EC (malathion) | Use 5EC and 57EC formulations at 1.5-1.9 pts. per acre. REI: 12-hour. PHI: 1-day. IRAC 01B.

Movento (spirotetramat) | 4-5 fl. oz. per acre. REI: 24-hour. PHI: 1-day. IRAC 23.

PQZ (pyrifluquinazon) | 2.4-3.2 fl. oz. per acre. REI: 12-hour. PHI: 1-day. IRAC 09B.

Pyganic EC 5.0 II (pyrethrins) | *Foliar applications*: 4.5-15.6 fl. oz. per acre. *Soil drench applications* (in greenhouses): 0.375 fl. oz. per 1,000 sq. ft. of growing media/soil. REI: 12-hour. PHI: 0-day. IRAC 03A. *OMRI-listed.*

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Fertilizing

pH: Maintain a soil pH of 6.0 to 6.5. Okra is very sensitive to low pH soils.

Before planting, apply 40 pounds N per acre, 0 to 200 pounds P_2O_5 per acre, and 0 to 300 pounds K_2O per acre based on soil test results and recommendations from your state.

Sidedress with 40 pounds N per acre after the first harvest.

Harvesting

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. Time from seeding to harvest ranges between 50 to 65 days; transplants can produce pods in 30 to 40 days.

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Beleaf (flonicamid) | 2.8-4.28 oz. per acre. REI: 12-hour. PHI: 0-day. IRAC 29.

Malathion 5EC (malathion) | Use 5EC and 57EC formulations at 1.5-1.9 pts. per acre. REI: 12-hour. PHI: 1-day. IRAC 01B.

Movento (spirotetramat) | 4-5 fl. oz. per acre. REI: 24-hour. PHI: 1-day. IRAC 23.

PQZ (pyrifluquinazon) | 2.4-3.2 fl. oz. per acre. REI: 12-hour. PHI: 1-day. IRAC 09B.

Pyganic EC 5.0 II (pyrethrins) | *Foliar applications*: 4.5-15.6 fl. oz. per acre. *Soil drench applications* (in greenhouses): 0.375 fl. oz. per 1,000 sq. ft. of growing media/soil. REI: 12-hour. PHI: 0-day. IRAC 03A. *OMRI-listed.*

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Before planting, apply 40 pounds N per acre, 0 to 200 pounds P_2O_5 per acre, and 0 to 300 pounds K_2O per acre based on soil test results and recommendations from your state.

Sidedress with 40 pounds N per acre after the first harvest.

Harvesting

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Okra - Diseases

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Okra - Insects

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Aphids

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Assail 30SG (acetamiprid) | 2.0-4.0 oz. per acre. REI: 12-hour. PHI: 7-day. IRAC 04A.

Beleaf (flonicamid) | 2.8-4.28 oz. per acre. REI: 12-hour. PHI: 0-day. IRAC 29.

Malathion 5EC (malathion) | Use 5EC and 57EC formulations at 1.5-1.9 pts. per acre. REI: 12-hour. PHI: 1-day. IRAC 01B.

Movento (spirotetramat) | 4-5 fl. oz. per acre. REI: 24-hour. PHI: 1-day. IRAC 23.

PQZ (pyrifluquinazon) | 2.4-3.2 fl. oz. per acre. REI: 12-hour. PHI: 1-day. IRAC 09B.

Pyganic EC 5.0 II (pyrethrins) | *Foliar applications*: 4.5-15.6 fl. oz. per acre. *Soil drench applications* (in greenhouses): 0.375 fl. oz. per 1,000 sq. ft. of growing media/soil. REI: 12-hour. PHI: 0-day. IRAC 03A. *OMRI-listed.*

Sefina Inscalis (afidopyropen) | 3 fl. oz. per acre. REI: 12-hour. PHI: 0-day. IRAC 09D.

Sequoia (sulfoxaflor) | 1.5-2 fl. oz. per acre. REI: 12-hour. PHI: 1-day. IRAC 04C.

Sivanto 200 (flupyradifurone) | 7-12 fl. oz. per acre foliar application, or 21-28 fl. oz. per acre soil application. REI: 4-hour. PHI: 1-day for foliar application, or 45-day for soil application. IRAC 04D.

Torac (tolfenpyrad) | 17-21 fl. oz. per acre. REI: 12-hour. PHI: 1-day. IRAC 21A, FRAC 39.

Transform WG (sulfoxaflor) | Use Transform WG at 0.75-1.0 oz. per acre. Use Sequoia at 1.5-2 fl. oz. per acre. REI: 24-hour. PHI: 1-day. IRAC 04C.

