

Chapter 8. Eggplant Production¹

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Botany and Planting

Eggplant, Oriental, Thai, and Indian eggplant—*Solanum melongena*

Table 1. Planting dates for eggplant.

Planting Region	Dates		
	Eggplant	Japanese/Chinese/Indian Eggplant	Thai Eggplant
North Florida	Aug; Feb–Mar	Feb–Mar	Feb–Mar
Central Florida	Aug–Sept; Jan–Feb	Aug–Sept; Jan–Feb	Aug–Sept; Jan–Feb
South Florida	Aug–Feb	Aug–Feb	Aug–Feb

Table 2. Planting information for eggplant.

Planting Parameters	Measurements		
	Eggplant	Japanese/Chinese/Indian Eggplant	Thai Eggplant
Distance between rows (in)	36–72	36–72	36–72
Distance between plants (in)	18–40	18–40	36–60
Seeding depth (in)	0.5–0.75	0.5–0.75	0.5–0.75
Seed per acre to seed (lb)	1	0.25–0.5	0.25–0.5
Seed per acre to transplant (lb)	0.25–0.50	–	–
Days to maturity from seed	90–115	–	–
Days to maturity from transplant	70–90	–	–
Plant population (acre)	9,680	9,680	9,680

Information on “Asian” solanums is included in this chapter. The Asian solanum group includes three types of eggplant and bird’s eye pepper (Thai pepper). Pea eggplant, which was discussed in previous editions of this handbook, is on the Federal Noxious Weed list, so it is not included in the current version. The harvestable products include fruits that are eaten at the immature or mature stage. All can be grown on raised beds with or without plastic mulch, using either drip or subsurface irrigation. As with most eggplants, these types tend to be short-lived

perennials, especially the Thai eggplant, which is a relatively compact, stocky plant. They can be severely pruned or ratooned and allowed to regrow if staking does not prohibit this operation. Fertilizer recommendations for eggplant should be used for the three types of eggplant, while those for peppers should be followed for bird’s eye peppers. These crops can be started from seed or transplants. All the indeterminate types of eggplant need some type of staking support.

Cultivars

Disease Key: CM = cucumber mosaic, ToM = tomato mosaic, R = resistant, IR = intermediate resistance, T = tolerant.

Traditional Types

Classic F1. Erect, vigorous plant; glossy deep-purple-black elongated-oval, green-calyxed fruit; medium-tall upright plant; fancy fruit appearance. Heavy yields of high-quality fruit. Does not perform well in cooler weather. R to ToM.

Nadia. Oval, long, vigorous plant with good fruit set under cool conditions. Very firm, attractive, purple-black fruit with long harvest period. Sets well under cool conditions.

Night Shadow. Elongate oval, widely adapted with high-yield potential. Strong plants produce firm fruit that maintain rich, dark glossy black color right through harvest. R to ToM.

Specialty Types

Birgah. A Sicilian-style eggplant with a round, heavy, firm fruit, deep-purple color, sweet taste, and white flesh.

Ghostbuster. Hybrid variety that produces oval-shaped white fruit 6–7 in. long.

Italian Pink. Open-pollinated cultivar; oval fruit; cream/rose color; mature fruit color is rose pink, purple calyx.

Megal. Italian cylindrical fruit; purple-black color, very uniform; excellent shelf life and flavor; few spines; early maturity. R to CM, ToM.

Millionaire. Slender, oriental type; dark-purple fruit color; purple calyx; early maturing.

Vittoria. Very long cylindrical, deep-purple Imperial type; green calyx; mild flavor. R to ToM.

Zebra. Elongated oval; purple with white stripes; very attractive with good flavor.

Table 3. Ethnic eggplant cultivars.

Eggplant	Cultivars
Oriental (Japanese) Eggplant	Black Shine, Hybrid Mangan, Money Maker 2
Oriental (Chinese) Eggplant	Bride Hybrid, Hybrid Purple Charm, Ma-Zu Purple
Thai Eggplant	Green: Green Beauty, Purple: Hybrid Violet Prince. Purple: Round Purple, Variegated: Hybrid Tiger, Variegated: Petch Slam, White: Hybrid White Ball
Indian Eggplant (Dark, Wine-Colored)	Hybrid Chu-Chu, Hybrid Bharata

The following tables list registered pesticides that should be integrated with other pest management methods. Additional information on integrated management methods can be requested from UF/IFAS Extension horticulture or agriculture agents. A list of local UF/IFAS Extension offices is available at <https://sfyl.ifas.ufl.edu/find-your-local-office/>.

Table 4. Herbicides approved for managing weeds in eggplant. **Labels change frequently. Be sure to read a current product label before applying any chemical.** Contact: Nathan S. Boyd, UF/IFAS Gulf Coast Research and Education Center.

	Active Ingredient lb a.i./Acre	Trade Name Product/Acre	MOA Code	Weeds Controlled/Remarks
PRETRANSPLANT/ PREEMERGENCE	Bensulide 5.0–6.0	(Prefar) 4 E 5–6 qt	8	Annual broadleaves and grasses. Incorporate 2–4 in. with mechanical cultivation or irrigation.
	Carfentrazone up to 0.031	(Aim) 2 EC up to 2 fl oz	14	Apply as a preplant burndown for emerged broadleaf weeds up to 4 in. tall or rosettes less than 3 in. across. Good coverage is essential. A nonionic surfactant, methylated seed oil, or crop oil concentrate is recommended. No pretransplant interval.
	Flumioxazin up to 0.128	(Chateau) EZ up to 4 fl oz	14	Annual broadleaves. Apply to row middles of raised plastic-mulched beds that are at least 4 in. higher than the treated row middles and 24 in. bed width. Label is a Third-Party Registration (TPR, Inc.). Use without a signed authorization and waiver of liability is a misuse of the product. Tank-mix with a burndown herbicide to control emerged weeds.
	Glufosinate up to 1.24	(Rely) 280 Up to 64 fl oz	10	Broadleaf, grass, and nutsedge burndown. Apply preplant to bare soil, preplant to plastic mulch beds, or preplant to areas between beds. Rate varies with use. PHI 30 days. Note: Rely 280 label is still valid for use if the applicator has product on hand. Registration has since moved to the Liberty label through December 2026 for row middle weed management in eggplant.
	Glyphosate	(various formulations) consult labels	9	Emerged broadleaves, grasses, and nutsedge. Apply preplant. Consult label for individual product directions.
	Halosulfuron 0.024–0.05	(Sandea, Profine) 75 DF 0.5–1.0 oz	2	Broadleaves and yellow/purple nutsedge. Apply to row middles only. Do not exceed 2 oz/A per 12-month period. PHI 30 days.
	Lactofen 0.25–0.50	(Cobra) 2 EC 16–32 fl oz	14	Broadleaves. Label is a Third-Party Registration (TPR, Inc.). Use without a signed authorization and waiver of liability is a misuse of the product. Apply to row middles only with shielded or hooded sprayers. Excessive injury occurs when product contacts green foliage or fruit. Drift of lactofen-treated soil particles onto plants can cause injury. Limit of 1 PRE and 1 POST application per growing season. PHI 30 days.
	Napropamide 1.0–2.0	(Devrinol) DF-XT 2.0–4.0 lb (Devrinol) 2-XT 2–4 qt	15	Annual broadleaves and grasses. Transplanted eggplant only. Use the lower rate on light soils (coarse-textured–sandy). No more than 4 lb/A per crop cycle.
	Paraquat 0.5–1.0	(Gramoxone) 2 SL 2.0–4.0 pt (Firestorm) 3 SL 1.3–2.7 pt	22	Emerged broadleaf and grass weeds. Apply as a preplant burndown treatment. Surfactant recommended. Consult label for new restrictions.
	Pelargonic acid	(Scythe) 4.2 EC 3%–10% v/v	27	Emerged broadleaves and grasses. Apply as a preplant burndown treatment. Product is a contact, nonselective, foliar-applied herbicide with no residual control. May be tank-mixed with soil residual compounds.

	Active Ingredient lb a.i./Acre	Trade Name Product/Acre	MOA Code	Weeds Controlled/Remarks
	Pendimethalin 0.48–0.72	(Prowl H20) 3.8 1.0–1.5 pt	3	Broadleaves and grasses. Apply to row middles or under the plastic. No more than 3.0 pt/A per year. PHI 70 days.
	Pyraflufen 0.001–0.003	(ET Herbicide) 0.208 EC 0.5–2.0 fl oz	14	Emerged broadleaves less than 4 in. tall or rosettes less than 3 in. diameter. Apply as a preplant burndown treatment. Nonionic surfactant or crop oil concentrate recommended.
	S-metolachlor 0.64–0.95	(Dual Magnum) 7.62 EC 0.67–1.0 pt	15	Annual broadleaves, grasses, and yellow/purple nutsedge suppression. Label is a Third-Party Registration (TPR, Inc.). Use without a signed authorization and waiver of liability is a misuse of the product. Apply to the finished bed immediately before laying the plastic or to row middles using a shielded applicator. No more than 1.68 pt/A of Dual Magnum per crop cycle. PHI 60 days.
	Sulfentrazone 0.09	(Willowood Sulfentrazone) 3 fl oz	14	Broadleaves, grasses, and nutsedge species. Apply under the plastic mulch or in row middles. Do not use on soils with less than 1% organic matter.
	Trifluralin 0.5	(Treflan, Triflurex) 4 EC 1 pt	3	Annual broadleaves and grasses. Do not apply in Dade County. Incorporate 4 in. or less within 8 hr of application. Results in Florida are erratic on soils with low organic matter and clay contents. Do not apply after transplanting. Not all trifluralin herbicides are labeled in eggplant, so consult labels before application.
POSTTRANSPLANT	Carfentrazone up to 0.031	(Aim) 2 EC up to 2 fl oz	14	Emerged broadleaves. Apply as a hooded application to row middles only. Do not exceed 6.1 fl oz/A per cropping season. A nonionic surfactant, methylated seed oil, or crop oil concentrate is recommended. PHI 0 days.
	Clethodim 0.09–0.13 0.07–0.25	(Arrow) 2 EC (Select Max) 1 EC 9–16 fl oz	1	Perennial and annual grasses. In fields with heavy grass pressure or larger grass weeds, use higher rates or repeat applications 14 days apart. Use a crop oil concentrate at 1% v/v or a nonionic surfactant with Select Max. PHI 20 days.
	Diquat 0.5	(Reglone Desiccant) 1 qt	22	Broadleaves and grasses. Apply to row middles only. No more than 2 applications per season. Prevent drift to crop. Nonionic surfactant recommended. PHI 30 days.
	Glufosinate up to 1.24	(Rely) 280 Up to 64 oz	10	Broadleaf, grass, and nutsedge burndown. Apply post-emergence to weeds present between rows of established eggplant. Use shielded applicator. PHI 30 days. Note: Rely label still valid for use if the applicator has product on hand. Registration has since moved to Liberty label through December 2026 for row middle weed management in eggplant.
	Halosulfuron 0.024–0.05	(Sanda, Profine) 75 DF 0.5–1.0 oz	2	Broadleaves and yellow/purple nutsedge. Apply to row middles only. Include a nonionic surfactant. No more than 2 oz/A per 12-month period. PHI 30 days.
	Lactofen 0.25–0.5	(Cobra) 2 EC 16–32 fl oz	14	Broadleaves. Apply to row middles only with shielded or hooded sprayers. Excessive injury can occur when lactofen contacts green foliage or fruit. Drift of lactofen-treated soil particles onto plants can cause contact injury. Limit of 1 PRE and 1 POST application per growing season. Surfactant recommended. PHI 30 days.

