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2026–2027

Current Season Spray Guide



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2026–2027

Current Season

Spray Guide

Current Season Spray Guide 2026-2027

EFFECTIVE AND SAFE CITRUS PRODUCTION STRATEGIES
FOR USE IN COMMERCIAL GROVES ONLY

Before using any pesticide:
Read the complete label and the general instructions in this guide.

This publication was developed by UF/IFAS citrus faculty at research and education centers and county Extension offices across Florida, and the main campus.

Lauren M. Diepenbrock, Megan M. Dewdney, and Tripti Vashisth.

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CG102
doi.org/10.32473/edis-CG102-2026

2026–2027 Florida Citrus Production Guide: Chemical Guide Introduction[1]

Lauren M. Diepenbrock, Megan M. Dewdney, and Tripti Vashisth[2]

Starting in 2026, the *Florida Citrus Production Guide* will be available as two separate booklets. The first booklet will provide information that does not change frequently such as personal protective equipment (PPE) guidelines and the biology of many of the insects, diseases, and horticultural practices that are part of citrus production. The first booklet will be updated every 3 years. The second booklet will be printed annually and include any pertinent updates to legislation that impacts Florida citrus production and all pesticide and PGR tables that were previously incorporated into each chapter. This document will be amended online should changes occur between printing. This allows for rapid updates to incorporate new knowledge.

One such regulatory change that is still evolving is related to the Endangered Species Protection Act. Some labels now, and many more in the future, will have language about compliance that is different from traditional label language. A definitive list of products is not yet available because some of the regulations are still being finalized, while others are already on products. To stay up to date with these changes, contact your local county Extension office, specialist, or the UF/IFAS Pesticide Information Office. For now, there are several resources that should be helpful:

Pesticide Information Office website:
https://pested.ifas.ufl.edu/

EPA Endangered Species website:
https://www.epa.gov/endangered-species

EPA Mitigation Menu (this website has PALM, which is a guided method of ensuring compliance):
https://www.epa.gov/pesticides/mitigation-menu

Bulletins Live! Two: https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins

UF/IFAS blog post about PULAs:
https://blogs.ifas.ufl.edu/pesticideinformation/2023/11/16/do-you-know-where-to-find-a-pula/

All of these changes ONLY apply if your label has language directing you to these resources. If your label has a "Runoff/Erosion Mitigation" section AND requires mitigation points, use the PALM to ensure you comply. If your label has language in the "Drift Management" portion that mentions ecological buffers AND tells you to use the mitigation menu to reduce it, use the PALM to ensure you comply. Finally, if your product mentions checking for any Bulletins related to endangered species, you must check on Bulletins Live! Two and see if you are in a PULA. Continue to check with UF/IFAS Extension as there will be workshops, trainings, and more resources around this subject.

This is the second booklet. In this text, you will find all chemistries that are recommended by the UF/IFAS citrus research team for various management purposes as well as a list of chemistries that are registered for use in Florida citrus.

Overall, the goal of the *Florida Citrus Production Guide* is to serve as a reference for information needed to guide decision-making in Florida citrus-growing operations. **It is not intended to replace agricultural product labels that contain important usage information and should be immediately accessible for reference. Violations of directions for use printed on the label are against state and federal laws. Always read and follow label instructions!** The *Florida Citrus Production Guide* provides general guidance and is NOT the final regulatory document that should be followed!

For specific information on pest identification, biology, damage, or nonchemical management techniques, refer to Ask IFAS/EDIS and other UF/IFAS, USDA, and Florida Department of Agriculture and Consumer Services (FDACS) publications. In addition to the authors listed throughout the *Florida Citrus Production Guide*, the citrus Extension specialists, faculty, and Extension agents listed below can provide assistance with citrus production practices.

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[1] This document is CG102, one of a series of the Department of Plant Pathology, UF/IFAS Extension. Original publication date August 2026. Revised annually. Visit the Ask IFAS website at https://ask.ifas.ufl.edu for the currently supported version of this publication. © 2026 UF/IFAS. This publication is licensed under CC BY-NC-ND 4.0.

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UF IFAS Extension UNIVERSITY of FLORIDA

CG103
doi.org/10.32473/edis-CG103-2026

2026–2027 Florida Citrus Production Guide: General Consideration for Use of PGRs in Citrus Groves in Florida[1]

Tripti Vashisth, Chris Oswalt, Mongi Zekri, Fernando Alferez, Jamie D. Burrow, and Muhammad A. Shahid[2]

Because PGRs function by directly influencing plant metabolism, plant response can vary considerably, depending on the variety and plant stress level. Therefore, it is recommended that growers become familiar with PGR effects before application. Preliminary trials in a small field plot should be conducted before using on a large acreage of trees. Most PGRs work best when used with an adjuvant (surfactant, sticker, or spreader). PGRs are regulated as pesticides and therefore, label instructions need to be followed. *The label is the law*. Table 1 summarizes some of the PGRs that are known to be effective in Florida citrus production.

The following are things to consider when applying PGRs:

- Concentration of active ingredient
- Spray volume
- Method of application
- Time of day
- Season
- Compatibility with other chemicals in the tank mix
- Type of adjuvant
- Weather condition (humid, dry, sunny, cloudy, windy)
- Tree health (canopy density)

Table 1. Plant growth regulator recommendation for Florida citrus. **CAUTION:** Plant growth regulators may cause serious problems if misused. Excessive rates, improper timing, and fluctuating environmental conditions can result in phytotoxicity, crop loss, or erratic results. Under certain environmental conditions, 2,4-D may drift onto susceptible crops in surrounding areas. Observe wind speed restrictions and follow all label directions and precautions.

Variety	Expected Outcome	Time of Application	Growth Regulator and Formulation	Product Rate or Volume per Acre
Orange, Temple, and grapefruit	Preharvest fruit drop	November–December. Do not apply during periods of leaf flush.	2,4-D Dichlorophenoxyacetic acid (Citrus Fix, isopropyl ester of 2,4-D 3.36 lb/gal)	3.2 oz
Navel orange	Reduction of summer-fall drop	6–8 weeks after bloom or August–September for fall drop. Do not make late application when fruit is to be harvested early. Do not apply during periods of leaf flush.	2,4-D Dichlorophenoxyacetic acid (Citrus Fix, isopropyl ester of 2,4-D 3.36 lb/gal)	2.4 oz
Grapefruit	Delay of rind aging process and peel color development at maturity; combine with 2,4-D for fruit drop control.	August–November. Late sprays can result in re-greening.	Gibberellic acid, GA_3 (ProGibb 4%, ProGibb 40%, ProGibb LV Plus)[2]	16–48 g a.i.[3]
Tangerine hybrids				20–40 g a.i.
Navel oranges				16–48 g a.i.
All round orange				20–60 g a.i.
Navel oranges Ambersweet orange Sweet orange	Improvement of fruit set and yield; can result in small size and leaf drop.	December–late January	Gibberellic acid, GA_3 (ProGibb 4%, ProGibb 40%, ProGibb LV Plus)[2]	15–25 g a.i.
Tangerines Mandarins Grapefruit		Full bloom		8–30 g a.i.
Processing oranges (late varieties)	To increase juice extraction yield.	Color break	Gibberellic acid, GA_3 (ProGibb 4%, ProGibb 40%, ProGibb LV Plus)[2]	20 g a.i.
Processing oranges (late varieties)	To reduce preharvest fruit drop.	November–December	Gibberellic acid, GA_3 (ProGibb 4%, ProGibb 40%, ProGibb LV Plus) + 2,4-D Dichlorophenoxyacetic acid (Citrus Fix, isopropyl ester of 2,4-D 3.36 lb/gal)	20 g a.i. + 3.2 oz

Variety	Expected Outcome	Time of Application	Growth Regulator and Formulation	Product Rate or Volume per Acre
Processing oranges (early varieties) Late varieties	To improve vegetative growth and reduce fruit drop[4]	August–November (repeated application 30–45 days apart) September–December (repeated application, 30–45 days apart)	Gibberellic acid, GA_3 (ProGibb LV Plus)	20 g a.i.

[1] Rates are based on application of 500 gal per acre to mature trees. The effects of applications at lower volumes (concentrate sprays) are unknown.

[2] Do not use in spray solutions above pH 8.

[3] Active ingredient; follow the label for variety-specific rates and conversion to fluid ounce per acre.

[4] November–December application of GA is likely to reduce return bloom in spring. If low flowering has been an issue, avoid application in this period.

[1] This document is CG103, one of a series of the Department of Horticultural Sciences, UF/IFAS Extension. Original publication date August 2026. Revised annually. Visit the Ask IFAS website at https://ask.ifas.ufl.edu for the currently supported version of this publication. © 2026 UF/IFAS. This publication is licensed under CC BY-NC-ND 4.0.

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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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Seasonal Pest Pressure in Florida Citrus

This is generalized pest life cycle and may vary by region, fruit variety, and/or management practices.

CITRUS PEST		Flowering		Fruit Development								
			Fruit Set									
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Asian Citrus Psyllid	Low pest abundance		High pest abundance					Low pest abundance	High pest abundance		Low pest abundance	
Citrus Leafminer	Low pest abundance		High pest abundance					Low pest abundance	High pest abundance		Low pest abundance	
Diaprepes Root Weevil	No need to monitor	Low pest abundance		High pest abundance				Low pest abundance	High pest abundance		Low pest abundance	No need to monitor
Lebbeck Mealybug	Low pest abundance		High pest abundance					Low pest abundance		High pest abundance		Low pest abundance
Bulimulus snail	Low pest abundance			High pest abundance							Low pest abundance	
Citrus Rust Mite	Low pest abundance				High pest abundance		Low pest abundance	High pest abundance			Low pest abundance	
Citrus Nematodes	Low pest abundance		High pest abundance			Low pest abundance					High pest abundance	Low pest abundance

UF IFAS Extension UNIVERSITY of FLORIDA

CG104
doi.org/10.32473/edis-CG104-2026

2026–2027 Florida Citrus Production Guide: Asian Citrus Psyllid[1]

Lauren M. Diepenbrock, Xavier Martini, Jawwad Qureshi, and Lukasz Stelinski[2]

Recommended Chemical Controls for Asian Citrus Psyllid

READ THE LABEL!

Some product labels specify rates per acre, while others specify rates per volume delivered (e.g., per 100 gal). Refer to the label for details on how product should be mixed for desired targets.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. When treating smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 100 gal of water. Calibrate and arrange nozzles to deliver thorough distribution and treat as many acres as this volume of spray allows.

Table 1. Recommended chemical controls for the Asian citrus psyllid.