Caterpillars

Pesticide

Brigade 2EC (bifenthrin) | For armyworms, fruitworms, and loopers. Use 2EC formulations at 2.1-6.4 fl. oz. per acre. Do not use 10DF, 10WP, or 10WSB formulations as they are not labeled for okra. REI: 12-hour. PHI: 7-day. IRAC 03A. *RUP.*

Bt (Bacillus thuringiensis) products for caterpillars (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) | For armyworms, fruitworms, and loopers. Various Bt products (Agree, Biobit, Dipel, Javelin, etc.) are available for control of young caterpillars however, different Bt products can vary in the effectiveness against caterpillars. REI: 4-hour. PHI: 0-day. IRAC 11A.

Coragen (chlorantraniliprole) | 3.5-7.5 fl. oz. per acre. For armyworms, fruitworms, and loopers. Can be applied as either a foliar application or via drip chemigation. Chemigation will provide up to 30 days of control. REI: 4-hour. PHI: 1-day. IRAC 28.

Entrust SC (spinosad) | For armyworms, fruitworms, and loopers. Use 2SC formulations at 1.5-8.0 fl. oz. per acre. Use 80WP formulations at 0.5-2.5 oz. per acre. REI: 4-hour. PHI: 1-day. IRAC 05. *OMRI-listed.*

Exirel (cyantraniliprole) | 7-13.5 fl. oz. per acre. For armyworms, fruitworms, and loopers. REI: 12-hour. PHI: 1-day. IRAC 28.

Harvanta (cyclaniliprole) | 10.9-16.4 fl. oz. per acre. For armyworms, fruitworms, and loopers. Use with adjuvant. REI: 4-hour. PHI: 1-day. IRAC 28.

Mustang Maxx (zeta-cypermethrin) | 2.24-4.0 fl. oz. per acre. For armyworms, fruitworms, and loopers. REI: 12-hour. PHI: 1-day. IRAC 03A. *RUP.*

Proclaim (emamectin benzoate) | 2.4-4.8 oz. per acre. For armyworms, fruitworms, and loopers. REI: 12-hour. PHI: 1-day. IRAC 06. *RUP.*

Pyganic EC 5.0 II (pyrethrins) | For armyworms, corn earworms, and fruitworms. *Foliar applications*: 4.5-15.6 fl. oz. per acre. *Soil drench applications* (in greenhouses): 0.375 fl. oz. per 1,000 sq. ft. of growing media/soil. REI: 12-hour. PHI: 0-day. IRAC 03A. *OMRI-listed.*

Radiant 1SC (spinetoram) | 5-10 fl. oz. per acre. For armyworms, fruitworms, and loopers. REI: 4-hour. PHI: 1-day. IRAC 05.

Rimon 0.83EC (novaluron) | 9-12 fl. oz. per acre. For armyworms, fruitworms, and loopers. Apply when majority of population is at egg hatch to second instar. REI: 12-hour. PHI: 1-day. IRAC 15.

Sevin XLR Plus (carbaryl) | 1.0-1.5 qts. per acre. For fruitworms. REI: 12-hour. PHI: 3-day. IRAC 01A.

Japanese Beetle

Pesticide

Brigade 2EC (bifenthrin) | Use 2EC formulations at 2.1-6.4 fl. oz. per acre. Do not use 10DF, 10WP, or 10WSB formulations as they are not labeled for okra. REI: 12-hour. PHI: 7-day. IRAC 03A. *RUP.*

EverGreen Pro 60-6 (piperonyl butoxide, pyrethrins) | 2-12.6 fl. oz. per acre. REI: 12-hour. PHI: 0-day. IRAC UN, IRAC 03A.

Malathion 5EC (malathion) | Use 5EC and 57EC formulations at 1.5-1.9 pts. per acre. REI: 12-hour. PHI: 1-day. IRAC 01B.

Pyganic EC 5.0 II (pyrethrins) | *Foliar applications*: 4.5-15.6 fl. oz. per acre. *Soil drench applications* (in greenhouses): 0.375 fl. oz. per 1,000 sq. ft. of growing media/soil. REI: 12-hour. PHI: 0-day. IRAC 03A. *OMRI-listed.*

Mites

Pesticide

Acramite 50WS (bifenazate) | 0.75-1.0 lb. per acre. REI: 12-hour. PHI: 3-day. IRAC UN.

Agri-Mek SC (abamectin) | Use 0.7SC formulations at 1.75-3.5 fl. oz. per acre. Use 0.15SC formulations at 8-16 fl. oz. per acre. REI: 12-hour. PHI: 7-day. IRAC 06. *RUP.*

Magister SC (fenazaquin) | 24-36 fl. oz. per acre. REI: 12-hour. PHI: 3-day. IRAC 21A, FRAC 39.