	Active Ingredient lb a.i./Acre	Trade Name Product/Acre	MOA Code	Weeds Controlled/Remarks
	Paraquat 0.5	(Gramoxone) 2 SL 2.0 pt (Firestorm) 3 SL 1.3 pt	22	Emerged broadleaves and grasses. Direct spray over emerged weeds 1–6 in. tall in row middles between mulched beds. Use low pressure and shields to control drift. No more than 3 applications per season. Nonionic surfactant recommended. Consult label for new restrictions.
	Pelargonic acid	(Scythe) 4.2 EC 3%–10% v/v	27	Emerged broadleaves and grasses. Direct spray to row middles. Product is a contact, nonselective, foliar-applied herbicide with no residual control. May be tank-mixed with several soil residual compounds.
	Pendimethalin 0.48–0.72	(Prowl H20) 3.8 1.0–1.5 pt	3	Broadleaves and grasses. May be applied posttransplant to row middles if previously untreated. No more than 3.0 pt/A per year. PHI 70 days.
	Sethoxydim 0.19–0.28	(Poast) 1.5 EC 1.0–1.5 pt	1	Actively growing grasses. A total of 4.5 pt/A applied in 1 season. Unsatisfactory results may occur if applied to grasses under stress. Crop oil concentrate recommended. PHI 20 days.
	S-metolachlor 0.95	(Dual Magnum) 7.62 EC 1.0 pt	15	Annual broadleaves and grasses. Yellow/purple nutsedge suppression. Label is a Third-Party Registration (TPR, Inc.). Use without a signed authorization and waiver of liability is a misuse of the product. Direct spray solution to row middles only. No more than 1.68 pt/A of Dual Magnum per crop. PHI 60 days.
POSTHARVEST	Diquat 0.5	(Reglone Desiccant) 2.0 pt	22	No more than 35 gal/A. Thorough coverage is required. Nonionic surfactant recommended.

Table 5. Insecticides approved for management of arthropod pests of eggplant. **Labels change frequently. Be sure to read a current product label before applying any chemical. Please refer to chapter 19 for information on biopesticides, including materials labeled for certified organic production.** Contact: Craig Frey, UF/IFAS Extension Hendry County, or Jawwad Qureshi, UF/IFAS Southwest Florida Research and Education Center.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
Aphids (including green peach aphid, potato aphid, aphids transmitting viruses)	1A	*Lannate LV; *SP (methomyl)	LV: 0.75–3.0 pt SP: 0.25–1.0 lb	15 pt	5	48	No more than 10 applications per crop.
	1A	*Vydate L (oxamyl)	Foliar: 2–4 pt	16 pt	1	48	–
	1B	*Dibrom 8 EC (naled)	1 pt	1 pt	1	48	Do not apply when temperature is over 90°F.
	1B	Malathion 8F (malathion)	1.56 pt	6.24 pt	3	12	Reapplications at least 4 days apart.
	3A	*Baythroid XL (beta-cyfluthrin)	1.6–2.8 fl oz	16.8 fl oz	7	12	Reapplications at least 7 days apart.
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–
	3A	Pyganic Crop Protection EC 5.0 (pyrethrins)	4.5–18.0 fl oz	11.25 pt	0	12	Pyrethrins degrade rapidly in sunlight. Thorough coverage is important. Reapplications at least 10 days apart. OMRI-listed. ³
	3A	*Warrior II (lambda-cyhalothrin)	0.96–1.92 fl oz	0.36 lb a.i.	5	24	–
	3A + 4A	*Endigo ZC (lambda-cyhalothrin + thiamethoxam)	4.0–4.5 fl oz	19.0 fl oz	5	24	Toxic to bees and other insect pollinators.
	4A	Actara (thiamethoxam)	2.0–5.5 oz	11 oz	0	12	Do not use if a soil application of a neonicotinoid has been used.
	4A	Admire Pro (imidacloprid) (for rates for other brands, see labels)	7–10.5 fl oz	10.5 fl oz	21	12	Risk to bees and other insect pollinators. Most effective if applied to soil at transplanting.
	4A	Admire Pro (imidacloprid)	0.44 fl oz/10,000 plants	–	21	12	Planthouse: 1 application.
	4A	Assail 30 SG (acetamiprid)	1.5–4.0 oz	16.0 oz, including any pretransplant applications of acetamiprid	7	12	No more than 4 applications per season. Reapplications at least 7 days apart.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	4A	Belay 50 WDG (clothianidin)	1.6–3.2 oz	6.4 oz	7	12	Do not use an adjuvant. Toxic to bees. Do not release irrigation water from the treated area.
	4A	Belay 50 WDG (clothianidin)	Soil: 4.8–6.4 oz	6.4 oz	Apply at planting	12	Do not release irrigation water from the treated area.
	4A	Platinum (thiamethoxam)	5.0–11.0 fl oz	11 fl oz	30	12	A 120-day plant-back interval must be observed.
	4A	Platinum 75SG (thiamethoxam)	1.66–3.67 oz	3.67 oz	30	12	A 120-day plant-back interval must be observed.
	4A	Provado 1.6F (imidacloprid)	3.8–6.2 oz	19.2 fl oz	0	12	Do not apply if imidacloprid or thiamethoxam have been used at planting.
	4A	Scorpion 35SL Insecticide (dinotefuran)	Foliar: 2–7 fl oz Soil: 9–10.5 fl oz	Foliar: 10.5 fl oz Soil: 21 fl oz	Foliar: 1 Soil: 21	12	Use only 1 application method.
	4A	Venom Insecticide (dinotefuran)	Foliar: 1–4 oz Soil: 5–6.0 oz	Foliar: 6 oz Soil: 12 oz	Foliar: 1 Soil: 21	12	Do not use both application methods. No more than 3 applications per season.
	4A + 28	Durivo (thiamethoxam + chlorantraniliprole)	10–13 oz	13 fl oz	30	12	May be applied to soil.
	4A + 28	Voliam Flexi (thiamethoxam + chlorantraniliprole)	4.0–7.0 oz	14 oz	1	12	–
	4D	Sivanto Prime (flupyradifurone)	7.0–14.0 fl oz	28.0 fl oz per year	1	4	Reapplications at least 7 days apart.
	9B	Fulfill (pymetrozine)	2.75 oz	5.5 oz	0	12	Apply before populations build to damaging levels. Reapplications at least 7 days apart. No more than 2 applications.
	9B	PQZ (pyrifluquinazon)	2.4–3.2 fl oz	4.8 fl oz per crop cycle and 9.6 fl oz per year	1	12	Do not apply by air. No more than 2 applications per crop cycle. No more than 4 applications per year.
	9C	Beleaf 50 SG (flonicamid)	2.0–2.8 oz	8.4 oz	0	12	Begin applications before pests reach damaging levels.
	9D	Sefina Inscalis Insecticide (afidopyropen)	3.0 fl oz	28 fl oz	0	12	No more than 2 sequential applications of Sefina before using an effective insecticide with a different mode of action.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	23	Movento (spirotetramat)	4.0–5.0 fl oz	10 fl oz	1	24	–
	28	Exirel (cyantraniliprole)	13.5–20.5 fl oz	0.4 lb a.i.	1	12	Risk to bees and other pollinators; follow application restriction. Reapplications at least 5 days apart.
	28	Verimark (cyantraniliprole)	6.75–13.5 fl oz	0.4 lb a.i.	1	4	–
Beetles (including blister beetle, Colorado potato beetle, cucumber beetle, flea beetle)	1A	Carbaryl 4L (carbaryl)	0.5–2 qt	8 qt per year	3	12	Toxic to honeybees and other bees.
	1A	Sevin 80 S; XLR; 4F (carbaryl)	80S: 0.63–2.5 lb XLR, 4F: 0.5–2 qt	80S: 10 lb XLR, 4F: 8 qt	3	12	No more than 7 times. Reapplications at least 7 days apart. Do not apply to crops or weeds in bloom.
	1A	*Vydate L (oxamyl)	Foliar: 2–4 pt	24 pt	1	48	–
	1B	*Dibrom 8 EC (naled)	1 pt	6 pt	1	48	No more than 1 pt/acre in Florida. Do not apply when temperature is over 90°F.
	3A	*Ambush 25W (permethrin)	6.4–12.8 oz	2 lb a.i. (128 oz)	3	12	–
	3A	*Asana XL (0.66 EC) (esfenvalerate)	5.8–9.6 fl oz	0.35 lb a.i.	7	12	–
	3A	*Baythroid XL (beta-cyfluthrin)	1.6–2.8 fl oz	16.8 fl oz	7	12	Reapplications at least 7 days apart.
	3A	*Brigade 2EC (bifenthrin)	2.1–6.4 fl oz	0.2 lb a.i.	7	12	Reapplications at least 7 days apart.
	3A	*Hero (bifenthrin + zeta-cypermethrin)	4.5–11.2 oz	43.26 fl oz	7	12	–
	3A	*Mustang (zeta-cypermethrin)	2.4–4.3 oz	0.3 lb a.i.	1	12	Reapplications at least 7 days apart.
	3A	*Pounce 25 W (permethrin)	6.4–9.6 oz	0.6 lb a.i.	3	12	–
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	3A	Pyganic Crop Protection EC 5.0 (pyrethrins)	4.5–18.0 fl oz	11.25 pt	0	12	Pyrethrins degrade rapidly in sunlight. Thorough coverage is important. OMRI-listed. ³ No more than 10 applications per season.
	3A + 4A	*Endigo ZC (lambda-cyhalothrin + thiamethoxam)	4.0–4.5 fl oz	19.0 fl oz	5	24	This product can kill bees and other insect pollinators.
	3A + 28	*Besiege (lambda-cyhalothrin + chlorantraniliprole)	5.0–9.0 fl oz	31 fl oz per year	5	24	–
	4A	Actara (thiamethoxam)	2.0–3.0 oz	11 oz	0	12	Do not use if a soil application of a neonicotinoid has been used.
	4A	Admire Pro (imidacloprid) (for rates for other brands, see labels)	7–10.5 fl oz	10.5 fl oz	21	12	Application restrictions exist for this product because of the risk to bees and other insect pollinators. Follow application restrictions found in the directions for use to protect pollinators. Most effective if applied to soil at transplanting.
	4A	Assail 30 SG (acetamiprid)	1.5–4.0 oz	16.0 oz including any pretransplant applications of acetamiprid	7	12	No more than 4 applications per season. Reapplications at least 7 days apart.
	4A	Belay 50 WDG (clothianidin)	1.6–3.2 oz	6.4 oz	7	12	Do not use an adjuvant. Toxic to bees. Do not release irrigation water from the treated area.
	4A	Platinum (thiamethoxam)	5.0–11.0 fl oz	11 fl oz	30	12	For most crops that are not on the label, a 120-day plant-back interval must be observed. To manage resistance, avoid using related pesticides (Actara, Assail) in conjunction with Platinum.
	4A	Platinum 75SG (thiamethoxam)	1.66–3.67 oz	3.67 oz	30	12	For most crops that are not on the label, a 120-day plant-back interval must be observed. To manage resistance, avoid using related pesticides (Actara, Assail) in conjunction with Platinum.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	4A	Provado 1.6F (imidacloprid)	3.8–6.2 oz	19.2 fl oz	0	12	Do not apply if imidacloprid or thiamethoxam have been used at planting.
	4A	Scorpion 35SL Insecticide (dinotefuran)	Foliar: 2–7 fl oz Soil: 9–10.5 fl oz	Foliar: 10.5 fl oz Soil: 21 fl oz	Foliar: 1 Soil: 21	12	Use only 1 application method.
	4A	Venom Insecticide (dinotefuran)	Foliar: 1–4 oz Soil: 5–6.0 oz	Foliar: 6 oz Soil: 12 oz	Foliar: 1 Soil: 21	12	Do not use both application methods. No more than 3 applications per season.
	4A + 28	Durivo (thiamethoxam + chlorantraniliprole)	10–13 oz	13 fl oz	30	12	May be applied to soil.
	4A + 28	Voliam Flexi (thiamethoxam + chlorantraniliprole)	4.0–7.0 oz	14 oz	1	12	–
	4D	Sivanto Prime (flupyradifurone)	7.0–14.0 fl oz	28.0 fl oz per year	1	4	Reapplications at least 7 days apart.
	5	Entrust SC (spinosad)	1.5–10 fl oz	29 oz	1	4	Do not apply to seedlings grown for transplant. OMRI-listed ² .
	5	Radiant SC (spinetoram)	5–10 fl oz	34 fl oz	1	4	–
	6	*Agri-Mek SC (abamectin)	1.7–3.5 fl oz	10.25 fl oz	7	12	No more than 2 sequential applications. Must be used with a nonionic activator-type wetting, spreading, or penetrating adjuvant.
	15	Rimon 0.83EC (novaluron)	9–12 fl oz	36 fl oz	1	12	Do not use with an adjuvant.
	28	Coragen (rynaxypyr)	3.5–7.5 fl oz	15.4 fl oz	1	4	Can be applied by drip chemigation or as a soil application at planting as well as a foliar spray. See label. For hornworms, can use as little as 2.0 fl oz/A when applied as a foliar spray.
	28	Exirel (cyantraniliprole)	7.0–13.5 fl oz	–	1	12	For control of Colorado potato beetle. This product has pollinator protection warning information on the label.
	28	Verimark (cyantraniliprole)	6.75–13.5 fl oz	0.4 lb a.i.	1	4	Colorado potato beetle and flea beetles