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Other Pests Controlled
1B	**Dimethoate**			
	Dimethoate 4 E	16 fl oz	Highly toxic to bees; do not apply during bloom. Do not make more than 2 applications per crop season. Consult label for buffering instructions when water pH is greater than 7.	Aphids, scales except snow scale and black scale, flower thrips
1B	**Phosmet**			
	Imidan 70 W	1.0 lb	Highly toxic to bees; do not apply during bloom. Consult label for buffering instructions when water pH is greater than 7. Do not make more than 2 applications per season. EPA SLN No. 10163-169, FIFRA 2(ee).	Citrus root weevils
3A	**Beta-cyfluthrin**			
	Baythroid XL	3.2 fl oz	Restricted use pesticide, FIFRA 24(c). Maximum Baythroid XL allowed per crop season 6.4 fl oz/acre (0.05 a.i./acre).	Aphids, weevils
3A	**Fenpropathrin**			
	Danitol 2.4 EC	16 fl oz	Restricted use pesticide. Highly toxic to bees; do not apply during bloom.	Flower and orchid thrips, adult root weevils
3A	**Zeta-cypermethrin**			
	Mustang Insecticide	4.3 fl oz	Restricted use pesticide. Highly toxic to bees; do not apply during bloom. Do not make more than 4 applications (0.20 lb a.i.) per acre per season.	Citrus root weevils
4A	**Clothianidin** (soil drench)			
	Belay 50 WDG	3.2–6.4 oz	For use on nonbearing trees only. Do not apply within 1 year of fruit harvest. Do not exceed 12.8 oz/acre (0.4 lb a.i./acre) of Belay 50 WDG per acre per year. Do not apply this product to blooming, pollen-shedding, or nectar-producing parts of plants if bees may forage on the plants during this time period.	Aphids, citrus leafminer
	Belay Insecticide	3–12 fl oz	Refer to the Section 24c SLN label issued by the Florida Department of Agriculture and Consumer Services for application directions of this product to bearing citrus trees. For bearing trees, do not apply more than 12 fl oz per acre per application, and do not apply more than 24 fl oz per acre in a 12-month period.	Aphids, citrus leafminer
4A	**Imidacloprid**			
	Various products, 2F, 4F, and 4.6F		Limit of 0.5 lb a.i./acre per growing season regardless of application type (soil and/or foliar) and trade name of imidacloprid product used.	Aphids
	Foliar application	Half to full rate	Do not apply during bloom, within 10 days of bloom, or when bees are actively foraging.	
	Thiamethoxam (foliar application)			

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Other Pests Controlled
	Actara	4.0–5.5 oz	Do not exceed a total of 11.0 oz/acre (0.172 lb a.i./acre) of Actara or 0.172 lb a.i. of thiamethoxam-containing products per acre per growing season. Do not apply during prebloom or during bloom when bees are actively foraging.	Aphids
	Thiamethoxam (soil drench)			
	Platinum 75 SG	1.83–3.67 oz	Do not exceed a total of 3.67 oz/acre (0.172 lb a.i./acre) of Platinum 75 SG or 0.172 lb a.i. of thiamethoxam-containing products per acre per growing season. Do not apply during prebloom or during bloom when bees are actively foraging.	Citrus leafminer, aphids, scales
4D	**Flupyradifurone** (foliar application)			
	Sivanto 200 SL	14 fl oz	Not recommended for soil applications against ACP. Do not tank mix with azole fungicides (FRAC group 3) during bloom period. In order to minimize exposure to pollinators, it is recommended that foliar insecticides are applied late in the afternoon, evening, or at night outside of daily peak foraging periods.	Aphids
5	**Spinetoram**			
	Delegate WG	4 oz + 2% v/v	Highly toxic to bees; do not apply during bloom. Do not apply more than 12 oz of product (0.188 lb a.i.) per acre per season. Do not make more than 3 applications per calendar year. Best when applied with horticultural mineral oil 97+% (FC 435-66, FC 455-88, or 470 oil).	Citrus leafminer
21A	**Tolfenpyrad**			
	Apta	14–27 fl oz	Do not apply by air. Do not apply more than 27 oz/acre per growing season. Do not make more than 2 applications per year. Allow at least 14 days between applications.	Citrus rust mite, spider mites (higher rates)
	Fenpyroximate			
	Portal	32–64 fl oz	Do not apply more than 4.0 pt per acre per growing season. Do not make more than 2 applications per growing season. Allow 14 days between applications.	Suppression of spider mites and rust mites (high rate)
23	Spirotetramat		Only controls psyllid nymphs, not adults. Limit of 0.32 lb a.i. per acre per 12 months. Minimum interval of 21 days between applications.	Citrus rust mites, some scale insects, mealybugs
	Movento 240	10 fl oz + 3% v/v	Do not make more than one application during primary citrus bloom period. Recommended to be applied in 2% horticultural mineral oil.	
	Movento MPC	16 fl oz + 3% v/v	Do not apply within 10 days prior to bloom, during bloom, or until petal fall is complete. Recommended to be applied in 2% horticultural mineral oil.	
28	**Cyantraniliprole** (Cyazypyr) (foliar application)			
	Exirel	13.5–20.5 fl oz	Do not apply a total of more than 0.4 lb a.i./acre (20.5 fl oz Exirel/acre) or other cyantraniliprole-containing products per year. See label for bloom restrictions. Recommended to include 2% horticultural mineral oil.	Citrus leafminer, orange dog
	Cyantraniliprole (soil application)			

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Other Pests Controlled
	Verimark	15–30 fl oz	Use the lower rate for trees 3 ft or less in height.	Citrus leafminer, orange dog
4A + 6	**Thiamethoxam + Abamectin**			
	Agri-Flex	8.5 fl oz + 2% v/v	Do not exceed a total of 17 fl oz/acre or 3 applications per season of Agri-Flex or 0.172 lb a.i./acre of any thiamethoxam-containing products or 0.047 lb a.i./acre of abamectin-containing products per growing season. Must be mixed with a minimum of 2 percent oil to be effective. Do not apply during prebloom or during bloom when bees are actively foraging.	Aphids, citrus leafminer, citrus rust mites
4A + 28	**Thiamethoxam + Chlorantraniliprole**			
	Voliam Flexi	7 oz	Do not exceed 14 oz/acre/season of Voliam Flexi or 0.172 lb a.i. of thiamethoxam-containing products per growing season. Do not apply during prebloom or during bloom when bees are actively foraging.	Aphids, citrus leafminer
30	Zivalgo	1.6 fl oz	Apply this product diluted in a minimum volume of 30 gal per acre. Do not apply 3 days prior to, and until the end of the flowering period. No more than 7.2 fl oz per acre per year.	Asian citrus psyllids, citrus rust mites, spider mites, thrips
UN[3]	**Horticultural Mineral Oil**			
	97+% (FC 435-66, FC 455-88, or 470 oil)	5 gal	Do not apply when temperatures exceed 94°F. 470 weight oil has not been evaluated for effects on fruit coloring or ripening. These oils are more likely to be phytotoxic than lighter oils.	Citrus leafminer, citrus rust mite, aphids, scales

[1] Mode of action class for citrus pesticides from the Insecticide Resistance Action Committee (IRAC) Mode of Action Classification v. 11.4 (2025).

[2] Lower rates may be used on smaller trees. Do not use less than the minimum label rate.

[3] Mode of action unknown. No resistance potential exists for these products.

Table 2. Recommended chemical controls for Asian citrus psyllid during bloom.

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Other Pests Controlled
4 D	**Flupyradifurone** (foliar application)			
	Sivanto 200 SL	14 oz	Not recommended for soil applications against ACP. Do not tank mix with azole fungicides (FRAC group 3) during bloom period. In order to minimize exposure to pollinators, it is recommended that foliar insecticides are applied late in the afternoon, evening, or at night outside of daily peak foraging periods.	Aphids
15	**Diflubenzuron**			
	Micromite 80WGS	6.25 oz	Controls psyllid nymphs only. Do not apply more than 3 applications per season. See restrictions on label. Do not apply when temperatures exceed 94°F. Recommended to be applied in 2% horticultural mineral oil 97.	Citrus root weevils, citrus rust mites, citrus leafminer
21A	**Fenpyroximate**			

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Other Pests Controlled
	Portal	32–64 fl oz	Do not apply more than 4.0 pt per acre per growing season. Do not make more than 2 applications per growing season. Allow 14 days between applications.	Suppression of spider mites and rust mites at higher rate
23	**Spirotetramat**			
	Movento	10 fl oz	Only controls psyllid nymphs, not adults. Limit of 0.32 lb a.i. per acre per season. Do not make more than one application during primary citrus bloom period. Recommended to be applied in 2% horticultural mineral oil 97.	Citrus rust mite, some scale insects, mealybugs
UN[3]	**Horticultural Mineral Oil**			
	97+% (FC 435-66, FC 455-88, or 470 oil)	5 gal	Do not apply when temperatures exceed 94°F. 470 weight oil has not been evaluated for effects on fruit coloring or ripening and is more likely to be phytotoxic than lighter oils.	Citrus leafminer, citrus rust mite, aphids, scales

[1] Mode of action class for citrus pesticides from the Insecticide Resistance Action Committee (IRAC) Mode of Action Classification v. 11.4 (2025).

[2] Lower rates may be used on smaller trees. Do not use less than the minimum label rate.

[3] Mode of action unknown. No resistance potential exists for these products.

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CG105
doi.org/10.32473/edis-CG105-2026

2026–2027 Florida Citrus Production Guide: Citrus Leafminer[1]

Lauren M. Diepenbrock, Xavier Martini, Jawwad Qureshi, and Lukasz Stelinski[2]

Recommended Chemical Controls for Citrus Leafminer (CLM)

READ THE LABEL!

Some product labels specify rates per acre, while others specify rates per volume delivered (e.g., per 100 gal). Refer to the label for details on how product should be mixed for desired targets.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. When treating smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 100 gal of water. Calibrate and arrange nozzles to deliver thorough distribution and treat as many acres as this volume of spray allows.

Table 1. Recommended chemical controls for citrus leafminer.