Onager Optek (hexythiazox) | 12-24 fl. oz. per acre. REI: 12-hour. PHI: 1-day IRAC 10A.

Portal (fenpyroximate) | 2 pints per acre. REI: 12-hour. PHI: 1-day. IRAC 21A.

Pyganic EC 5.0 II (pyrethrins) | *Foliar applications*: 4.5-15.6 fl. oz. per acre. *Soil drench applications* (in greenhouses): 0.375 fl. oz. per 1,000 sq. ft. of growing media/soil. REI: 12-hour. PHI: 0-day. IRAC 03A. *OMRI-listed.*

Zeal (etoxazole) | 2-3 oz. per acre. REI: 12-hour. PHI: 7-day. IRAC 10B.

Stink Bugs

Pesticide

Brigade 2EC (bifenthrin) | Use 2EC formulations at 2.1-6.4 fl. oz. per acre. Do not use 10DF, 10WP, or 10WSB formulations as they are not labeled for okra. REI: 12-hour. PHI: 7-day. IRAC 03A. *RUP.*

Mustang Maxx (zeta-cypermethrin) | 2.24-4.0 fl. oz. per acre. REI: 12-hour. PHI: 1-day. IRAC 03A. *RUP.*

Pyganic EC 5.0 II (pyrethrins) | *Foliar applications*: 4.5-15.6 fl. oz. per acre. *Soil drench applications* (in greenhouses): 0.375 fl. oz. per 1,000 sq. ft. of growing media/soil. REI: 12-hour. PHI: 0-day. IRAC 03A. *OMRI-listed.*

Sevin XLR Plus (carbaryl) | 1.0-1.5 qts. per acre. REI: 12-hour. PHI: 3-day. IRAC 01A.

Okra - Weeds

Reviewed by Stephen Meyers – Sep 2023

All Weeds

Okra is a warm-season crop that is nearly always started with transplants in Northern climates.

Postemergence herbicides for broadleaf weeds are limited, so it is important to include preemergence herbicides and mechanical control in the weed management plan. There are several herbicides labeled for the control of weeds preemergence, applied before crops are transplanted, or directed between the rows only after transplanting.

For specific weeds controlled by each herbicide, check the Relative Effectiveness of Herbicides for Vegetable Crops table.

Rates provided in the recommendations below are given for overall coverage. For a banded treatment, reduce amounts according to the portion of acre treated.

Non-Pesticide

A stale seedbed can be prepared prior to transplanting with flame weeding or very shallow cultivation to control emerged weeds, instead of herbicides. Okra can benefit from the soil warming properties of plastic mulch in addition to the in-row weed control it provides. Materials include landscape cloth/fabric, plastic, and biodegradeable plastic. Straw mulch can delay growth by suppressing soil temperatures. Weeds between beds and along the edges of beds can be controlled with a combination of cultivation, mowing, or hand hoeing/pulling. Weeds along the edge of the mulches can be a particular challenge to avoid ripping the mulch. Some fresh market plantings are often small enough to accommodate hand-hoeing or pulling. For larger plantings it may make more sense to mechanically cultivate with tow-able tools between plastic rows or between bare-soil rows.

Pesticide

Aim EC (carfentrazone) POST  | 0.5-2.0 fl. oz. per acre. Apply prior to transplanting or apply between crop rows with hooded sprayer. 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. HRAC 14.

Callisto (mesotrione) POST PRE | 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. HRAC 27.

Caparol 4L (prometryn) POST PRE | 1.5 pts. per acre. Apply 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. HRAC 05.

Dual Magnum (s-metolachlor) PRE | 1-2 pts. per acre. *Indiana, Michigan, Minnesota, and Ohio 24c label 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. HRAC 15.

glyphosate products (glyphosate) POST | 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 to 12-hour. PHI: 14-day. HRAC 9.

Poast (sethoxydim) POST | 1.0-1.5 pts. per acre. Use 1.0 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. HRAC 01.

Sandea (halosulfuron) POST PRE | 0.5-1.0 oz. per acre. Apply between rows of transplanted crop. Use lower rates on coarse soils with low organic matter. Add 0.5-1.0 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. HRAC 02.

Sulfen 4SC (sulfentrazone) PRE | 3-12 fl. oz. per acre. Apply prior to transplanting. Do not apply more than 12 fl. oz. per acre, and do apply more than 12 fl. oz. per acre per year. Do not apply to sand or soils with less than 1% organic matter. REI: 12-hour. HRAC 14.

trifluralin products (trifluralin) PRE | 0.5-1.0 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. HRAC 03.