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			Appl.	Season ²			
Caterpillars (including cabbage looper; imported cabbageworm; corn earworm; garden webworm, hornworms; tobacco budworm; tomato fruitworm; beet, fall, and southern armyworm)	1A	Carbaryl 4L (carbaryl)	0.5–2 qt	8 qt per year	3	12	Toxic to honeybees and other bees.
	1A	*Lannate LV; *SP (methomyl)	LV: 0.75–3.0 pt SP: 0.25–1.0 lb	LV: 15 pt SP: 5 lb	5	48	No more than 10 applications per crop.
	1A	Sevin 80 S; XLR; 4F (carbaryl)	80S: 0.63–2.5 lb XLR, 4F: 0.5–2 qt	80S: 10 lb XLR, 4F: 8 qt	3	12	No more than 7 applications. Reapplications at least 7 days apart. Do not apply to crops or weeds in bloom.
	3A	*Ambush 25W (permethrin)	6.4–12.8 oz	2 lb a.i. (128 oz)	3	12	–
	3A	*Asana XL (0.66 EC) (esfenvalerate)	5.8–9.6 fl oz	0.35 lb a.i.	7	12	–
	3A	*Baythroid XL (beta-cyfluthrin)	1.6–2.8 fl oz	16.8 fl oz	7	12	Reapplications at least 7 days apart.
	3A	*Brigade 2EC (bifenthrin)	2.1–6.4 fl oz	0.2 lb a.i.	7	12	Reapplications at least 7 days apart.
	3A	*Danitol 2.4 EC (fenpropathrin)	10.67 fl oz	42.67 fl oz	3	24	No more than 4 applications per season.
	3A	*Hero (bifenthrin + zeta-cypermethrin)	4.5–11.2 oz	43.26 fl oz	7	12	–
	3A	*Mustang (zeta-cypermethrin)	2.4–4.3 oz	0.3 lb a.i.	1	12	Reapplications at least 7 days apart.
	3A	*Pounce 25 W (permethrin)	6.4–9.6 oz	0.6 lb a.i.	3	12	–
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–
	3A	Pyganic Crop Protection EC 5.0 (pyrethrins)	4.5–18.0 fl oz	11.25 pt	0	12	Pyrethrins degrade rapidly in sunlight. Thorough coverage is important. OMRI-listed. ³ No more than 10 applications per season.
	3A	*Warrior II (lambda-cyhalothrin)	0.96–1.92 fl oz	0.36 lb a.i.	5	24	–
	3A + 4A	*Endigo ZC (lambda-cyhalothrin + thiamethoxam)	4.0–4.5 fl oz	19.0 fl oz	5	24	This product can kill bees and other insect pollinators.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	3A + 28	*Besiege (lambda-cyhalothrin + chlorantraniliprole)	5.0–9.0 fl oz	31 fl oz	5	24	–
	4A + 28	Durivo (thiamethoxam + chlorantraniliprole)	10–13 oz	13 fl oz	30	12	May be applied to soil
	4A + 28	Voliam Flexi (thiamethoxam + chlorantraniliprole)	4.0–7.0 oz	14 oz	1	12	–
	5	Entrust SC (spinosad)	1.5–10 fl oz	29 oz	1	4	Do not apply to seedlings grown for transplant. OMRI-listed. ³
	5	Radiant SC (spinetoram)	5–10 fl oz	34 fl oz	1	4	–
	6	*Proclaim (emamectin benzoate)	2.4–4.8 oz	28.8 oz	7	12	–
	6 + 28	*Minecto Pro (abamectin + cyantraniliprole)	5.5–10 fl oz	20 fl oz per year	7	24	This label contains pollinator warnings.
	11A	Biobit HP (<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i>)	0.5–2.0 lb	–	0	4	Treat when larvae are young. Good coverage is essential. Can be used in the greenhouse. OMRI-listed. ³
	11A	Crymax WDG (<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i>)	0.5–2.0 lb	–	0	4	Use high rate for armyworms. Treat when larvae are young. Not for organic production.
	11A	Deliver (<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i>)	0.25–1.5 lb	–	0	4	Use higher rates for armyworms. OMRI-listed. ³
	11A	DiPel DF (<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i>)	0.5–2.0 lb	–	0	4	Treat when larvae are young. Good coverage is essential. Can be used in greenhouses. OMRI-listed. ³
	11A	Javelin WG (<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i>)	0.12–1.50 lb	–	0	4	Treat when larvae are young. Thorough coverage is essential. OMRI-listed. ³

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	11A	Xentari DF (<i>Bacillus thuringiensis</i> subspecies <i>aizawai</i>)	0.5–2.0 lb	–	0	4	Treat when larvae are young. Thorough coverage is essential. May be used in the greenhouse. Can be used in organic production.
	15	Rimon 0.83EC (novaluron)	9–12 fl oz	36 fl oz	1	12	Do not use with an adjuvant.
	18	Confirm 2F (tebufenozide)	6–16 fl oz	64 oz	7	4	No more than 16 oz per application.
	18	Intrepid 2F (methoxyfenozide)	4–16 fl oz	64 oz	1	4	No more than 16 oz per application.
	28	Coragen (chlorantraniliprole/rynaxypyr)	3.5–7.5 fl oz	15.4 fl oz	1	4	Can be applied by drip chemigation or as a soil application at planting as well as a foliar spray. See label. For hornworms, use as little as 2.0 fl oz/A when applied as a foliar spray.
	28	Exirel (cyantraniliprole)	7–20.5 fl oz	0.4 lb a.i.	1	12	Application restrictions exist for this product because of the risk to bees and other pollinators. Follow application restrictions found in the directions for use to protect pollinators. Reapplications at least 5 days apart.
	28	Verimark (cyantraniliprole)	5–13.5 fl oz	0.4 lb a.i.	1	4	–
Fire ants	7A	Extinguish (S-methoprene)	1.0–1.5 lb	–	0	4	Slow-acting IGR (insect growth regulator). Best applied early spring and fall where crop will be grown. Colonies will be reduced after 3 weeks and eliminated after 8–10 weeks. May be applied by ground equipment or aerially.
	7C	Esteem Ant Bait (pyriproxyfen)	1.5–2.0 lb	–	1	12	Apply when ants are actively foraging.
Grasshoppers	3A	*Hero (bifenthrin + zeta-cypermethrin)	4.5–11.2 oz	43.26 fl oz	7	12	–
	3A	*Mustang (zeta-cypermethrin)	2.4–4.3 oz	0.3 lb a.i.	1	12	Reapplications at least 7 days apart.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–
	3A	Pyganic Crop Protection EC 5.0 (pyrethrins)	4.5–18.0 fl oz	11.25 pt	0	12	Pyrethrins degrade rapidly in sunlight. Thorough coverage is important. OMRI-listed. ³ No more than 10 applications per season.
	3A	*Warrior II (lambda-cyhalothrin)	0.96–1.92 fl oz	0.36 lb a.i.	5	24	–
	3A + 4A	*Endigo ZC (lambda-cyhalothrin + thiamethoxam)	4.0–4.5 fl oz	19.0 fl oz	5	24	This product can kill bees and other insect pollinators.
	3A + 28	*Besiege (lambda-cyhalothrin + chlorantraniliprole)	5.0–9.0 fl oz	31 fl oz per year	5	24	–
	4A	Scorpion 35SL Insecticide (dinotefuran)	Foliar: 2–7 fl oz Soil: 9–10.5 fl oz	Foliar: 10.5 fl oz Soil: 21 fl oz	Foliar: 1 Soil: 21	12	Use only 1 application method.
	4A	Venom Insecticide (dinotefuran)	Foliar: 1–4 oz Soil: 5–6.0 oz	Foliar: 6 oz Soil: 12 oz	Foliar: 1 Soil: 21	12	Do not use both application methods. No more than 3 applications per season.
Lace bugs	1A	Carbaryl 4L (carbaryl)	0.5–2 qt	8 at per year	3	12	Toxic to honeybees and other bees.
	1A	Sevin 80 S; XLR; 4F (carbaryl)	80S: 0.63–2.5 lb XLR, 4F: 0.5–2 qt	80S: 10 lb XLR, 4F: 8 qt	3	12	No more than 7 applications. Reapplications at least 7 days apart. Do not apply to crops or weeds in bloom.
	1B	Malathion 8F (malathion)	1.56 pt	6.24 pt	3	12	No more than 4 applications.
Leafhoppers	1A	Carbaryl 4L (carbaryl)	0.5–2 qt	8 qt per year	3	12	Toxic to honeybees and other bees.
	1A	Sevin 80 S; XLR; 4F (carbaryl)	80S: 0.63–2.5 lb XLR, 4F: 0.5–2 qt	80S: 10 lb XLR, 4F: 8 qt	3	12	No more than 7 applications. Reapplications at least 7 days apart. Do not apply to crops or weeds in bloom.
	3A	*Baythroid XL (beta-cyfluthrin)	1.6–2.8 fl oz	16.8 fl oz	7	12	Reapplications at least 7 days apart.
	3A	*Hero (bifenthrin + zeta-cypermethrin)	4.5–11.2 oz	43.26 fl oz	7	12	–