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Other Pests Controlled
4A	**Clothianidin (soil drench)**			
	Belay 50 WDG	3.2–6.4 oz	For use on nonbearing trees only. Do not apply within 1 year of fruit harvest. Do not exceed 12.8 oz/acre (0.4 lb a.i./acre). Do not apply this product to blooming, pollen-shedding, or nectar-producing parts of plants if bees may forage on the plants during this time period.	Asian citrus psyllid, aphids
	Imidacloprid (soil drench)			
	Various products, 2F, 4F, and 4.6F		Limit of 0.5 lb a.i./acre per growing season regardless of application type (soil or foliar) and trade name of imidacloprid product used.	Asian citrus psyllid, aphids, scales
	Thiamethoxam (soil drench)			
	Platinum 75 SG	1.83–3.67 oz	Do not exceed a total of 3.67 oz/acre (0.172 lb a.i./acre) per growing season. Do not apply during prebloom or during bloom when bees are actively foraging.	Asian citrus psyllid, aphids, scales
5	**Spinetoram**			
	Delegate WG + horticultural mineral oil 97+% (FC 435-66, FC 455-88, or 470 oil)	6 oz + 2% v/v	Do not apply more than 12 oz/acre in a growing season. Do not make more than 3 applications in a growing season. Do not apply within 7 days of last treatment.	Asian citrus psyllid, orange dog, thrips
	Spinosad			
	Entrust	1.25–6 oz	Recommended to include 2% horticultural mineral oil. Approved for organics.	Orange dog, thrips
6	**Abamectin**			
	Various 0.15 EC products	5 fl oz	Always apply with a minimum of 1 gal horticultural mineral oil 97+% (FC 435-66, FC 455-88, or 470 oil). Do not apply any abamectin-containing product, (1) within 30 days of last treatment, (2) more than 3 times in any one growing season, or (3) more than 0.47 lb a.i./acre in a growing season. Do not apply in citrus nurseries.	Citrus rust mite, Asian citrus psyllid at higher rates
	Agri-Mek SC	1 fl oz	Always apply with a minimum of 1 gal horticultural mineral oil 97+% (FC 435-66, FC 455- 88, or 470 oil). Do not apply any abamectin-containing product, (1) within 30 days of last treatment, (2) more than 3 times in any one growing season, or (3) more than 0.47 lb a.i./acre in a growing season. Do not apply in citrus nurseries.	Citrus rust mite, Asian citrus psyllid at higher rates
15	**Diflubenzuron**			
	Micromite 80 WGS	6.25 oz	Do not apply more than 3 applications per season. See restrictions on label. Do not apply when temperatures exceed 94°F. Recommended to apply with 2% horticultural mineral oil.	Citrus root weevils, citrus rust mites, citrus psyllids
18	**Methoxyfenozide**			

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Other Pests Controlled
	Intrepid 2 F	8 fl oz	Do not apply more than 16 fl oz/acre per application or 64 fl oz/acre per season. Do not apply within 14 days of last application. No bloom restriction. Recommended to apply with 2% horticultural mineral oil.	Orange dog
28	**Cyantraniliprole (foliar application)**			
	Exirel	16 fl oz + 1% v/v	Do not apply a total of more than 0.4 lb a.i./acre of Cyazypyr or cyantraniliprole-containing products per year. Recommended to apply with 2% horticultural mineral oil. See label for bloom restrictions.	Asian citrus psyllid, orange dog
	Cyantraniliprole (soil application)			
	Verimark	15–30 fl oz	Use the lower rate for trees 3 ft or less in height.	Asian citrus psyllid, orange dog
	Chlorantraniliprole			
	Altacor	3–4.5 oz	No more than 3 applications per season. Not more than 9 oz or 0.2 lb a.i./acre per year. Minimum treatment interval 7 days.	Orange dog
	Thiamethoxam + Chlorantraniliprole			
	Voliam Flexi	7 oz	Always apply with a minimum of 1 gal horticultural mineral oil 97+% (FC 435-66, FC 455-88, or 470 oil). Do not exceed 14 oz/acre (0.172 lb a.i./acre) per growing season. Do not apply during prebloom or during bloom when bees are actively foraging.	Aphids, citrus psyllids
4A + 6	**Thiamethoxam + Abamectin**			
	Agri-Flex	8.5 fl oz + 2% v/v	Do not exceed a total of 17 fl oz/acre or 3 applications per season of Agri-Flex or 0.172 lb a.i./acre of any thiamethoxam-containing products or 0.047 lb a.i./acre of abamectin-containing products per growing season. Must be mixed with a minimum of 0.2 percent oil. Do not apply during prebloom or during bloom when bees are actively foraging.	Aphids, citrus leafminer, citrus rust mites
30	Zivalgo	1.6 fl oz	Apply this product diluted in a minimum volume of 30 gal per acre. Do not apply 3 days prior to, and until the end of the flowering period. No more than 7.2 fl oz per acre per year.	Asian citrus psyllids, citrus rust mites, spider mites, thrips
UN[3]	**Horticultural Mineral Oil**			
	97+% (FC 435-66, FC 455-88, or 470 oil) NR3	5 gal	Do not apply when temperatures exceed 94°F. 470-weight oil has not been evaluated for effects on fruit coloring or ripening. These oils are more likely to be phytotoxic than lighter oils.	Asian citrus psyllid, aphids, mites, scales

[1] Mode of action class for citrus pesticides from the Insecticide Resistance Action Committee (IRAC) Mode of Action Classification v. 11.4 (2025).

[2] Lower rates may be used on smaller trees. Do not use less than the minimum label rate.

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CG106
doi.org/10.32473/edis-CG106-2026

2026–2027 Florida Citrus Production Guide: Rust Mites, Spider Mites, and Other Phytophagous Mites[1]

Jawwad Qureshi, Lukasz Stelinski, Xavier Martini, and Lauren M. Diepenbrock[2]

Recommended Chemical Controls for Mites

READ THE LABEL.

See Table 3.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 250 gal of water. Calibrate and arrange nozzles to deliver thorough distribution, and treat as many acres as this volume of spray allows.

TO MINIMIZE RISK OF RESISTANCE, DO NOT APPLY A SPECIFIC MITICIDE OTHER THAN PETROLEUM OIL MORE THAN ONCE PER ACRE PER SEASON.

Table 1. Control thresholds and appropriate sample sizes for 10 acres.

If the control threshold is:	Sample Size (Sample trees should be uniformly scattered across a 10-acre block. Do not sample adjacent trees.)
5 mites/leaf	Examine 4 leaves/tree from 6 trees/area from 4 areas/10 acres = 96 leaves on 24 trees/10 acres
8 mites/leaf	Examine 4 leaves/tree from 6 trees/area from 3 areas/10 acres = 72 leaves on 18 trees/10 acres
10 mites/leaf	Examine 4 leaves/tree from 5 trees/area from 2 areas/10 acres = 40 leaves on 10 trees/10 acres
15 mites/leaf	Examine 4 leaves/tree from 4 trees/area from 2 areas/10 acres = 32 leaves on 8 trees/10 acres

Table 2. Citrus miticide selection.*

Supplemental (Early Spring)	Postbloom	Summer	Fall	Supplemental Fall
--	--	Agri-Mek + oil	--	--
Apta	Apta	--	Apta	Apta
--	--	--	Comite	Comite
Envidor	Envidor	Envidor	Envidor	Envidor
--	Petroleum oil	Petroleum oil	Petroleum oil	--
--	--	--	Sulfur	Sulfur
--	--	Micromite	Micromite	--
--	--	--	Nexter	Nexter
Movento	Movento	Movento	--	--
Vendex	Vendex	--	Vendex	Vendex
*Except for petroleum oil, do not use the same miticide chemistry more than once a year.				

Table 3. Recommended chemical controls for mites.

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Pests Controlled
6	**Abamectin**			
	Agri-Mek 0.15 EC + Petroleum Oil 97+% (FC 435-66, FC 455-88, or 470 oil)	5–10 fl oz + min of 3 gal	Always apply with a minimum of 1 gal horticultural mineral oil 97+% (FC 435-66, FC 455-88, or 470 oil). Do not apply any abamectin-containing product, (1) within 30 days of last treatment, (2) more than 3 times in any one growing season, or (3) more than 0.047 lb a.i./acre in a growing season. Do not apply in citrus nurseries.	**Rust mites, broad mites**, citrus leafminer, Asian citrus psyllids at higher rates.
12B	**Fenbutatin-oxide**			
	Vendex 50 WP	2 lb	Restricted use pesticide. Tank-mixing with oil or copper results in reduced residual activity. Do not apply at rates greater than 20 oz/500 gal to fruit less than one inch in diameter within 10 days of an oil spray.	**Rust mites, spider mites**
12C	**Propargite**			

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Pests Controlled
	Comite 6.55 EC	3 pt	Leaf distortion or fruit spotting may occur when used in the spring or if tank-mixed with oil or applied within 2 weeks prior to or following an oil application. Do not use in spray solution above pH 10.	**Rust mites, spider mites**
15	**Diflubenzuron**			
	Micromite 80 WGS	6.25 oz	Do not apply more than 3 applications per season. See restrictions on label. Do not apply when temperatures exceed 94°F. Recommended to apply with 2% horticultural mineral oil.	**Rust mites**, citrus root weevils, Asian citrus psyllids
21	**Pyridaben**			
	Nexter 75 WP	6.6 oz	Tank-mixing with oil or copper results in reduced residual activity.	**Spider mites**, false spider mites, rust mites
21A	**Tolfenpyrad**			
	Apta	14–27 fl oz	Do not apply by air. Do not apply more than 27 oz/acre per growing season. Do not make more than 2 applications per year. Allow at least 14 days between applications.	**Citrus rust mite, spider mites (higher rates)**, Asian citrus psyllids
23	**Spirodiclofen**			
	Envidor 2 SC	13–20 oz	Limit to one application per season. Use 20 oz rate if tank-mixing with oil. Tank-mixing with oil results in reduced residual activity.	**Rust mites, spider mites**
	Spirotetramat			
	Movento 240	10 fl oz	Do not make more than one application during primary citrus bloom period. Recommended to be applied in 2% horticultural mineral oil. Limit of 0.32 lb a.i./acre per 12 months. Minimum interval of 21 days between applications.	**Citrus rust mites**, Asian citrus psyllid nymphs, aphids, mealybugs, scale insects, whiteflies
	Movento MPC	16 fl oz	Do not apply within 10 days prior to bloom, during bloom, or until petal fall is complete. Recommended to be applied in 2% horticultural mineral oil. Limit of 0.32 lb a.i./acre per 12 months. Minimum interval of 21 days between applications.	
UN[3]	**Petroleum Oil 97+%** (FC 435-66, FC 455-88 or 470 oil)	2% v/v	Do not apply when temperatures exceed 94°F. 470 weight oil has not been evaluated for effects on fruit coloring or ripening. These oils are more likely to be phytotoxic than lighter oils.	**Rust mites, spider mites**, scales, whiteflies, greasy spot, sooty mold
	Sulfur		Limit to 1 application per season where supplemental rust mite control is needed between main sprays. Do not combine with oil or apply within 3 weeks of oil, because fruit burn may result. May cause eye irritation to applicators and fruit harvesters.	**Rust mites, broad mites** (Kumulus, Thiolux, and Microthiol only)
	Kumulus 80 DF	15 lb		
	Microthiol 80 DF	15 lb		
	Thiolux 80 DF	15 lb		

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Pests Controlled
	Wettable powder or dust	50 lb		

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[3] Mode of action unknown.

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CG107
doi.org/10.32473/edis-CG107-2026

2026–2027 Florida Citrus Production Guide: Soft-Bodied Insects Attacking Foliage and Fruit[1]

Lauren M. Diepenbrock, Lukasz Stelinski, Xavier Martini, and Jawwad Qureshi[2]

Recommended Chemical Controls for Soft-Bodied Insects

READ THE LABEL. Some product labels specify rates per acre, while others specify rates per volume delivered (e.g., per 100 gal). Refer to label for details on how product should be mixed for desired targets.

See Table 1.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 250 gal of water. Calibrate and arrange nozzles to deliver thorough distribution, and treat as many acres as this volume of spray allows.

Table 1. Recommended chemical controls for scales, mealybugs, whiteflies, and aphids.

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Pests Controlled
1B	**Dimethoate**			
	Various products	See label		**Aphids, scales**, psyllids
4A	**Clothianidin (soil drench)**			
	Belay 50 WDG	3.2–6.4 oz	For use on nonbearing trees only; do not apply within 1 year of fruit harvest. Do not exceed 12.8 oz/acre (0.4 lb a.i./acre) per year. Do not apply this product to blooming, pollen-shedding, or nectar-producing parts of plants if bees may forage on the plants during this time period.	**Aphids**, psyllids, citrus leafminer
4A	**Imidacloprid**			
	Various products, 2F, 4F, and 4.6F	See label	Limit of 0.5 lb a.i./acre per growing season regardless of application type (soil and/or foliar) and trade name of imidacloprid product used.	**Aphids, mealybugs, scales, whiteflies**, psyllids, citrus leafminer (soil only)
	Foliar application	Half to full rate	Do not apply during bloom or within 10 days of bloom or when bees are actively foraging.	
	Soil application	Half to full rate	8 fl oz of Admire Pro 4.6F per acre per 12 months when applied to soil. Do not exceed 0.5 lb a.i./acre per application. See SLN for additional information.	
4A	**Thiamethoxam**			
	Actara (foliar application)	4.0–5.5 oz	Do not exceed a total of 11.0 oz/acre (0.172 lb a.i./acre) per growing season. Do not apply during prebloom or during bloom when bees are actively foraging.	**Aphids, mealybugs, scales, whiteflies**, psyllids
	Platinum 75 SG (soil drench)	1.83–3.67 oz	Do not exceed a total of 3.67 oz/acre (0.172 lb a.i./acre) per growing season. Do not apply during prebloom or during bloom when bees are actively foraging.	**Aphids, mealybugs, scales, whiteflies**, psyllids, citrus leafminer
23	**Spirotetramat**			
	Movento 240	10 fl oz + 3% v/v	Do not make more than one application during primary citrus bloom period. Recommended to be applied in 2% horticultural mineral oil. Limit of 0.32 lb a.i./acre per 12 months. Minimum interval of 21 days between applications.	**Aphids, mealybugs, scales, whiteflies**, citrus rust mites, psyllids
	Movento MPC	16 fl oz + 3% v/v	Do not apply within 10 days prior to bloom, during bloom, or until petal fall is complete. Recommended to be applied in 2% horticultural mineral oil. Limit of 0.32 lb a.i./acre per 12 months. Minimum interval of 21 days between applications.	
29	**Flonicamid**			
	Beleaf 50SG	2.8 oz	Apply when populations begin to build.	**Aphids**
UN[3]	**Horticultural Mineral Oil**			

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Pests Controlled
	97+% (FC 435-66, FC 455-88, or 470 oil)	5 gal	Do not apply when temperatures exceed 94°F. 470 weight oil has not been evaluated for effects on fruit coloring or ripening. These oils are more likely to be phytotoxic than lighter oils.	**Aphid, scales**, leafminer, citrus rust mite

[1] Mode of action class for citrus pesticides from the Insecticide Resistance Action Committee (IRAC) Mode of Action Classification v. 11.4 (2025).

[2] Lower rates may be used on smaller trees. Do not use less than the minimum label rate.

[3] Mode of action unknown.

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CG108
doi.org/10.32473/edis-CG108-2026

2026–2027 Florida Citrus Production Guide: Plant Bugs, Chewing Insect Pests, Caribbean Fruit Fly, and Thrips[1]

Xavier Martini and Lauren M. Diepenbrock[2]

Recommended Chemical Controls

READ THE LABEL.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 250 gal of water. Calibrate and arrange nozzles to deliver thorough distribution and treat as many acres as this volume of spray allows.

Table 1. Recommended chemical controls for chewing pests.

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Pests Controlled
1A	**Carbaryl**			
	4L	3 qt	May increase spider mite populations.	**Grasshoppers, crickets, katydids, adult root weevils, scale insects**
	Sevin XLR	3 qt		
1B	**Malathion**			
	5EC	6 pt	Do not apply during bloom.	Plant bugs
	8EC	3.75 pt		
11	*Bacillus thuringiensis*			
	Bacillus thuringiensis	See label	--	**Caterpillars** (including orange dog)
--	**Fire Ant Baits**			
6	Clinch	1 lb	Bearing and nonbearing.	**Fire ants**
7A	Extinguish	1 lb	Bearing and nonbearing. Labeled for aerial application.	
7B	Award	1 lb	Nonbearing only. Two applications/season — spring and late summer.	

[1] Mode of action class for citrus pesticides from the Insecticide Resistance Action Committee (IRAC) Mode of Action Classification v. 11.4 (2025).

[2] Lower rates may be used on smaller trees. Do not use less than the minimum label rate.

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CG109
doi.org/10.32473/edis-CG109-2026

2026–2027 Florida Citrus Production Guide: Citrus Root Weevils[1]

Larry W. Duncan, Lukasz Stelinski, and Lauren M. Diepenbrock[2]

Recommended Chemical Controls for Root Weevils

READ THE LABEL.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 250 gal of water. Calibrate and arrange nozzles to deliver thorough distribution and treat as many acres as this volume of spray allows.

Table 1. Recommended chemical and biological controls for citrus root weevils.

IRAC MOA[1]	Pesticide Trade Name	Rate/Acre[2]	Comments	Pests Controlled
Parasitic Nematodes				
NR	**Nemasys® R**			
	Nemasys® R	18,000–40,000 nematodes or greater per square foot	Nemasys® R contains live nematodes to reduce *Diaprepes* and *Pachnaeus* spp. subterranean stages. Make 1 or more applications per year when soil temperatures exceed 70°F. Apply through microirrigation or through herbicide boom to moist soil; 0.5–1 inch irrigation is needed after application.	**Root weevils**
Note: Nematode products that have been tested and recommended by UF/IFAS are currently unavailable.				
Soil Barrier				
3	**Bifenthrin**			
	Brigade WSB	0.25–0.5 lb a.i.	Restricted use pesticide. Apply uniformly to moist, weed-free soil. Do not apply via irrigation. Do not exceed 32 oz/acre per season.	**Root weevils**, fire ants, Asian cockroach
Foliar Spray				
1A	**Carbaryl**			
	Sevin 4 F + Petroleum Oil 97+% (FC 435-66, FC 455-88, or 470 oil)	1–2 gal + 1 gal oil	Contact/residual foliar spray. Lower rates will result in reduced residual activity. Do not exceed 20 lb a.i./acre/year for all uses. Do not exceed 2 applications per season. May increase spider mite populations. Do not apply when temperature exceeds 94°F. 470 weight oil has not been evaluated for effects on fruit coloring or ripening. Heavier oils are more likely to be phytotoxic than lighter oils.	**Root weevils**, orange dog, katydids, grasshoppers, crickets, scale
	Sevin XLR + Petroleum Oil 97+% (FC 435-66, FC 455-88, or 470 oil)	1–2 gal + 1 gal oil		
1B	**Phosmet**			
	Imidan 70 WP	1–2 lb	Contact foliar spray.	**Root weevils**
3	**Fenpropathrin**			
	Danitol 2.4 EC	16–21 oz	*Restricted use pesticide. Contact foliar spray. Do not apply when temperatures exceed 94°F.	**Root weevils**, thrips, citrus psyllid
15	**Diflubenzuron**			
	Micromite 80 WGS + Petroleum oil 97+% (FC 435-66, FC 455-88, or 470 oil)	6.25 oz + 1 gal oil	*Restricted use pesticide. Residual foliar spray. Maximum of 3 applications per season. Do not apply when temperature exceeds 94°F. 470 weight oil has not been evaluated for effects on fruit coloring or ripening. Heavier oils are more likely to be phytotoxic than lighter oils. Do not combine with Boron within 21 days to harvest.	**Root weevils**, citrus leafminer, citrus rust mites

[1] Mode of action class for citrus pesticides from the Insecticide Resistance Action Committee (IRAC) Mode of Action Classification v. 11.4 (2025).

[2] Lower rates may be used on smaller trees. Do not use less than the minimum label rate.

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Citrus Disease Management Spray Timing Schedule

Shaded areas represent suggested spray periods. Refer to the annual Florida Citrus Production Guide for more details.

O Oranges G Grapefruit V 'Valencia' T Tangerines and hybrids A All varieties Optional applications

DISEASE	FRUIT MARKET		Flowering	Fruit Set	Fruit Development								
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Black spot[a]	Processed/fresh				A	A	A	A	A	A			
Greasy spot[b]	Processed/fresh					O G	O G	O G	O G				
	Processed					V	V						
Canker	Processed/fresh			O G	O G V T	O G V T	O G V T	O G	G	G	G		
Melanose[c]	Fresh				G	G	G						
Alternaria brown spot[d]	Fresh			T	T	T	T						
Citrus scab[e]	Fresh		G T	G T	G T								
Postbloom fruit drop[f]	Processed/fresh	O	O	O V									
Phytophthora root rot[g]	Processed/fresh			A	A	A		A			A	A	
Phytophthora brown rot[h]	Fresh							O	O		O		
Algal spot[i]	Fresh	A	A			A	A						

[a] *Optional application if there are high rainfall amounts in April, otherwise begin applications in early May*
[b] *Optional application in late July–early August if infection was severe and has caused defoliation in the previous year*
[c] *Apply copper every three weeks*
[d] *Frequency of sprays depends on amount of rainfall; start applications at ¼ to ½ full expansion with the second spray at petal fall; see Florida Citrus Production Guide Fundamentals for more details*
[e] *Apply first application at ¼" flush; second application at petal fall; and third application three weeks after petal fall; application time will vary depending on year and location, but typically begins mid-February*
[f] *Make applications only if there is sufficient bloom to warrant the application. Follow recommendations of Citrus Advisory System (agroclimate.org/tools/cas) for application timing*
[g] *Apply when phytophthora threshold is above 20 propagules/cm² of soil*
[h] *Usually only occurs in groves with phytophthora history*
[i] *Phosphite fungicide at 0.5 gal/acre is the best option currently*

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CG110
doi.org/10.32473/edis-CG110-2026

2026–2027 Florida Citrus Production Guide: Citrus Canker[1]

Megan M. Dewdney[2]

Application Timing Recommendations

- Managing citrus canker where it is endemic has three main methods:
  - Slow the wind speed with windbreaks.
  - Manage citrus leafminer to minimize wounding of the leaves (see chapter 22 of booklet 1, "Citrus Leafminer," and chapter 5 of booklet 2).
  - Protect canopy with copper or an integrated program of copper with plant immune system activators.
- Copper applications should be made every 21 days on average. Copper residue levels can be assessed with the Citrus Copper Application Scheduler.
  - For early processing oranges, applications should start early April and go to late June or early July.
  - For late hanging or midseason processing oranges, applications should start mid-April and continue until late May or early June.
  - Fresh-market grapefruit applications should start on the mostly expanded spring flush until fruit are completely grown in October.
    - Copper applications for scab, melanose, and greasy spot will also manage citrus canker.
  - Detailed timing information is given in booklet 1.
- Plant immune stimulators can reduce the amount of inoculum and make copper more effective.
  - Actigard: Nonbearing trees (drench applications)
    - Make the first application once trees have recovered from transplant shock.
    - Adjust doses based on tree age and size (Table 2), starting with the lowest for category.
    - Continue applications at 60-day intervals throughout the spring, summer, and fall.
  - Actigard: Bearing trees (drench applications)
    - Make the first application post-bloom but prior to weather favorable for canker.
    - Adjust doses based on tree age and size (Table 2), starting with the lowest for category.
    - Continue applications at 45- to 60-day intervals throughout the spring, summer, and fall, depending on tree size and planting density.
  - Aura Citrus: Foliar applications
    - Only recommended for canopy management of citrus.
    - Recommended to apply with a copper hydroxide product.
    - Apply during the major flush events of spring, summer, and fall.