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	3A	*Mustang (zeta-cypermethrin)	2.4–4.3 oz	0.3 lb a.i.	1	12	Reapplications at least 7 days apart.
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–
	3A	Pyganic Crop Protection EC 5.0 (pyrethrins)	4.5–18.0 fl oz	11.25 pt	0	12	Pyrethrins degrade rapidly in sunlight. Thorough coverage is important. OMRI-listed. ³ No more than 10 applications per season.
	3A	*Warrior II (lambda-cyhalothrin)	0.96–1.92 fl oz	0.36 lb a.i.	5	24	–
	3A + 4A	*Endigo ZC (lambda-cyhalothrin + thiamethoxam)	4.0–4.5 fl oz	19.0 fl oz	5	24	This product can kill bees and other insect pollinators.
	4A	Actara (thiamethoxam)	2.0–5.5 oz	11 oz	0	12	Do not use if a soil application of a neonicotinoid has been used.
	4A	Admire Pro (imidacloprid) (for rates for other brands, see labels)	7–10.5 fl oz	10.5 fl oz	21	12	Application restrictions exist for this product because of the risk to bees and other insect pollinators. Follow application restrictions found in the directions for use to protect pollinators. Most effective if applied to soil at transplanting.
	4A	Belay 50 WDG (clothianidin)	1.6–3.2 oz	6.4 oz	7	12	Do not use an adjuvant. Toxic to bees. Do not release irrigation water from the treated area.
	4A	Belay 50 WDG (clothianidin)	Soil: 4.8–6.4 oz	6.4 oz	Apply at planting	12	Do not release irrigation water from the treated area.
	4A	Platinum (thiamethoxam)	5.0–11.0 fl oz	11 fl oz	30	12	For most crops that are not on the label, a 120-day plant-back interval must be observed. To manage resistance, avoid using related, pesticides (Actara, Assail) in conjunction with Platinum.
	4A	Platinum 75SG (thiamethoxam)	1.66–3.67 oz	3.67 oz	30	12	For most crops that are not on the label, a 120-day plant-back interval must be observed. To manage resistance, avoid using related pesticides (Actara, Assail) in conjunction with Platinum.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	4A	Scorpion 35SL Insecticide (dinotefuran)	Foliar: 2–7 fl oz Soil: 9–10.5 fl oz	Foliar: 10.5 fl oz Soil: 21 fl oz	Foliar: 1 Soil: 21	12	Use only 1 application method.
	4A + 28	Durivo (thiamethoxam + chlorantraniliprole)	10–13 oz	13 fl oz	30	12	May be applied to soil
	4A + 28	Voliam Flexi (thiamethoxam + chlorantraniliprole)	4.0–7.0 oz	14 oz	1	12	–
	4D	Sivanto Prime (flupyradifurone)	7.0–14.0 fl oz	28.0 fl oz per year	1	4	Reapplications at least 7 days apart.
	9B	PQZ (pyrifluquinazon)	3.2 fl oz	4.8 fl oz per crop cycle and 9.6 fl oz per year	1	12	Do not apply by air. No more than 2 applications per crop cycle. No more than 4 applications per year.
	16	Courier 40SC (buprofezin)	9.0–13.6 fl oz	27.2 fl oz	1	12	Immature insects only. No more than 2 applications per crop cycle.
<i>Liriomyza</i> leafminers	1A	*Vydate L (oxamyl)	Foliar: 2–4 pt	16 pt	1	48	–
	1B	*Dibrom 8 EC (naled)	1 pt	6 pt	1	48	No more than 1 pt/A in Florida. Do not apply when temperature is over 90°F.
	3A	*Ambush 25W (permethrin)	6.4–12.8 oz	2 lb a.i. (128 oz)	3	12	–
	3A	*Brigade 2EC (bifenthrin)	2.1–6.4 fl oz	0.2 lb a.i.	7	12	Reapplications at least 7 days apart.
	3A	*Hero (bifenthrin + zeta-cypermethrin)	4.5–11.2 oz	43.26 fl oz	7	12	–
	3A	*Pounce 25 W (permethrin)	6.4–9.6 oz	0.6 lb a.i.	3	12	–
	3A	Pyganic Crop Protection EC 5.0 (pyrethrins)	4.5–18.0 fl oz	11.25 pt	0	12	Pyrethrins degrade rapidly in sunlight. Thorough coverage is important. OMRI-listed. ³ No more than 10 applications per season.
	4A	Belay 50 WDG (clothianidin)	1.6–3.2 oz	6.4 oz	7	12	Do not use an adjuvant. Toxic to bees. Do not release irrigation water from the treated area.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	4A	Belay 50 WDG (clothianidin)	Soil: 4.8–6.4 oz	6.4 oz	Apply at planting	12	Do not release irrigation water from the treated area.
	4A	Scorpion 35SL Insecticide (dinotefuran)	Foliar: 2–7 fl oz Soil: 9–10.5 fl oz	Foliar: 10.5 fl oz Soil: 21 fl oz	Foliar: 1 Soil: 21	12	Use only 1 application method.
	5	Entrust SC (spinosad)	1.5–10 fl oz	29 oz per crop	1	4	Do not apply to seedlings grown for transplant. OMRI-listed. ³
	5	Radiant SC (spinetoram)	5–10 fl oz	34 fl oz	1	4	–
	6	*Agri-Mek SC (abamectin)	1.7–3.5 fl oz	10.25 fl oz	7	12	No more than 2 sequential applications. Must be used with a nonionic activator-type wetting, spreading, or penetrating adjuvant.
	6 + 28	*Minecto Pro (abamectin + cyantraniliprole)	5.5–10 fl oz	20 fl oz per year	7	24	This label contains pollinator warnings.
	15	Rimon 0.83EC (novaluron)	9–12 fl oz	36 fl oz	1	12	–
	28	Coragen (chlorantraniliprole/ rynaxypyr)	5.0–7.5 fl oz	15.4 fl oz	1	4	Can be applied by drip chemigation or as a soil application at planting as well as a foliar spray. See label. For hornworms, use as little as 2.0 fl oz/A when applied as a foliar spray.
	28	Exirel (cyantraniliprole)	13.5–20.5 fl oz	0.4 lb a.i.	1	12	Application restrictions exist for this product because of the risk to bees and other pollinators. Follow application restrictions found in the directions for use to protect pollinators. Reapplications at least 5 days apart.
Mealybug	28	Verimark (cyantraniliprole)	6.75–13.5 fl oz	0.4 lb a.i.	1	4	–
	16	Courier 40SC (buprofezin)	9.0–13.6 fl oz	27.2 fl oz	1	12	Immature insects only. No more than 2 applications per crop cycle.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
Mites (including banks grass mite, broad mite, carmine spider mite, tomato russet mite, two spotted spider mite)	1A	*Vydate L (oxamyl)	Foliar: 2–4 pt	16 pt	1	48	–
	1B	*Dibrom 8 EC (naled)	1 pt	6 pt	1	48	No more than 1 pt/A in Florida. Do not apply when temperature is over 90°F.
	1B	Malathion 8F (malathion)	1.56 pt	6.24 pt	3	12	No more than 4 applications.
	3A	*Brigade 2EC (bifenthrin)	2.1–6.4 fl oz	0.2 lb a.i.	7	12	Reapplications at least 7 days apart.
	3A	*Danitol 2.4 EC (fenpropathrin)	10.67 fl oz	42.67 fl oz	3	24	No more than 4 applications (0.8 lb a.i./A) per season.
	3A	*Hero (bifenthrin + zeta-cypermethrin)	4.5–11.2 oz	43.26 fl oz	7	12	–
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–
	3A	Pyganic Crop Protection EC 5.0 (pyrethrins)	4.5–18.0 fl oz	11.25 pt	0	12	Pyrethrins degrade rapidly in sunlight. Thorough coverage is important. OMRI-listed. ³ No more than 10 applications per season.
	3A	*Warrior II (lambda-cyhalothrin)	0.96–1.92 fl oz	0.36 lb a.i.	5	24	–
	6	*Agri-Mek SC (abamectin)	1.7–3.5 fl oz	0.25 fl oz	7	12	No more than 2 sequential applications. Must be used with a nonionic activator-type wetting, spreading, or penetrating adjuvant.
	6 + 28	*Minecto Pro (abamectin + cyantraniliprole)	5.5–10 fl oz	20 fl oz per year	7	24	This label contains pollinator warnings.
	10B	Zeal Miticide (etoxazole)	2–3 oz	3 oz	7	12	–
	12B	*Vendex 50 WP (fenbutatin-oxide)	2–3 lb	9 lb per year	3	48	Apply when mites first appear. No more than 3 applications per year.
	20B	Kanemite 15 SC (acequinocyl)	31 fl oz	62 fl oz	1	12	Reapplications at least 21 days apart. No more than 2 applications per year. Do not use an adjuvant.
	20D	Acramite 50WS (bifenazate)	0.75–1.0 lb	–	3	12	No more than 1 application per season.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	21A	Magister (fenazaquin)	24–36 fl oz	36 fl oz	12	3	No more than 1 application per year.
	21A	Portal (fenpyroximate)	2.0 pt	4.0 pt	1	12	No more than 2 applications per season.
Plant bugs and tarnished plant bug	1A	Sevin 80 S; XLR; 4F (carbaryl)	80S: 0.63–2.5 lb XLR, 4F: 0.5–2 qt	80S: 10 lb XLR, 4F: 8 qt	3	12	No more than 7 applications. Reapplications at least 7 days apart. Do not apply to crops or weeds in bloom.
	3A	*Brigade 2EC (bifenthrin)	2.1–6.4 fl oz	0.2 lb a.i.	7	12	Reapplications at least 7 days apart.
	3A	*Mustang (zeta-cypermethrin)	2.4–4.3 oz	0.3 lb a.i.	1	12	Reapplications at least 7 days apart.
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–
	3A	Pyganic Crop Protection EC 5.0 (pyrethrins)	4.5–18.0 fl oz	11.25 pt	0	12	Pyrethrins degrade rapidly in sunlight. Thorough coverage is important. OMRI-listed. ³ No more than 10 applications per season.
	3A	*Warrior II (lambda-cyhalothrin)	0.96–1.92 fl oz	0.36 lb a.i.	5	24	–
	3A + 4A	*Endigo ZC (lambda-cyhalothrin + thiamethoxam)	4.0–4.5 fl oz	19.0 fl oz	5	24	This product can kill bees and other insect pollinators.
	3A + 28	*Besiege (lambda-cyhalothrin + chlorantraniliprole)	5.0–9.0 fl oz	31 fl oz per year	5	24	–
	4A	Belay 50 WDG (clothianidin)	1.6–3.2 oz	6.4 oz	7	12	Do not use an adjuvant. Toxic to bees. Do not release irrigation water from the treated area.
	4A	Belay 50 WDG (clothianidin)	Soil: 4.8–6.4 oz	6.4 oz	Apply at planting	12	Do not release irrigation water from the treated area.
	29	Beleaf 50 SG (flonicamid)	2.0–2.8 oz	8.4 oz	0	12	–
Planthoppers	16	Courier 40SC (buprofezin)	9.0–13.6 fl oz	27.2 fl oz	1	12	Immature insects only. No more than 2 applications per crop cycle.
Psyllids	4A	Scorpion 35SL Insecticide (dinotefuran)	Foliar: 2–7 fl oz Soil: 9–10.5 fl oz	Foliar: 10.5 fl oz Soil: 21 fl oz	Foliar: 1 Soil: 21	12	Use only 1 application method.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	4D	Sivanto Prime (flupyradifurone)	7.0–14.0 fl oz	28.0 fl oz per year	1	4	Reapplications at least 7 days apart.
	23	Movento (spirotetramat)	4.0–5.0 fl oz	10 fl oz	1	24	–
Soil insects (garden symphylans)	3A	*Baythroid XL (beta-cyfluthrin)	1.6–2.8 fl oz	16.8 fl oz	7	12	Reapplications at least 7 days apart.
Stink bugs (including brown stink bug, green stink bug, southern green stink bug, squash bug)	1A	Carbaryl 4L (carbaryl)	0.5–2 qt	8 qt per year	3	12	Toxic to honeybees and other bees.
	1A	Sevin 80 S; XLR; 4F (carbaryl)	80S: 0.63–2.5 lb XLR, 4F: 0.5–2 qt	80S: 10 lb XLR, 4F: 8 qt	3	12	No more than 7 applications. Reapplications at least 7 days apart. Do not apply to crops or weeds in bloom.
	3A	*Baythroid XL (beta-cyfluthrin)	1.6–2.8 fl oz	16.8 fl oz	7	12	Reapplications at least 7 days apart.
	3A	*Brigade 2EC (bifenthrin)	2.1–6.4 fl oz	0.2 lb a.i.	7	12	Reapplications at least 7 days apart.
	3A	*Danitol 2.4 EC (fenpropathrin)	10.67 fl oz	42.67 fl oz	3	24	No more than 4 applications (0.8 lb a.i./A) per season.
	3A	*Hero (bifenthrin + zeta-cypermethrin)	4.5–11.2 oz	43.26 fl oz	7	12	–
	3A	*Mustang (zeta-cypermethrin)	2.4–4.3 oz	0.3 lb a.i.	1	12	Reapplications at least 7 days apart.
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–
	3A	*Warrior II (lambda-cyhalothrin)	0.96–1.92 fl oz	0.36 lb a.i.	5	24	–
	3A + 4A	*Endigo ZC (lambda-cyhalothrin + thiamethoxam)	4.0–4.5 fl oz	19.0 fl oz	5	24	This product can kill bees and other insect pollinators.
	4A	Actara (thiamethoxam)	2.0–5.5 oz	11 oz	0	12	Do not use if a soil application of a neonicotinoid has been used.
	4A	Belay 50 WDG (clothianidin)	1.6–3.2 oz	6.4 oz	7	12	Do not use an adjuvant. Toxic to bees. Do not release irrigation water from the treated area.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	4A	Scorpion 35SL Insecticide (dinotefuran)	Foliar: 2–7 fl oz Soil: 9–10.5 fl oz	Foliar: 10.5 fl oz Soil: 21 fl oz	Foliar: 1 Soil: 21	12	Use only 1 application method.
	4A	Venom Insecticide (dinotefuran)	Foliar: 1–4 oz Soil: 5–6.0 oz	Foliar: 6 oz Soil: 12 oz	Foliar: 1 Soil: 21	12	Do not use both application methods. No more than 3 applications per season.
	4A + 28	Voliam Flexi (thiamethoxam + chlorantraniliprole)	4.0–7.0 oz	14 oz	1	12	–
	15	Rimon 0.83EC (novaluron)	9–12 fl oz	36 fl oz	1	12	Do not use with an adjuvant.
Thrips (check label for species controlled) (eastern flower thrips, western flower thrips, Florida flower thrips, foliar feeding thrips, chilli thrips, melon thrips)	1A	Carbaryl 4L (carbaryl)	0.5–2 qt	8 qt per year	3	12	Toxic to honeybees and other bees.
	1A	Sevin 80 S; XLR; 4F (carbaryl)	80S: 0.63–2.5 lb XLR, 4F: 0.5–2 qt	80S: 10 lb XLR, 4F: 8 qt	3	12	No more than 7 applications. Reapplications at least 7 days apart. Do not apply to crops or weeds in bloom.
	3A	*Baythroid XL (beta-cyfluthrin)	1.6–2.8 fl oz	16.8 fl oz	7	12	Reapplications at least 7 days apart.
	3A	*Brigade 2EC (bifenthrin)	2.1–6.4 fl oz	0.2 lb a.i.	7	12	Reapplications at least 7 days apart.
	3A	*Hero (bifenthrin + zeta-cypermethrin)	4.5–11.2 oz	43.26 fl oz	7	12	–
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–
	3A	Pyganic Crop Protection EC 5.0 (pyrethrins)	4.5–18.0 fl oz	11.25 pt	0	12	Pyrethrins degrade rapidly in sunlight. Thorough coverage is important. OMRI-listed. ³ No more than 10 applications per season.
	4A	Admire Pro (imidacloprid) (for rates for other brands, see labels)	7–10.5 fl oz	10.5 fl oz	21	12	Application restrictions exist for this product because of the risk to bees and other insect pollinators. Follow application restrictions found in the directions for use to protect pollinators. Most effective if applied to soil at transplanting.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	4A	Assail 30 SG (acetamiprid)	1.5–4.0 oz	16.0 oz, including any pretransplant applications of acetamiprid	7	12	Begin applications for whiteflies when first adults are noticed. No more than 4 applications per season. Reapplications at least 7 days apart.
	4A	Belay 50 WDG (clothianidin)	Soil: 4.8–6.4 oz	6.4 oz	Apply at planting	12	Do not release irrigation water from the treated area.
	4A	Platinum (thiamethoxam)	5.0–11.0 fl oz	11 fl oz	30	12	For most crops that are not on the label, a 120-day plant-back interval must be observed. To manage resistance, avoid using Provado or other related pesticides (Actara, Assail) in conjunction with Platinum.
	4A	Platinum 75SG (thiamethoxam)	1.66–3.67 oz	3.67 oz	30	12	For most crops that are not on the label, a 120-day plant-back interval must be observed. To manage resistance, avoid using related pesticides (Actara, Assail) in conjunction with Platinum.
	4A	Scorpion 35SL Insecticide (dinotefuran)	Foliar: 2–7 fl oz Soil: 9–10.5 fl oz	Foliar: 10.5 fl oz Soil: 21 fl oz	Foliar: 1 Soil: 21	12	Use only 1 application method.
	4A	Venom Insecticide (dinotefuran)	Foliar: 1–4 oz Soil: 5–6.0 oz	Foliar: 6 oz Soil: 12 oz	Foliar: 1 Soil: 21	12	Do not use both application methods. No more than 3 applications per season.
	4A + 28	Durivo (thiamethoxam + chlorantraniliprole)	10–13 oz	13 fl oz	30	12	May be applied to soil.
	4D	Sivanto Prime (flupyradifurone)	7.0–14.0 fl oz	28.0 fl oz per year	1	4	Reapplications at least 7 days apart.
	5	Entrust SC (spinosad)	1.5–10 fl oz	29 oz	1	4	Do not apply to seedlings grown for transplant. OMRI-listed. ³
	5	Radiant SC (spinetoram)	5–10 fl oz	34 fl oz	1	4	–
	6	*Agri-Mek SC (abamectin)	1.7–3.5 fl oz	10.25 fl oz	7	12	No more than 2 sequential applications. Must be used with a nonionic activator-type wetting, spreading, or penetrating adjuvant.
	6 + 28	*Minecto Pro (abamectin + cyantraniliprole)	5.5–10 fl oz	20 fl oz per year	7	24	This label contains pollinator warnings.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	15	Rimon 0.83EC (novaluron)	9–12 fl oz	36 fl oz	1	12	Do not use with an adjuvant.
	28	Exirel (cyantraniliprole)	13.5–20.5 fl oz	0.4 lb a.i.	1	12	–
	28	Verimark (cyantraniliprole)	Tray drench/ transplant water: 10.0–13.5 fl oz Drip: 10 fl oz	0.4 lb a.i.	1	4	–
Weevils	3A	*Mustang (zeta-cypermethrin)	2.4–4.3 oz	0.3 lb a.i.	1	12	Reapplications at least 7 days apart.
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–
	3A	*Warrior II (lambda-cyhalothrin)	0.96–1.92 fl oz	0.36 lb a.i.	5	24	–
	3A + 4A	*Endigo ZC (lambda-cyhalothrin + thiamethoxam)	4.0–4.5 fl oz	19.0 fl oz	5	24	This product can kill bees and other insect pollinators.
Whiteflies	3A	*Brigade 2EC (bifenthrin)	2.1–6.4 fl oz	0.2 lb a.i.	7	12	Reapplications at least 7 days apart.
	3A	*Hero (bifenthrin + zeta-cypermethrin)	4.5–11.2 oz	43.26 fl oz	7	12	–
	3A	*Proaxis Insecticide (gamma-cyhalothrin)	1.92–3.84 fl oz	2.88 pt	5	24	–
	3A	Pyganic Crop Protection EC 5.0 (pyrethrins)	4.5–18.0 fl oz	11.25 pt	0	12	Pyrethrins degrade rapidly in sunlight. Thorough coverage is important. OMRI-listed. ³ No more than 10 applications per season.
	3A	*Warrior II (lambda-cyhalothrin)	0.96–1.92 fl oz	0.36 lb a.i.	5	24	–
	4A	Platinum (thiamethoxam)	5.0–11.0 fl oz	11 fl oz	30	12	For most crops that are not on the label, a 120-day plant-back interval must be observed. To manage resistance, avoid using related pesticides (Actara, Assail) in conjunction with Platinum.
	4A	Platinum 75SG (thiamethoxam)	1.66–3.67 oz	3.67 oz	30	12	–