The rules and regulations regarding canker are changeable. For current information on disease status and regulations, see the website of the Florida Department of Agriculture and Consumer Services or the UF/IFAS CREC website.

Contact your local UF/IFAS Extension citrus agent for additional information, training materials, and programs at https://citrusagents.ifas.ufl.edu/.

Web Addresses for Links

Citrus Copper Application Scheduler: http://agroclimate.org/tools/citrus-copper-application-scheduler/

Citrus Health Response Program, Florida Department of Agriculture and Consumer Services website: https://www.fdacs.gov/Agriculture-Industry/Pests-and-Diseases/Plant-Pests-and-Diseases/Citrus-Health-Response-Program/CHRP-Resources-for-Industry

UF/IFAS publication FOR227, "Windbreak Designs and Planting for Florida Agricultural Fields": https://edis.ifas.ufl.edu/publication/fr289

UF/IFAS publication PP289, "A Web-Based Tool for Timing Copper Applications in Florida Citrus": https://doi.org/10.32473/edis-pp289-2012

UF/IFAS CREC website:
https://crec.ifas.ufl.edu/research/citrus-production/disease-identification/citrus-canker/

Recommended Chemical Controls

READ THE LABEL.

See Table 1.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 125 gal of water. Calibrate and arrange nozzles to deliver thorough distribution and treat as many acres as this volume of spray allows.

For applications of Actigard (drench or chemigation), use rates are expressed as the amount of Actigard per tree. Recommended drench water volume is 8 to 16 fl oz/tree.

Table 1. Recommended chemical controls for citrus canker.

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]
Actigard 50WG (formerly Blockade)	P 01	See Table 2.
Aura Citrus	P 09	25.6 fl oz/100 gal. Use of a non-ionic surfactant (NIS) is recommended.
Copper fungicide	M 01	Use label rate.

[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Lower rates can be used on smaller trees. Do not use less than the minimum label rate.

Table 2. Recommended rates and use patterns for Actigard 50WG/100 trees.

Number of Applications/Year[1]	Tree Age and Rate[2,4] (oz)/100 Trees			
	< 1 year[3]	1–2 years	2–3 years	>3 years
4 or fewer	0.125–0.25	0.25–0.50	0.50–0.75	0.75–1.5
5 or more	0.125	0.25	0.50	0.75–1

[1] Minimum interval between applications is 30 days. If tree stunting, yellowing, or other symptoms of possible phytotoxicity are observed, reduce the use rates in subsequent applications to the low end of the recommended rate range and increase the application interval to 60 days.

[2] Do not use more than 12.8 oz/acre/year and no more than 3.2 oz/acre/application.

[3] For newly planted trees, delay applications until trees become established and overcome transplant shock. Then initiate treatment at 0.125 oz/100 trees.

[4] As tree size increases during the season, dosages should be adjusted toward the upper end of the recommended rate range.

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CG111
doi.org/10.32473/edis-CG111-2026

2026–2027 Florida Citrus Production Guide: Phytophthora Foot Rot, Crown Rot, and Root Rot[1]

Megan M. Dewdney[2]

Application Timing Recommendations

- Even in groves with a history of phytophthora root, foot, and crown rot, it is important to verify that propagule counts are sufficiently high to warrant treatment.
    - Sample 20 to 40 locations in 10 acres within the wetted root zone and combine into one sample.
        - Sample from March to November and only within the top 10 inches.
        - Keep samples cool but not refrigerated.
    - Treat when total *Phytophthora* propagule counts are above 10 to 20 propagules per cubic centimeter of soil.
- Time applications for root flushes for after spring, summer, and fall flushes.
- Rotate modes of action when possible.

Web Addresses for Links

Diaprepes Root Weevil:
https://citrusresearch.ifas.ufl.edu/pest-management/insects/diaprepes-root-weevil/

Florida Citrus Rootstock Selection Guide:
https://ask.ifas.ufl.edu/publication/HS1260

Recommended Chemical Controls

READ THE LABEL.

See Tables 1 and 2.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 250 gal of water or the indicated volume in Tables 1 or 2. Calibrate and arrange nozzles to deliver thorough distribution, and treat as many acres as this volume of spray allows.

Group 4 fungicides (metalaxyl and mefenoxam) are not recommended for phytophthora control in citrus nurseries.

Table 1. Recommended chemical controls for phytophthora foot rot, crown rot, and root rot — fosetyl AL and phosphite salts products.

Pesticide	FRAC MOA[1]	Rate[2]	Method of Application	Comments
Aliette WDG[3,4]	P 07	--	--	Protectant and curative systemic. Buffering to pH 6 or higher is recommended to avoid phytotoxicity when copper has been used prior to, or following Aliette. To prevent phytotoxicity, do not tank-mix Aliette with copper. Mixing with penetrants, surfactants, or foliar fertilizers is also discouraged.
Nonbearing		5 lb/100 gal	Foliar spray	Apply up to 4 times/year (e.g., March, May, July, and September) for fibrous root rot control.
		2.5–5 lb/5 gal	Trunk paint or spray	Use higher rate when lesions are present. Apply from soil line to 2 ft up the trunk if lesions are not present.
		Up to 5 lb/acre	Microsprinkler	Adjust rate according to tree size. Inject continuously during scheduled irrigation.
Bearing		1 lb/100 gal	Foliar spray in 100–250 gal/acre. Do not exceed 500 gal/acre.	Apply up to 4 times/year (e.g., March, May, July, and September) for fibrous root rot control. Do not apply within 30 days of harvest.
		5 lb/acre	Microsprinkler	Inject continuously during scheduled irrigation.
		2.5–5 lb/5 gal	Trunk paint or spray	Use higher rate when lesions are present. Apply from soil to 2 ft up the trunk if lesions are not present. Do not apply within 30 days of harvest.
Phostrol	P 07			Protectant and curative systemic. Do not apply when trees are under water stress or high-temperature conditions.
Bearing or Nonbearing		4.5 pt/acre	Foliar spray	Apply up to 4 times/year (e.g., March, May, July, and September). Ensure high enough volume to spray to run-off.
Bearing or Nonbearing		2.5–5 pt/5 gal	Trunk spray	Use higher rate when lesions are present. Apply from soil line to 2 ft up the trunk if lesions are not present.
ProPhyt	P 07			Protectant and curative systemic. Do not apply when trees are under water stress or high-temperature conditions.
Nonbearing		2 gal/100 gal	Drench	½ pt solution per seedling in 2-gal pot; can be applied through drip irrigation. Do not apply before or after major pruning activities.
Bearing		4 pt/acre	Foliar spray in 100–250 gal/acre.	Apply up to 3 times/year (e.g., March–April, May–June, and September–October) for fibrous root rot control.

[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Lower rates may be used on smaller trees. Do not use less than the minimum label rate.

[3] For combinations of application methods, do not exceed 4 applications or 20 lb/acre/year.

[4] Fungicide treatments control fibrous root rot on highly susceptible sweet orange rootstock, but are not effective against structural root rot and will not reverse tree decline.

Table 2. Recommended chemical controls for phytophthora foot rot and root rot — mefenoxam, copper, and other products.

Pesticide	FRAC MOA[1]	Rate[2]	Method of Application	Comments
Ridomil Gold SL[3,4]	4	--	--	Protectant and curative systemic. Do not apply tank mixes of Ridomil and residual herbicides to trees less than 3 years old. Apply herbicide first, then wait 3–4 weeks to apply Ridomil. Minimum retreatment interval is 90 days. Do not apply to bare roots. Do not apply rates higher than 1 qt (1 lb a.i.)/acre to citrus resets or new plantings (less than 5 years old) to prevent potential phytotoxicity. Do not make trunk gummosis sprays and soil applications to the same tree in the same cropping season. Time applications to coincide with root flushes.
Nonbearing		1 qt/acre of treated soil surface.	Surface spray on weed-free area, followed immediately by 0.5 to 1.0 inch of water.	Make first application at time of planting. Make up to 2 additional applications per year at 3-month intervals for maximum control; in most cases, a late-spring and late-summer application should be sufficient.
		½ pt/grove acre.	Through irrigation injection.	
		Newly planted trees up to 6 months: 0.5 fl oz/20 trees. Trees > 6 months: 1.0–1.5 fl oz/20 trees.	Individual Tree Treatment for Resets/New Plantings: Mix desired amount of Ridomil Gold SL in a water solution. Apply as a directed spray to individual trees (generally 8–12 fl oz/tree) around the base of the tree and outward to cover the fibrous root system. Follow with sprinkler irrigation to move product into root zone.	Make first application at time of planting. Make up to 2 additional applications per year at 3-month intervals for maximum control; in most cases, a late-spring and late-summer application should be sufficient.
Bearing		1 pt/acre of treated soil surface if propagule counts are 10–20 propagules/cm^3 soil. 1 qt/acre of treated soil surface if propagule counts are >20 propagules/cm^3 soil.	Surface spray on weed-free area, followed immediately by 0.5 to 1.0 inch irrigation.	Begin applications during the spring root flush period. Apply up to 3 times/year on 3-month intervals (late spring, summer, early fall).

Pesticide	FRAC MOA[1]	Rate[2]	Method of Application	Comments
		½ pt/grove acre if propagule counts are 10–20 propagules/cm^3 soil. 1 pt/grove acre if propagule counts are >20 propagules/cm^3 soil.	Through irrigation injection.	
		1 qt/10 gal	Trunk spray for gummosis: Spray the trunks to thoroughly wet the cankers.	May be applied up to 3 times/year.
Ridomil Gold GR[2]	4	--	--	Do not apply Ridomil Gold GR and residual herbicides to trees less than 3 years old simultaneously. Apply herbicide first, then wait 4 weeks to apply Ridomil. Do not apply more than 240 lb/acre/year of Ridomil Gold GR. Time applications to coincide with root flushes.
Nonbearing		40–80 lb/acre of treated soil surface	Apply as banded application under the canopy. For banded applications, use a band wide enough to cover the root system. If rain is not expected for 3 days, follow by 0.5–1.0 inch of irrigation.	Make first application at time of planting. Make up to 2 additional applications per year at 3-month intervals for maximum control; in most cases, a late-spring and late-summer application should be sufficient.
Bearing		40–80 lb/acre of treated soil surface	Banded application under the canopy. If rain is not expected for 3 days, follow by 0.5–1.0 inch of irrigation.	Begin applications during the spring root flush period. Apply up to 3 times/year on 3-month intervals (late spring, summer, early fall).
Ultra Flourish[3,4]	4	--	--	Protectant and curative systemic. Do not apply tank mixes of Ultra Flourish and residual herbicides to trees less than 3 years old. Apply herbicide first, then wait 3–4 weeks to apply Ultra Flourish. Do not apply more than 24 pt/acre/year of Ultra Flourish.
Nonbearing		4 pt/acre of treated soil surface	Surface spray on weed-free area, followed immediately by 0.5 inch irrigation or by microsprinkler in 0.1–0.3 inches of water.	Apply every 3 months for maximum control; in most cases, a late-spring and late-summer application should be sufficient. No more than 4 pt/acre to prevent phytotoxicity on new trees.
		1 pt/grove acre	Through irrigation injection.	Apply every 3 months for maximum control; in most cases, a late-spring and late-summer application should be sufficient.

Pesticide	FRAC MOA[1]	Rate[2]	Method of Application	Comments
		2–3 fl oz/100 gal	Soil drench; apply 5 gal of mix in water ring.	Apply every 3 months for maximum control; in most cases, a late-spring and late-summer application should be sufficient.
Bearing		2 pt/acre of treated soil surface <20 propagules/cm^3 soil. 4 pt/acre >20 propagules/cm^3 soil.	Surface spray on weed-free area, followed immediately by 0.5 inch irrigation or microsprinkler in 0.1–0.3 inch of water.	Apply 3 times/year (late spring, summer, early fall).
		1 pt/grove acre <20 propagules/cm^3 soil. 2 pt/grove acre >20 propagules/cm^3 soil.	Through irrigation injection.	
		4 pt/10 gal	Trunk spray.	Thoroughly wet the lesions. Apply up to 3 times/year.
Presidio	43	--	--	Do not apply more than one application per year. Apply before disease development. Has a 30-day preharvest interval.
Nonbearing		4 fl oz/acre	Surface spray on weed-free area, followed immediately by drip or microsprinkler in 0.5–1.0 inch of water plus flush time.	Minimum ground application volume 10 GPA.
		3–4 fl oz/20 gal	Individual trees for resets or new plantings. Apply 10 fl oz evenly around root zone of each tree.	If rainfall does not occur within 24 hours post-application, irrigate with sufficient water to move product into root zone. Depending on soil type and root depth, this could require 0.5–1 inch of water.
Bearing		4 fl oz/acre	Surface spray on weed-free area, followed immediately by drip or microsprinkler in 0.5–1.0 inch of water plus flush time.	Minimum ground application volume 10 GPA.

[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Lower rates may be used on smaller trees. Do not use less than the minimum label rate.

[3] Do not exceed the equivalent of 6 lb a.i./acre/year of mefenoxam-containing products.

[4] Do not apply to bare roots or higher than 1 qt/acre of treated soil surface to citrus resets or trees under 5 years old to avoid potential phytotoxicity.

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CG112
doi.org/10.32473/edis-CG112-2026

2026–2027 Florida Citrus Production Guide: Brown Rot of Fruit[1]

Megan M. Dewdney[2]

Application Timing Recommendations

- Only certain blocks with poor air or water drainage are vulnerable to brown rot.
    - Most problematic on early-maturing sweet oranges and Navel.
- Applications should start in mid-July with a product with FRAC P 07 mode of action.
    - Can get full-season protection if not severe.
    - Rotate products if more than one application is needed. Resistance to FRAC MOA P 07 products has been reported in California, but not in Florida yet.
- Copper can be used in August before or after symptom development.
    - 2–4 lb of metallic copper is recommended.
    - Can give 45–60 days of protection.
- If brown rot starts unexpectedly, Orondis Ultra (FRAC MOA 40+49) or Revus (FRAC MOA 40) are good choices.
    - Give at least 30 days of protection.
    - Resistance in other *Phytophthora* spp. has been reported. Carefully rotate modes of action.

Recommended Chemical Controls

READ THE LABEL.

See Table 1.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 250 gal of water or the recommended rate listed in Table 1. Calibrate and arrange nozzles to deliver thorough distribution, and treat as many acres as this volume of spray allows.

Table 1. Recommended chemical controls for brown rot of fruit.

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]
Aliette WDG	P 07	5 lb or 1 lb/100 gal — No more than 4 applications per year for all uses and no more than 20 lb/acre. Do not apply within 30 days of harvest.
Orondis Ultra	40 + 49	5.5–8.0 fl oz — Maximum 1 application a year, and do not apply more than 8 fl oz (0.02 lb a.i. oxathiapiprolin and 0.13 lb a.i. mandipropamid).
Phostrol	P 07	4.5 pt — Can cause phytotoxicity if applied above 90°F, at color break, or after rainfall.
ProPhyt	P 07	4 pt — Recommended application volume of 100–205 gal/acre. Do not apply at extreme low or high temperatures.
Revus	40	8.0 fl oz — Maximum 2 applications a year with a minimum 30-day retreatment interval. Do not apply more than 16 fl oz (0.26 lb a.i.)/year.
Copper fungicide	M 01	Use label rate.

[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Lower rates may be used on smaller trees. Do not use less than the minimum label rate.

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CG113
doi.org/10.32473/edis-CG113-2026

2026–2027 Florida Citrus Production Guide: Greasy Spot[1]

Megan M. Dewdney[2]

Application Timing Recommendations

- Thorough coverage of the undersides of leaves is important for greasy spot management.
    - Higher spray volumes and slower application speeds will improve coverage for this disease.
- Two applications for fresh and processing fruit should be made.
    - First in mid-May to June.
    - Second early to mid-July.
        - For fresh fruit, a third application in August may be needed if rind blotch was severe the previous year.
- Copper is an effective product but can cause phytotoxicity in the summer.
    - Do not apply when >94°F or with oil.
    - Use a spray volume of at least 125 gal/acre.
    - Monitor residue levels with the Citrus Copper Application Scheduler.

Fungicide Resistance

Recently, isolates of the fungus responsible for greasy spot, *Zasmidium citri-griseum*, were identified as resistant to strobilurin (FRAC MOA 11) fungicides. Work on how common the problem is and how it relates to the fungicide use history of groves is ongoing. It is advised not to use strobilurin fungicides frequently, and it is best to use them in a premixture with an additional mode of action. If control failure is observed after strobilurin use, discontinue use.

Web Addresses for Links

Citrus Copper Application Scheduler: http://agroclimate.org/tools/citrus-copper-application-scheduler/

UF/IFAS publication PP289, "A Web-Based Tool for Timing Copper Applications in Florida Citrus": https://doi.org/10.32473/edis-pp289-2012

Recommended Chemical Controls

READ THE LABEL.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 250 gal of water. Calibrate and arrange nozzles to deliver thorough distribution, and treat as many acres as this volume of spray allows.

See Table 1.

Table 1. Recommended chemical controls for greasy spot.

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]
Petroleum oil 97+% (FC 435-66, FC 455-88, or 470 oil)	NC[3]	5–10 gal. Do not apply when temperatures exceed 94°F. 470 weight oil has not been evaluated for effects on fruit coloring or ripening. These oils are more likely to be phytotoxic than lighter oils.
Copper fungicide	M 01	Use label rate.
Copper fungicide + Petroleum oil 97+% (FC 435-66, FC 455-88, or 470 oil)	M 01 + NC	Use label rate + 5 gal. Do not apply when temperatures exceed 94°F. 470 weight oil has not been evaluated for effects on fruit coloring or ripening. These oils are more likely to be phytotoxic than lighter oils.
Amistar Top[4,5]	11 + 3	10–15.4 fl oz. Do not apply more than 61.5 fl oz (0.2 lb azoxystrobin and 0.13 lb difenoconazole)/acre/season for all uses. Do not apply more than 0.5 lb a.i./acre/season of difenoconazole. Do not apply more than 1.5 lb a.i./acre/season of azoxystrobin or 3 applications at the highest rate. For best results, use with a spreading/penetrating surfactant. Minimum retreatment interval is 7 days.
Enable 2F[5]	3	8 fl oz. Do not apply more than 3 times per year; no more than 24 fl oz (0.38 lb a.i.)/acre. Minimum retreatment interval is 21 days. Do not apply with polymer-based spray adjuvants.
Gem 500 SC[4]	11	1.9–3.8 fl oz. Do not apply more than 15.2 fl oz/acre/season for all uses. Best applied with petroleum oil. Do not apply within 7 days of harvest.
Headline SC[4]	11	9–12 fl oz. Do not apply more than 54 fl oz (0.88 lb a.i.)/acre/season for all uses. Best applied with petroleum oil.
Pristine[4,5]	11 + 7	16–18.5 oz. Do not apply more than 74 oz/acre/season for all uses. Do not apply more than 1.17 lb a.i./acre/season of boscalid. Do not apply more than 0.592 lb a.i./acre/season of pyraclostrobin as Pristine. Minimum retreatment interval is 10 days.
Quadris[4]	11	12.0–15.5 fl oz. Do not apply more than 90 fl oz (1.5 lb a.i.)/acre/season for all uses. Best applied with petroleum oil. Minimum retreatment interval is 7 days.

[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management", for more details.

[2] Lower rates can be used on smaller trees. Do not use less than the minimum label rate.

[3] No resistance potential exists for these products.

[4] Do not use more than 4 applications of strobilurin-containing fungicides (FRAC MOA 11)/season. Do not make more than 2 sequential applications of strobilurin-containing fungicides.

[5] Do not make more than 4 applications of Pristine or Amistar Top/season. Do not make more than 2 sequential applications of Pristine or Amistar Top before alternating to a non-strobilurin, non-SDHI, non-DMI fungicide.

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CG114
doi.org/10.32473/edis-CG114-2026

2026–2027 Florida Citrus Production Guide: Melanose[1]

Megan M. Dewdney[2]

Application Timing Recommendations

- For oranges and tangerines with small amounts of dead wood, one to two applications per season are adequate.
    - Start in early May.
- Applications for grapefruit should start when fruit are 0.25 inch to 0.5 inch (0.64 cm–1.3 cm) in diameter.
    - Often beginning of May but can be as early as mid-April.
    - Fruit no longer susceptible at 2.5–3.0 inches (6.4 cm–7.6 cm) in diameter, usually in mid-July.
- If using calendar application schedule for copper, time applications no more than 21 days apart.
    - Strobilurin-containing (FRAC MOA 11) should be made at shorter intervals, particularly when there is high rainfall.
    - Copper applications can be more effectively timed with the Citrus Copper Application Scheduler.

Fungicide resistance is a known problem with the strobilurin fungicides (FRAC MOA 11). While *Diaporthe citri* does not have a history of resistance, it may develop. Therefore, these materials should never be used more than twice in a row, and no more than two strobilurin-containing applications should be used for melanose control in a season.

Web Addresses for Links

Citrus Copper Application Scheduler: http://agroclimate.org/tools/citrus-copper-application-scheduler/

UF/IFAS publication PP289, "A Web-Based Tool for Timing Copper Applications in Florida Citrus": https://doi.org/10.32473/edis-pp289-2012

Recommended Chemical Controls

READ THE LABEL.

See Table 1.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 125 gal of water. Calibrate and arrange nozzles to deliver thorough distribution, and treat as many acres as this volume of spray allows.

Table 1. Recommended chemical controls for melanose.