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	4A	Actara (thiamethoxam)	2.0–5.5 oz	11 oz	0	12	Do not use if a soil application of a neonicotinoid has been used.
	4A	Admire Pro (imidacloprid) (for rates for other brands, see labels)	7–10.5 fl oz	10.5 fl oz	21	12	Risk to bees and other insect pollinators; follow application restrictions. Most effective if applied to soil at transplanting.
	4A	Admire Pro (imidacloprid)	0.44 fl oz/10,000 plants	–	21	12	Planthouse: 1 application. See label.
	4A	Assail 30 SG (acetamiprid)	1.5–4.0 oz	16.0 oz, including any pretransplant applications of acetamiprid	7	12	Begin applications for whiteflies when first adults are noticed. No more than 4 applications per season. Reapplications at least 7 days apart.
	4A	Belay 50 WDG (clothianidin)	1.6–3.2 oz	6.4 oz	7	12	Do not use an adjuvant. Toxic to bees. Do not release irrigation water from the treated area.
	4A	Belay 50 WDG (clothianidin)	Soil: 4.8–6.4 oz	6.4 oz	Apply at planting	12	Do not release irrigation water from the treated area. Do not apply if imidacloprid or thiamethoxam have been used at planting.
	4A	Scorpion 35SL Insecticide (dinotefuran)	Foliar: 2–7 fl oz Soil: 9–10.5 fl oz	Foliar: 10.5 fl oz Soil: 21 fl oz	Foliar: 1 Soil: 21	12	–
	4A	Venom Insecticide (dinotefuran)	Foliar: 1–4 oz Soil: 5–6.0 oz	Foliar: 6 oz Soil: 12 oz	Foliar: 1 Soil: 21	12	Do not use both application methods. No more than 3 applications per season.
	4A + 28	Durivo (thiamethoxam + chlorantraniliprole)	10–13 oz	13 fl oz	30	12	May be applied to soil.
	4A + 28	Voliam Flexi (thiamethoxam + chlorantraniliprole)	4.0–7.0 oz	14 oz	1	12	–
	4D	Sivanto Prime (flupyradifurone)	7.0–14.0 fl oz	28.0 fl oz per year	1	4	Reapplications at least 7 days apart.
	6 + 28	*Minecto Pro (abamectin + cyantraniliprole)	5.5–10 fl oz	20 fl oz per year	7	24	This label contains pollinator warnings.
	7C	Knack IGR (pyriproxyfen)	8–10 fl oz	20 fl oz	1	12	Apply before populations build to damaging levels. Reapplications at least 7 days apart. No more than 2 applications.

Insect	MOA Code ¹	Trade Name (Active Ingredient)	Max Rate/Acre		Days to Harvest	REI (Hours)	Remarks ³
			Appl.	Season ²			
	9B	Fulfill (pymetrozine)	2.75 oz	5.5 oz	0	12	–
	9B	PQZ (pyrfluquinazon)	2.4–3.2 fl oz	4.8 fl oz per crop cycle and 9.6 fl oz per year	1	12	Do not apply by air. No more than 2 applications per crop cycle. No more than 4 applications per year.
	9D	Sefina Inscalis Insecticide (afidopyropen)	14 fl oz	28 fl oz of Sefina	0	12	No more than 2 sequential applications of Sefina before using an effective insecticide with a different mode of action.
	15	Rimon 0.83EC (novaluron)	9–12 fl oz	36 fl oz	1	12	–
	16	Courier 40SC (buprofezin)	9.0–13.6 fl oz	27.2 fl oz	1	12	Immature insects only. No more than 2 applications per crop cycle.
	21A	Magister (fenazaquin)	24–36 fl oz	36 fl oz	12	3	No more than 1 application per year.
	21A	Portal (fenpyroximate)	2.0 pt	4.0 pt	1	12	No more than 2 applications per season.
	23	Movento (spirotetramat)	4.0–5.0 fl oz	10 fl oz	1	24	–
	23	Oberon 2SC (spiromesifen)	7.0–8.5 fl oz	25.5 fl oz	7	12	No more than 3 applications.
	28	Exirel (cyantraniliprole)	13.5–20.5 fl oz	0.4 lb a.i.	1	12	Foliar application.
	28	Verimark (cyantraniliprole)	Tray drench/ transplant water: 6.75–13.5 fl oz Drip: 6.75–10 fl oz	0.4 lb a.i.	1	4	Soil application.

¹ Mode of Action (MOA) codes for plant pest insecticides from the Insecticide Resistance Action Committee (IRAC) Mode of Action Classification v. 11.1 January 2024. Number codes are used to distinguish the main insecticide mode of action groups, with additional letters for certain subgroups within each main group. All insecticides within the same group (with same number) indicate the same active ingredient or similar mode of action. This information must be considered for the insecticide resistance management decisions.

² Always double-check labels regarding maximum application limits. Many labels are changing from a maximum rate per season (or crop cycle) to a maximum rate per year.

³ Information provided in this table applies only to Florida. Be sure to read a current product label before applying any product. The use of brand names and any mention or listing of commercial products or services in the publication does not imply endorsement by UF/IFAS Extension nor discrimination against similar products or services not mentioned. OMRI-listed: Listed by the Organic Materials Review Institute for use in organic production.

*Restricted use insecticide.

Table 6. Eggplant fungicides sorted by disease and then FRAC group according to their mode of action. **Labels change frequently. Be sure to read a current product label before applying any chemical. Please refer to chapter 19 for information on biopesticides, including materials labeled for certified organic production.** Contact: Pamela D. Roberts, UF/IFAS Southwest Florida Research and Education Center.

Pertinent Diseases or Pathogens	Fungicide Group ¹	Chemical (Active Ingredients)	Max Rate/Acre		Min. Days to		Remarks ³
			Appl.	Season ²	Harvest	Reentry	
Alternaria blight/Early blight	M1	(copper compounds) Many brands available: AmeriCop 40DF, Badge SC, Badge X2, Basic Copper 53, Champ DP, Champ F2 FL, Champ WG, C-O-C-S WDG, COC DF, COC WDG, COC WP, Copper Count N, Cueva, Cuprofix Ultra 40D, Kentan DF, Kocide 2000, Kocide 3000, Kocide DF, Master Cop, Nordox, Nordox 75WG, Nu Cop 3L, Nu Cop 50DF, Nu Cop 50WP, Nu Cop HB	See individual label	See individual label	Varies by product from 0–1 day	Varies by product from 4 hr to 2 days	–
	3	Tebuzol Toledo (tebuconazole)	See individual label	See individual label	–	–	–
	3	Provysol (mefentrifluconazole)	5 oz	15 fl oz per year	0	0.5	See the label for specific guidelines.
	7	Endura (boscalid)	3.5 oz	21 oz	0	0.5	–
	7	Fontelis (penthiopyrad)	24 fl oz	72 fl oz	0	0.5	–
	7 + 3	Luna Flex (fluopyram + difenoconazole)	13.6 fl oz	27.2 fl oz	7	0.5	–
	7 + 11	Luna Sensation (fluopyram + trifloxystrobin)	7.6 fl oz	27.1 fl oz	3	0.5	–
	7 + 11	Priaxor (fluxapyroxad + pyraclostrobin)	8 fl oz	24 fl oz	0	0.5	–
	7 + 12	Miravis Prime (fludioxonil + pydiflumetofen)	11.4 fl oz	22.8 fl oz per year	0	0.5	–
	9	Vango WG (cyprodinil)	7 oz	28 oz	0	0.5	–
	9 + 3	Inspire Super (cyprodinil + difenoconazole)	20 fl oz	47 fl oz	0	0.5	–

Pertinent Diseases or Pathogens	Fungicide Group ¹	Chemical (Active Ingredients)	Max Rate/Acre		Min. Days to		Remarks ³
			Appl.	Season ²	Harvest	Reentry	
	9 + 12	Alerity 62.5 (cyprodinil + fludioxonil)	14 oz	56 oz	0	0.5	–
	9 + 12	Alerity 62.5WG Switch (cyprodinil + fludioxonil)	14 oz	56 oz	0	0.5	Follow resistance management recommendations on label.
	11	Aftershock Evito 480 EC (fluoxastrobin)	5.7 fl oz	22.8 fl oz	3	0.5	Do not use in greenhouse production; see label for additional instructions.
	11	Cabrio EG (pyraclostrobin)	16 oz	96 oz	0	0.5	–
	11	Flint Extra Gem (trifloxystrobin)	3.0 oz	16 oz	3	0.5	–
	11	Reason 500 SC (fenamidone)	8.2 fl oz	24.6 fl oz	14	0.5	–
	12	Emblem (fludioxonil)	7 fl oz	28 fl oz per year	0	0.5	–
	19	Ph-D WDG Oso 5SC (polyoxin D zinc salt)	See label	See individual label	0	4 hr	–
	22 + M05	Zing! (zoxamide + chlorothalonil)	34 fl oz	See individual label	3	0.5	–
Anthracnose	M1	(copper compounds) Many brands available: AmeriCop 40DF, Badge SC, Badge X2, Basic Copper 53, Champ DP, Champ F2 FL, Champ WG, C-O-C DF, C-O-C-S WDG, C-O-C WP, Copper Count N, Cuprofix Ultra 40D, Cueva, Kentan DF, Kocide 2000, Kocide 3000, Kocide DF, Master Cop, Nordox, Nordox 75WG, Nu Cop 3L, Nu Cop 50DF, Nu Cop 50WP, Nu Cop HB	See individual label	See individual label	Varies by product from 0–1 day	Varies by product from 4 hr to 2 days	–
	M1 + M2	Top Cop with Sulfur (copper sulfate + sulfur)	2 qt	–	–	1	–