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]
Copper fungicide	M 01	Use label rate.
Amistar Top[4]	11 + 3	15.4 fl oz. Do not apply more than 61.5 fl oz (0.8 lb azoxystrobin and 0.5 lb difenoconazole)/acre/season for all uses. Do not apply more than 0.5 lb a.i./acre/season of difenoconazole. Do not apply more than 1.5 lb a.i./acre/season of azoxystrobin. Do not apply more than 3 times at highest rate. Minimum retreatment interval is 7 days.
Gem 500 SC[3]	11	1.9–3.8 fl oz. Do not apply more than 15.2 fl oz/acre/season for all uses. Do not apply within 7 days of harvest.
Headline SC[3]	11	12–15 fl oz. Do not apply more than 54 fl oz (0.88 lb a.i.)/acre/season for all uses.
Pristine[4]	11 + 7	16–18.5 oz. Do not apply more than 74 oz/acre/season for all uses, which is equivalent to 1.17 lb a.i./acre/season of boscalid and 0.592 lb a.i./acre/season of pyraclostrobin. Up to 0.88 lb a.i./acre/season of pyraclostrobin can be used. Minimum retreatment interval is 10 days.
Quadris[3]	11	12.0–15.5 fl oz. Do not apply more than 90 fl oz (1.5 lb a.i.)/acre/season for all uses. Minimum retreatment interval is 7 days.

[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Lower rates can be used on smaller trees. Do not use less than the minimum label rate.

[3] Do not use more than 4 applications of strobilurin fungicides/season. Do not make more than 2 sequential applications of strobilurin (FRAC MOA 11) fungicides. Do not use in citrus propagation nurseries.

[4] Do not make more than 4 applications of Pristine or Amistar Top/season. Do not make more than 2 sequential applications of Pristine or Amistar Top before alternating to a non-strobilurin, non-SDHI, non-DMI fungicide.

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CG115
doi.org/10.32473/edis-CG115-2026

2026–2027 Florida Citrus Production Guide: Citrus Black Spot[1]

Megan M. Dewdney, Callie Walker, Pamela D. Roberts, and Natalia A. Peres[2]

Application Timing Recommendations

- Citrus black spot is a quarantine disease. See booklet 1 for a detailed outline of regulations for growers, caretakers, harvesters, and haulers.
- Applications from early May to mid-September are recommended.
    - Applications should be at least monthly.
    - If April is wetter than average, an application in mid-April is advised.
- Strobilurin (FRAC MOA 11) resistance has been reported in other countries, so follow careful rotations with other modes of action and never use more than 2 strobilurin-containing fungicides twice in a row.
    - Recommended to reserve strobilurin fungicides for the beginning of the season or when phytotoxicity from copper is likely.
    - Other countries have found that strobilurin fungicides work better with petroleum oil.
- All fungicides other than copper recommended in Table 1 have similar efficacy in Florida. Copper is less effective but a good choice for the end of the season.
    - Use the Citrus Copper Application Scheduler to time copper applications most efficiently.
- Use fungicides in conjunction with accelerated leaf litter decomposition.

Web Addresses for Links

Citrus Copper Application Scheduler: http://agroclimate.org/tools/citrus-copper-application-scheduler/

UF/IFAS publication PP289, "A Web-Based Tool for Timing Copper Applications in Florida Citrus": https://doi.org/10.32473/edis-pp289-2012

Recommended Chemical Controls

READ THE LABEL.

See Table 1.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 250 gal of water. Calibrate and arrange nozzles to deliver thorough distribution and treat as many acres as this volume of spray allows.

Table 1. Recommended chemical controls for citrus black spot.

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]
Copper fungicide	M 01	Use label rate.
Amistar Top[4]	11 + 3	15.4 fl oz. Do not apply more than 61.5 fl oz (0.8 lb azoxystrobin and 0.5 lb difenoconazole)/acre/year. Do not apply more than 0.5 lb a.i./acre/season of difenoconazole. Do not apply more than 1.5 lb a.i./acre/season of azoxystrobin. Do not apply more than 3 times at highest rate. Minimum retreatment interval is 7 days.
Enable 2F[4]	3	8.0 fl oz. Do not apply more than 3 applications or 24 fl oz (0.38 lb a.i.)/acre/season. Minimum retreatment interval is 21 days.
Gem 500 SC[3]	11	1.9–3.8 fl oz. Do not apply more than 15.2 fl oz/acre/season for all uses. Best applied with petroleum oil. Do not apply within 7 days of harvest.
Headline SC[3]	11	12–15 fl oz. Do not apply more than 54 fl oz (0.88 lb a.i.)/acre/season for all uses. Best applied with petroleum oil.
Pristine[4]	11 + 7	16–18.5 oz. No more than 74 oz/acre/season which is equivalent to 1.17 lb a.i./acre/season of boscalid and 0.592 lb a.i./acre/season of pyraclostrobin. Up to 0.88 lb a.i./acre/season of pyraclostrobin can be used. Minimum retreatment interval is 10 days.
Quadris[3]	11	9.0–15.5 fl oz. Do not apply more than 90 fl oz (1.5 lb a.i.)/acre/season for all uses. Best applied with petroleum oil. Minimum retreatment interval is 7 days.

[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Lower rates can be used on smaller trees. Do not use less than minimum label rate.

[3] Do not use more than 4 applications of strobilurin fungicides/season. Do not make more than 2 sequential applications of strobilurin fungicides (FRAC MOA 11).

[4] Do not make more than 4 applications of Pristine or Amistar Top/season. Do not make more than 2 sequential applications of Pristine or Amistar Top before alternating to a non-strobilurin, non-SDHI (FRAC MOA 7), non-DMI (FRAC MOA 3) fungicide.

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CG116
doi.org/10.32473/edis-CG116-2026

2026–2027 Florida Citrus Production Guide: Citrus Scab[1]

Megan M. Dewdney[2]

Application Timing Recommendations

- Do NOT use a strobilurin fungicide (FRAC MOA 11) for two applications in a row.
- Resistance is a risk for this fungal disease.
- For a heavy infection during the previous season, three applications are needed.
    1. At ¼ spring flush expansion:
        - Enable 2F, Gem, Headline, or Quadris are the best choices at this timing.
    2. At petal fall:
        - If you chose a strobilurin (FRAC MOA 11) for the first application, do not use here.
    3. Three weeks following the second application:
        - Copper fungicides, Gem, Headline, or Quadris.
- If there is a small amount of disease the previous season, the first application can be omitted.
- If scab severity is high, do not use copper alone for the third application.

DO NOT APPLY GEM, HEADLINE, OR QUADRIS IN NURSERIES. Application of these fungicides in nurseries can result in selection of resistant strains, which are then distributed on nursery stock to groves.

Recommended Chemical Controls

READ THE LABEL.

See Table 1.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 125 gal of water. Calibrate and arrange nozzles to deliver thorough distribution, and treat as many acres as this volume of spray allows.

Table 1. Recommended chemical controls for citrus scab.

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]
Copper fungicide	M 01	Use label rate.
Enable 2F	3	8 fl oz. Do not apply more than 3 times per year; no more than 24 fl oz (0.38 lb a.i.)/acre. Minimum retreatment interval is 21 days. Do not apply with polymer-based spray adjuvants.
Gem 500 SC[3]	11	1.9–3.8 fl oz. Do not apply more than 15.2 fl oz/acre/season for all uses. Do not apply within 7 days of harvest.
Headline SC[3]	11	9–12 fl oz. Do not apply more than 54 fl oz (0.88 lb a.i.)/acre/season for all uses.
Quadris[3]	11	12.0–15.5 fl oz. Do not apply more than 90 fl oz (1.5 lb a.i.)/acre/season for all uses. Minimum retreatment interval is 7 days.

[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Lower rates can be used on smaller trees. Do not use less than the minimum label rate.

[3] Do not use more than 4 applications of strobilurin fungicides/season. Do not make more than 2 sequential applications of strobilurin (FRAC MOA 11) fungicides. Do not use in citrus propagation nurseries.

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CG117
doi.org/10.32473/edis-CG117-2026

2026–2027 Florida Citrus Production Guide: Alternaria Brown Spot[1]

Megan M. Dewdney[2]

Application Timing Recommendations

- Alternaria brown spot (ABS) is a disease of tangerines and tangerine hybrids.
    - Grapefruit is very rarely affected.
- Start applications before disease development when spring flush is ¼–½ of full expansion.
    - If ABS is severe, a second application may be needed near full expansion.
- Plan a petal fall application.
    - Strobilurin-containing fungicides may be a good choice here because they are effective against citrus scab as well.
- In April and May, the goal of applications is to maintain a protective coat on the fruit.
    - Time applications with the ALTER-RATER (Tables 1 and 2).
    - Get leaf wetness estimates from the Citrus Advisory System (CAS) under the daily summary tab.
    - Copper is a good choice during this period. Assess copper residue with the Citrus Copper Application Scheduler.
- Because fruit growth slows in June, usually only 1 to 2 applications are needed. The fruit are considered resistant by mid-July.

Fungicide Resistance

Alternaria alternata has been documented to be resistant to strobilurins (FRAC MOA 11) in most parts of the Florida tangerine production areas. The level of resistance varies from location to location and strobilurin use history. Amistar Top, Gem, Headline, Pristine, and Quadris are all strobilurin-containing fungicides. All single-site fungicides are at risk for resistance development. Strobilurin (FRAC MOA 11), DMI (FRAC MOA 3), or SDHI (FRAC MOA 7) fungicides should not be used for Alternaria control more than four times in a season; never use more than two applications of the same mode of action in a row. Gem is slightly less effective for control of this disease and should be used at the high rate where disease is moderate to severe. As of 2025, Ferbam is no longer registered for use. The only multisite fungicide remaining for use in citrus is copper, which is effective against ABS at higher rates. Keep this in mind when designing your rotation plans for ABS management.

DO NOT APPLY AMISTAR TOP, GEM, HEADLINE, PRISTINE, OR QUADRIS IN NURSERIES. Application of these fungicides in nurseries can result in selection of resistant strains, which are then distributed on nursery stock to groves.

Web Addresses for Links

Citrus Advisory System: http://agroclimate.org/tools/cas/

Citrus Copper Application Scheduler: http://agroclimate.org/tools/citrus-copper-application-scheduler/

UF/IFAS publication PP289, "A Web-Based Tool for Timing Copper Applications in Florida Citrus": https://doi.org/10.32473/edis-pp289-2012

Recommended Chemical Controls

READ THE LABEL.

See Table 3.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per-acre rate for mature trees in 125 gal of water. Calibrate and arrange nozzles to deliver thorough distribution, and treat as many acres as this volume of spray allows.

Table 1. The number of points assigned to each day with ALTER-RATER according to the environmental conditions on that day. Daily point scores are added until the selected spray threshold is reached.

Rainfall > 0.1 inch	Leaf Wetness > 10 hr[1]	Average Daily Temperature (°F)	Daily Points Assigned
+	+	68–83	11
+	+	> 83	8
+	+	< 68	6
+	–	68–83	6
+	–	> 83	4
+	–	< 68	3
–	+	68–83	6
–	+	> 83	6
–	+	< 68	4
–	–	68–83	3
–	–	> 83	0
–	–	< 68	0

[1]Daily leaf wetness estimations for FAWN stations can be found on the Citrus Advisory System website, under the daily summary tab for each station.