Pertinent Diseases or Pathogens	Fungicide Group ¹	Chemical (Active Ingredients)	Max Rate/Acre		Min. Days to		Remarks ³
			Appl.	Season ²	Harvest	Reentry	
	M5	(chlorothalonil) Many brands available: Bravo Ultrex, Bravo Weather Stik, Chloronil 720, Echo 720, Equus 720 SST, Initiate	See individual label	See individual label	See label	0.5	–
	M5 + 27	Ariston (chlorothalonil + cymoxanil)	2.44 pt	17.5 pt per year	3	0.5	–
	M5 + 49	Orondis Opti (chlorothalonil + oxathiapiprolin)	2.5 pt	10 pt per year	3	0.5	See label.
	3	Provysol (mefentrifluconazole)	5 oz	15 fl oz per year	0	0.5	See the label for specific guidelines.
	3	Rhyme (flutriafol)	7 fl oz	28 fl oz	0	0.5	Use of silicone- or oil-based additives may result in negative crop response. In situations where an adjuvant is necessary, use of a nonionic surfactant 0.125% v/v is recommended.
	3	Topguard (flutriafol)	14 fl oz	56 fl oz	0	0.5	–
	3 + 7	Aprovia Top (difenoconazole + benzovindiflupyr)	13.5 fl oz	53.6 fl oz per year	0	0.5	–
	7	Fontelis (penthiopyrad)	24 fl oz	72 fl oz	0	See label	Disease suppression only.
	7 + 3	Luna Flex (fluopyram + difenocoazole)	13.6 fl oz	27.2 fl oz	7	0.5	–
	3 + 11	Affiance (tetraconazole + azoxystrobin)	12 oz	24 oz per year	0	0.5	Check label for additional guidelines. No more than 2 sequential applications.
	7 + 11	Luna Sensation (fluopyram + trifloxystrobin)	7.6 fl oz	27.1 fl oz	3	0.5	–
	7 + 11	Priaxor (fluxapyroxad + pyraclostrobin)	8 fl oz	24 fl oz	7	0.5	–
	9 + 3	Inspire Super (cyprodinil + difenoconazole)	20 fl oz	47 fl oz	7	0.5	–

Pertinent Diseases or Pathogens	Fungicide Group ¹	Chemical (Active Ingredients)	Max Rate/Acre		Min. Days to		Remarks ³
			Appl.	Season ²	Harvest	Reentry	
	11	(azoxystrobin) Many brands available: Acadia LFC, Aframe, Azoxystar, Azoxystrobin, Azoxyzone, Equation, Heritage, Quadris, Satori, Trevo, Willowood Azoxy	15.5 fl oz	61.5 fl oz	0	4 hr	See individual label.
	11	Cabrio EG (pyraclostrobin)	16 oz	96 oz	0	0.5	–
	11	Flint Extra Gem (trifloxystrobin)	3.0 oz	16 oz	3	0.5	–
	11 + 3	Acadia ESQ Quadris Top (azoxystrobin + difenoconazole)	14 fl oz	55.3 fl oz	0	0.5	–
	11 + 3	TopGuard EQ (azoxystrobin + flutriafol)	8 fl oz	32 fl oz	0	0.5	–
	19	Ph-D (polyoxin D zinc salt)	6.2 oz	See individual label	0	4 hr	Disease suppression only.
	22 + M05	Zing! (Zoxamide + chlorothalonil)	34 fl oz	See individual label	3	0.5	–
Botrytis gray mold	9	Alerity 62.5WG Vango WG (cyprodinil)	7 oz	See individual label	0	0.5	–
	7 + 3	Luna Flex (fluopyram + difenocoazole)	13.6 fl oz	27.2 fl oz	7	0.5	–
	22 + M05	Zing! (Zoxamide + chlorothalonil)	34 fl oz	See individual label	3	0.5	–
Damping off (Pythium, Rhizoctonia and other seed-borne and soilborne fungi)	M3	Signet 480FS 42-S Thiram (thiram)	6.5 fl oz/100 lb seed	–	–	1	–
	4	(mefenoxam) Many brands available: Apron XL, Ridomil Gold EC, Ridomil Gold SL, Ultra Flourish	See individual label	See individual label	–	2	–

Pertinent Diseases or Pathogens	Fungicide Group ¹	Chemical (Active Ingredients)	Max Rate/Acre		Min. Days to		Remarks ³
			Appl.	Season ²	Harvest	Reentry	
	4	(metalaxyl) Many brands available: Acquire, Allegiance FL, Metastar 2E, Sebring 2.65 ST, Sebring 318 FS, Sebring 480 FS	See individual label	See individual label	–	–	–
	7 + 11	Priaxor (fluxapyroxad + pyraclostrobin)	8 fl oz	24 fl oz	0	0.5	–
	11	(azoxystrobin) Many brands available: Acadia LFC, Aframe, Azoxystar, Azoxystrobin, Azoxyzone, Equation, Heritage, Quadris, Satori, Trevo, Willowood Azoxy	See label	–	0	4 hr	For Rhizoctonia seedling rot.
	11	Dynasty (azoxystrobin)	0.38 fl oz/100 lb seed	–	–	4 hr	–
	12	Maxim 4 FS Spirato 480 FS Dynashield (fludioxonil)	0.16 fl oz/100 lb seed	–	–	0.5	See individual label.
Gray leaf spot (<i>Stemphylium</i>)	3 + 4	Aprovia Top (difenoconazole + benzovindiflupyr)	13.5 fl oz	53.6 fl oz per year	0	0.5	–
	3 + 9	Inspire Super (cyprodinil + difenoconazole)	20 fl oz	47 fl oz	0	0.5	–
	7 + 11	Luna Sensation (fluopyram + trifloxystrobin)	7.6 fl oz	27.1 fl oz	3	0.5	–
	7 + 3	Luna Flex (fluopyram + difenocoazole)	13.6 fl oz	27.2 fl oz	7	0.5	–
	7 + 12	Miravis Prime (fludioxonil + pydiflumetofen)	11.4 fl oz	22.8 fl oz per year	0	0.5	–
	11	Flint Extra Gem (trifloxystrobin)	3.0 oz	16 oz	3	0.5	–
	11 + 3	Acadia ESQ Quadris Top (azoxystrobin + difenoconazole)	14 fl oz	55.3 fl oz	0	0.5	–
	49 + 4	Orondis Gold (oxathiapiprolin + mefenoxam)	55 fl oz	–	–	–	At planting. See label. For Pythium only.

Pertinent Diseases or Pathogens	Fungicide Group ¹	Chemical (Active Ingredients)	Max Rate/Acre		Min. Days to		Remarks ³
			Appl.	Season ²	Harvest	Reentry	
Phomopsis blight	M1	(copper compounds) Many brands available: Americop 40DF, Badge SC, Badge X2, Basic Copper 53, Champ DP, Champ F2 FL, Champ WG, C-O-C DF, C-O-C-S WDG, C-O-C WP, Copper Count N, Cuprofix Ultra 40D, Kentan DF, Kocide 2000, Kocide 3000, Kocide DF, Master Cop, Nordox, Nordox 75WG, Nu Cop 3L, Nu Cop 50DF, Nu Cop 50WP, Nu Cop HB	See individual label	See individual label	Varies by product from 0–1 day	Varies by product from 4 hr to 2 days	–
	M1 + M2	Top Cop with Sulfur (copper sulfate + sulfur)	2 qt	–	–	1	–
Phytophthora blight and crown rot (<i>Phytophthora capsici</i>)	M1	(copper compounds) Many brands available: Badge SC, Badge X2, C-O-C WDG, Cueva	See individual label	See individual label	Varies by product from 0–1 day	Varies by product from 4 hr to 2 days	–
	4	Many brands available: Ridomil Gold SL, Ultra Flourish (mefenoxam)	1 pt	1.5 lb a.i.	7	2	See label; disease suppression only.
	11-	Reason 500SC (fenamidone)	8.2 fl oz	24.6 fl oz	14	0.5	Disease suppression only.
	21-	Ranman (cyazofamid)	2.75 fl oz	16.5 fl oz	0	0.5	–
	22-	Elumin (ethaboxam)	8 fl oz	16 fl oz	2	0.5	See label.
	29-	Omega 500F (fluazinam)	1.5 pt	9 pt	30	0.5	–
	33-	(phosphites) Many brands available: Confine Extra, Fosphite, Fungi-Phite, K-Phite, Rampart	See individual label	See individual label	–	–	–
	40-	Forum (dimethomorph)	6 oz	30 oz	0	0.5	–
	40-	Revus (mandipropamid)	8 fl oz	32 fl oz	1	4 hr	Disease suppression only.
	40 + 45	Zampro (dimethomorph + ametoctradin)	14 fl oz	42 fl oz	4	–	See label.

Pertinent Diseases or Pathogens	Fungicide Group ¹	Chemical (Active Ingredients)	Max Rate/Acre		Min. Days to		Remarks ³
			Appl.	Season ²	Harvest	Reentry	
	43-	Presidio (fluopicolide)	4 fl oz	12 fl oz	2	0.5	–
	49-	Orondis Gold 200 (oxathiapiprolin)	9.6 fl oz	19.2 fl oz	0	4 hr	Apply at transplant; see label.
	49 + 4-	Orondis Gold (oxathiapiprolin + mefenoxam)	55 fl oz	–	–	–	At planting. See label.
	49 + 40-	Orondis Ultra (oxathiapiprolin + manipropamid)	8 fl oz	32 fl oz per year	1	4 hr	See label.
Powdery mildew	M2	(sulfur) Many brands available: Cosavet DF, Kumulus DF Fungicide-Acaricide, Microfine Sulfur, Micro Sulf, Microthiol Disperss, Suffa, Sulfur 90 W/ Yellow Jacket Wettable Sulfur	See individual label	See individual label	1	1	–
	M5	(chlorothalonil) Many brands available: Bravo Ultrex, Bravo Weather Stik, Chloronil 720, Echo 720, Equus 720 SST, Initiate	See individual label	See individual label	–	0.5	–
	M5 + 27	Ariston (chlorothalonil + cymoxanil)	2.44 pt	17.5 pt per year	3	0.5	–
	M5 + 49	Orondis Opti (chlorothalonil + oxathiapiprolin)	2.5 pt	10 pt per year	3	0.5	See label.
	3	Mettle 125ME (tetraconazole)	8 fl oz	16 fl oz per year	0	0.5	–
	3	Rally 40WSP Sonoma 40WSP (myclobutanil)	See individual label	See individual label	0	1	–
	3	Provysol (mefentrifluconazole)	5 oz	15 fl oz per year	0	0.5	See the label for specific guidelines.
	3	Rhyme (flutriafol)	7 fl oz	28 fl oz	0	0.5	Use of silicone- or oil-based additives may result in negative crop response. In situations where an adjuvant is necessary, use of a nonionic surfactant 0.125% v/v is recommended.

Pertinent Diseases or Pathogens	Fungicide Group ¹	Chemical (Active Ingredients)	Max Rate/Acre		Min. Days to		Remarks ³
			Appl.	Season ²	Harvest	Reentry	
	3	Topguard (flutriafol)	14 fl oz	56 fl oz	0	0.5	–
	3 + 7	Aprovia Top (difenoconazole + benzovindiflupyr)	13.5 fl oz	53.6 fl oz per year	0	0.5	–
	3 + 11	Affiance (tetraconazole + azoxystrobin)	12 oz	24 oz per year	0	0.5	Check label for additional guidelines. No more than 2 sequential applications.
	7	Fontelis (penthiopyrad)	24 fl oz	72 fl oz	0	0.5	–
	7 + 3	Luna Flex (fluopyram + difenocoazole)	13.6 fl oz	27.2 fl oz	7	0.5	–
	7 + 11	Luna Sensation (fluopyram + trifloxystrobin)	7.6 fl oz	27.1 fl oz	3	0.5	–
	7 + 11	Priaxor (fluxapyroxad + pyraclostrobin)	8 fl oz	24 fl oz	0	0.5	–
	7 + 12	Miravis Prime (fludioxonil + pydiflumetofen)	11.4 fl oz	22.8 fl oz per year	0	0.5	–
	9	Vango WG (cyprodinil)	7 oz	28 oz	0	0.5	–
	9 + 3	Inspire Super (cyprodinil + difenoconazole)	20 fl oz	47 fl oz	0	0.5	–
	9 + 12	Switch Alerity 62.5WG (cyprodinil + fludioxonil)	14 oz	56 oz	0	0.5	Follow resistance management recommendations on label.
	11	(azoxystrobin) Many brands available: Acadia LFC, Aframe, Azoxystar, Azoxystrobin, Azoxyzone, Equation, Heritage, Quadris, Satori, Trevo, Willowood Azoxy	–	–	–	–	See individual label.
	11	Cabrio EG (pyraclostrobin)	16 oz	96 oz	0	0.5	–
	11 + 3	Acadia ESQ Quadris Top (azoxystrobin + difenoconazole)	14 fl oz	55.3 fl oz	0	0.5	–

Pertinent Diseases or Pathogens	Fungicide Group ¹	Chemical (Active Ingredients)	Max Rate/Acre		Min. Days to		Remarks ³
			Appl.	Season ²	Harvest	Reentry	
	11 + 3	TopGuard EQ (azoxystrobin + flutriafol)	8 fl oz	32 fl oz	0	0.5	–
	12	Emblem (fludioxonil)	7 fl oz	28 fl oz per year	0	0.5	–
	13	Quintec (quinoxifen)	6 fl oz	24 fl oz	3	0.5	See label.
	19	Ph-D WDG (polyoxin D zinc salt)	6.2 oz	See label	0	4 hr	–
	50	Prolivo 300SC (pyriofenone)	5 fl oz	16 fl oz per year	0	4	Follow resistance management on label.
	50	Vivando (metrafenone)	15.4 fl oz	46.2 fl oz	0	0.5	Apply prior to symptoms of powdery mildew.
Sclerotinia	7 + 11	Priaxor (fluxapyroxad + pyraclostrobin)	8 fl oz	24 fl oz	0	0.5	–
Septoria leaf spot	M1	Cueva (copper octanoate)	See individual label	See individual label	–	–	–
	3 + 11	Affiance (tetraconazole + azoxystrobin)	12 oz	24 oz per year	0	0.5	Check label for additional guidelines. No more than 2 sequential applications.
	7	Fontelis (penthiopyrad)	24 fl oz	72 fl oz	0	0.5	–
	7 + 3	Luna Flex (fluopyram + difenoconazole)	13.6 fl oz	27.2 fl oz	7	0.5	–
	7 + 11	Luna Sensation (fluopyram + trifloxystrobin)	7.6 fl oz	27.1 fl oz	3	0.5	–
	7 + 11	Priaxor (fluxapyroxad + pyraclostrobin)	8 fl oz	24 fl oz	0	0.5	–
	7 + 12	Miravis Prime (fludioxonil + pydiflumetofen)	11.4 fl oz	22.8 fl oz per year	0	0.5	–
	9 + 3	Inspire Super (cyprodinil + difenoconazole)	20 fl oz	47 fl oz	0	0.5	–
	11	Cabrio EG (pyraclostrobin)	16 oz	96 oz	0	0.5	–
	11	Flint Extra Gem (trifloxystrobin)	3.0 oz	16 oz	3	0.5	Disease suppression only. See individual label.

Pertinent Diseases or Pathogens	Fungicide Group ¹	Chemical (Active Ingredients)	Max Rate/Acre		Min. Days to		Remarks ³
			Appl.	Season ²	Harvest	Reentry	
	11	Reason 500 SC (fenamidone)	8.2 fl oz	24.6 fl oz	14	0.5	Disease suppression only.
White mold	7 + 11	Luna Sensation (fluopyram + trifloxystrobin)	7.6 fl oz	27.1 fl oz	3	0.5	Disease suppression only.
	7 + 11	Priaxor (fluxapyroxad + pyraclostrobin)	8 fl oz	24 fl oz	0	0.5	–
¹ FRAC code (fungicide group): Numbers and letters are used to distinguish the fungicide mode of action groups. All fungicides within the same group (with same number or letter) indicate the same active ingredient or similar mode of action. This information must be considered for the fungicide resistance management decisions. Source: FRAC Code List; https://www.frac.info/ (FRAC = Fungicide Resistance Action Committee). ² Always double-check labels regarding maximum application limits. Many labels are changing from a maximum rate per season (or crop cycle) to a maximum rate per year. ³ Information provided in this table applies only to Florida. Be sure to read a current product label before applying any chemical. The use of brand names and any mention or listing of commercial products or services in the publication does not imply endorsement by UF/IFAS Extension nor discrimination against similar products or services not mentioned.							

Table 7. Nonfumigant nematicides for eggplants in Florida. Contact: Johan Desaegeer, UF/IFAS Gulf Coast Research and Education Center.

Product	Application Directions
Vydate L (a.i. oxamyl)	Apply ½–1 gal/A at planting, preferably via drip application. Make additional applications on a 10-to-14-day interval. No more than 3 gal/A per season. Reapplications at least 7 days apart unless a longer interval is stated. No more than 8 applications per season.
Nimitz (a.i. fluensulfone)	All applications must be incorporated either physically or via drip or overhead irrigation. Make preplant applications at a rate of 3.5–7 pt/A (56.0–80.0 fl oz/A) a minimum of 7 days before planting. Do not plant any unlisted crops into treated land for 365 days after application of the product. No more than 1 application per crop and no more than 112 fl oz/A per year (365 days). Provides control only for nematodes. Growers applying Nimitz must consult the product label to observe the plant-back (recropping) intervals for a variety of crops.
Velum (a.i. fluopyram)	Apply max 6.84 fl oz/A using only chemigation into root-zone through low-pressure drip, trickle, microsprinkler, or equivalent equipment. Soil reapplications at least 5 days apart. No more than 13.7 fl oz/A of Velum (0.446 lb/A fluopyram) per year, regardless of formulation (Velum and/or Luna) or method of application (soil or foliar). For soil application, to limit the potential for development of disease resistance to this chemical class, the first foliar fungicide application after Velum should be a product from a different FRAC group.
Salibro (a.i. fluazaindolizine)	Apply 30.7–61.4 fl oz/A (1–2 lb a.i./A) as preplant incorporated, via preplant drip, or via at-plant drip. Apply 15.4–30.7 fl oz/A (0.5–1 lb a.i./A) for in-season drip. No more than 61.4 fl oz/A per calendar year. No more than 4 applications per calendar year. Reentry interval is 12 hr. Reapplications at least 14 days apart. Preharvest interval is 1 day.
Biological nematicides	See chapter 19.
Vydate is an insecticide/nematicide; Velum is a fungicide/nematicide; Nimitz is a true nematicide. Unlike fumigants, these products are not volatile and will move through the soil via water; depending on the water solubility, these products will have different recommendations as far as how to best apply them (see specific label recommendations); when nematode pressure is high, they may not be as consistently effective against root nematodes as the fumigants.	

Table 8. Fumigant nematicides for eggplants in Florida.

Nematicide	Broadcast Application ¹		In-the-Row Applications
	Gallons per Acre	fl oz/1000 ft/chisel-spaced 12" apart	
Telone II ^{2,3}	9–12	26–35	For any row spacing, application rates given may be concentrated in the row but shall never exceed the labeled maximum for broadcast applications. Consult the product label for additional detail.
Telone C-17 ^{2,3}	10.8–17.1	31.8–50.2	For any row spacing, application rates given may be concentrated in the row but shall never exceed the labeled maximum for broadcast applications. Consult the product label for additional detail.
Telone C-35 ^{2,3}	13–20.5	38–60	For any row spacing, application rates given may be concentrated in the row but shall never exceed labeled maximum for broadcast applications. Consult the product label for additional detail.
Telone InLine ^{2,3}	13–20.5	–	For drip fumigation, consult the product label for overall rate, drip concentration, and flow-modifying application directions.
Pic Clor 60 ^{2,3}	19.5–31.5	57–90	Consult product label for overall rate and chisel flow-modifying application directions.
Pic Clor 60 EC ^{2,3}	19.5–31.5	–	For drip fumigation, consult product label for proportionately reduced overall rates, drip concentration, and drip flow-modifying directions and procedures.
Vapam HL	75	–	For drip or in-row fumigation and crop termination, consult product label for proportionately reduced overall rates, drip concentration, and flow-modifying directions and procedures.
KPam HL	60	–	For drip or in-row fumigation and crop termination, consult product label for proportionately reduced overall rates, drip concentration, and flow-modifying directions.
Allyl Isothiocyanate (AITC) Dominus	40	–	For drip or in-row fumigation and crop termination, consult product label for overall rates, drip concentration, and flow-modifying directions.

¹ Gallons/acre and fl oz/1000 ft provided only for mineral soils. Higher rates may be possible for heavier-textured (loam, silt, clay) or highly organic soils.

² All of the fumigants mentioned are for retail sale and use only by state-certified applicators or persons under their direct supervision. New supplemental labeling for the Telone products must be in the hands of the user at the time of application. See label details for additional use restrictions based on soil characteristics, buffer zones, requirements for personal protective equipment (PPE), mandatory good agricultural practices (GAPs), product and applicator training certification, and rate-modifying recommendations with use of highly retentive Totally Impermeable mulch films (TIF).

³ Higher application rates are possible in the presence of cyst-forming nematodes.

Rates are believed to be correct for products named, and similar products of other brand names, when applied to mineral soils. Higher rates are required for muck (organic) soils. However, the **grower** has the final responsibility to see that each product is used legally; **read the label** of the product to be sure that you are using it properly.

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The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication do not signify our approval to the exclusion of other products of suitable composition.

Use pesticides safely. Read and follow directions on the manufacturer's label.

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