Table 2. Suggested threshold scores to be used in different situations with the ALTER-RATER.

Suggested Threshold Scores	Situation
50	Heavily infested Minneola, Dancy, Orlando, Sunburst; many flatwoods groves, east coast and southwest Florida
100	Moderately infested Minneola or Dancy, many Murcotts; ridge and north Florida groves
150	Light infestations, any cultivar; mostly ridge and north Florida groves

Table 3. Recommended chemical controls for Alternaria brown spot.

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]
Copper fungicide	M 01	Use label rate.
Amistar Top[4]	11/3	15.4 fl oz. Do not apply more than 61.5 fl oz (0.8 lb azoxystrobin and 0.5 lb difenoconazole)/acre/season for all uses. Do not apply more than 0.5 lb a.i./acre/season of difenoconazole. Do not apply more than 1.5 lb a.i./acre/season of azoxystrobin. Do not apply more than 3 applications/season. Minimum retreatment interval is 7 days.
Gem 500 SC[3]	11	1.9–3.8 fl oz. Do not apply more than 15.2 fl oz/acre/season for all uses. Do not apply within 7 days of harvest.
Headline SC[3]	11	12–15 fl oz. Do not apply more than 54 fl oz (0.88 lb a.i.)/acre/season for all uses.
Pristine[4]	11/7	16–18.5 oz. Do not apply more than 74 oz/acre/season for all uses, which is equivalent to 1.17 lb a.i./acre/season of boscalid and 0.592 lb a.i./acre/season of pyraclostrobin. Up to 0.88 lb a.i./acre/season of pyraclostrobin can be used. Minimum retreatment interval is 10 days.
Quadris[3]	11	12.0–15.5 fl oz. Do not apply more than 90.0 fl oz (1.5 lb a.i.)/acre/season for all uses. Minimum retreatment interval is 7 days.

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]

[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Lower rates can be used on smaller trees. Do not use less than minimum label rate.

[3] Do not use more than 4 applications of strobilurin fungicides/season. Do not make more than 2 sequential applications of strobilurin fungicides. Do not use in citrus propagation nurseries.

[4] Do not make more than 4 applications of Pristine or Amistar Top/season. Do not make more than 2 sequential applications of Pristine or Amistar Top before alternating to a non-strobilurin, non-SDHI, or non-DMI fungicide.

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CG118
doi.org/10.32473/edis-CG118-2026

2026–2027 Florida Citrus Production Guide: Postbloom Fruit Drop[1]

Natalia A. Peres and Megan M. Dewdney[2]

Application Timing Recommendations

- Observing persistent calyces at the end of the season should trigger scouting for postbloom fruit drop (PFD) symptoms on early bloom.
    - Groves with a history of PFD should be scouted twice weekly.
- If PFD is seen on early bloom, fungicide application recommendations should be followed for the major bloom.
    - Use the Citrus Advisory System (CAS) to help decide when to apply fungicides.
    - Low-lying areas with frequent fog may need an application when the risk is just under the moderate threshold because of the lengthy wetting periods.

Fungicide Mode of Action Availability

Ferbam is no longer registered as of 2025. With the loss of the Ferbam registration, there is no longer a non-strobilurin-containing fungicide with efficacy against PFD available. Copper is ineffective for PFD management, so there are no multisite fungicides to recommend. This means that limiting fungicide use to only when necessary is very important for PFD. Use CAS for determining if an application is needed. We have not seen strobilurin (FRAC MOA 11) resistance yet, but it is still a concern, particularly because it is not possible to rotate to another mode of action.

Recommended Chemical Controls

READ THE LABEL.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment — including handguns — mix the per-acre rate for mature trees in 125 gal of water. Calibrate and arrange nozzles to deliver thorough distribution, and treat as many acres as this volume of spray allows.

Table 1. Recommended chemical controls for postbloom fruit drop.

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]
Amistar Top[3,4]	11 + 3	15.4 fl oz. Do not apply more than 61.5 fl oz (0.8 lb azoxystrobin and 0.5 lb difenoconazole)/acre/year. Do not apply more than 0.5 lb a.i./acre/season difenoconazole. Do not apply more than 1.5 lb a.i./acre/season azoxystrobin. Minimum retreatment interval is 7 days.
Gem 500 SC[3]	11	1.9–3.8 fl oz. Do not apply more than 15.2 fl oz/acre/season for all uses. Do not apply within 7 days of harvest.
Headline SC[3]	11	12–15 fl oz. Do not apply more than 54 fl oz (0.88 lb a.i.)/acre/season for all uses.
Priaxor Xemium[3,4]	11 + 7	9–11 fl oz. Do not apply more than 44 fl oz/acre/year. Do not apply more than 0.478 lb a.i./acre/season of fluxapyroxad. Do not apply more than 0.956 lb a.i./acre/season of pyraclostrobin as Priaxor Xemium. Minimum retreatment interval is 10 days.
Pristine[3,4]	11 + 7	16–18.5 oz. Do not apply more than 74 oz/acre/season for all uses. Do not apply more than 1.17 lb a.i./acre/season of boscalid. Do not apply more than 0.592 lb a.i./acre/season of pyraclostrobin as Pristine. Minimum retreatment interval is 10 days.
Quadris[3]	11	12.0–15.5 fl oz. Do not apply more than 90 fl oz (1.5 lb a.i.)/acre/season for all uses. Minimum retreatment interval is 7 days.

[1] Mode of action class for citrus pesticides according to the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Lower rates can be used on smaller trees. Do not use less than the minimum label rate.

[3] Do not use more than 4 applications of strobilurin (FRAC MOA 11) fungicides/season. Do not make more than 2 sequential applications of strobilurin fungicides. Do not use in citrus propagation nurseries.

[4] Do not make more than 4 applications of Pristine, Amistar Top, or Priaxor/season. Do not make more than 2 sequential applications of Pristine, Amistar Top, or Priaxor before alternating to a non-strobilurin, non-SDHI (FRAC MOA 7), non-DMI (FRAC MOA 3) fungicide.

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CG119
doi.org/10.32473/edis-CG119-2026

2026–2027 Florida Citrus Production Guide: Decay Control of Florida Fresh Citrus[1]

Mark A. Ritenour, Jiuxu "John" Zhang, Liliana M. Cano, and Megan M. Dewdney[2]

Application Recommendations

- Each type of fungicide has very specific application methods and concentrations based on method for postharvest use.
- It is highly recommended that you consult the text of booklet 1 if you are uncertain about the best practices concerning a particular fungicide.

Web Addresses for Links

BCGlobal MRL Database:
https://bcglobal.bryantchristie.com/

UF/IFAS publication CIR 1170, "Recommendations for Degreening Florida Fresh Citrus Fruits":
https://edis.ifas.ufl.edu/publication/HS195

UF/IFAS publication HS935, "Chilling Injury of Grapefruit and Its
Control": https://edis.ifas.ufl.edu/publication/hs191

UF/IFAS publication HS761, "Chlorine Use in Produce Packing Lines":
https://edis.ifas.ufl.edu/publication/CH160

UF/IFAS publication HS936, "Stem-End Rind Breakdown of Citrus Fruit": https://edis.ifas.ufl.edu/publication/hs193

UF/IFAS Postharvest Resources
website: https://irrec.ifas.ufl.edu/postharvest

Table 1. Major postharvest decays, seasonal development, fruit susceptibility, and effective fungicide treatments.

Disease	Months of Prevalence	Treatments[a]
Brown rot	August–December	Preharvest (Aliette[b], 5 lb/ac; Phostrol, 4.5 pints/ac[c]; ProPhyt[c], 4 pints/ac; copper[c], label rate)
Diplodia SER[d]	September–December	Bin drench (TBZ[e] or imazalil[f], 1000 ppm; Graduate A+[f], 1200 ppm) Packing line (TBZ, 1000 ppm aqueous, 2000 ppm water wax; Graduate A+, 1200 ppm aqueous)
Anthracnose	September–November	Bin drench (TBZ, 1000 ppm)
Green mold	December–June	Bin drench (TBZ or imazalil, 1000 ppm; Fludioxonil, 600–1200 ppm; Graduate A+, 1200 ppm) Packing line (SOPP[g], 2%; TBZ and/or imazalil[h], 1000 ppm aqueous, 2000 ppm water wax; Graduate A+[h], 1200 ppm aqueous)
Sour rot	November–February April–June	Packing line (SOPP, 2%)
Phomopsis SER	January–June	Packing line (TBZ and/or imazalil, 1000 ppm aqueous, 2000 ppm water wax)
Alternaria SER	July–September	Packing line (imazalil, 1000 ppm aqueous, 2000 ppm water wax)

[a] Postharvest materials are specified as ppm or % of active ingredient. Preharvest fungicides, except copper, are indicated as rates of formulation.

[b] Apply July–December, 30-day preharvest interval.

[c] Apply July–December, 0-day preharvest interval.

[d] SER: Stem-end rot.

[e] TBZ: thiabendazole.

[f] Use when TBZ residues are a problem for fruit going to juice.

[g] SOPP: sodium o-phenylphenate.

[h] Effective for sporulation control on fruit within packed cartons.

Table 2. Modes of action and pesticide details.

Pesticide	FRAC MOA[1]	Notes
Aliette WDG	P 07	Preharvest application. 5 lb or 1 lb/100 gal — Do not exceed 4 applications/season or 20 lb/acre/year; for foliar application, do not exceed 500 GPA. Do not apply within 30 days of harvest.
Copper	M 01	Preharvest application. Use label rate.
Graduate A+	11 + 12	Do not make more than 2 applications to citrus fruit. See label.
Imazalil (Examples: DECCOZIL EC-289, Freshgard 700, Fungaflor 500EC)	3	See label.
Penbotec 400SC	9	See label.
Phostrol	P 07	Preharvest application. 4.5 pt — Can cause phytotoxicity if applied above 90°F, at color break, or after rainfall.

Pesticide	FRAC MOA[1]	Notes
ProPhyt	P 07	Preharvest application. 4 pt — Recommended application volume of 100–205 gal/acre.
Sodium o-phenylphenate (SOPP) (Examples: DECCOSOL 125, FreshGard 5)	--	See label.
Thiabendazole (TBZ) (Examples: Freshgard 598, Alumni, DECCO Salt No. 19)	1	See label.
[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2025. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.		

Table 3. Optimum holding temperatures for maximum quality and shelf life of fresh Florida citrus fruit.

Citrus Type	Optimum Holding Temperatures
Grapefruit	50°F–60°F (10.0°C–15.6°C)
Lemons, limes	50°F (10.0°C)
Mandarin-type fruits	40°F (4.4°C)
Oranges	32°F–34°F (0.0°C–1.1°C)
Note: Somewhat lower temperatures can be used if fruit coatings that substantially restrict gas permeability (e.g., certain shellac formulations) are used.	

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CG120
doi.org/10.32473/edis-CG120-2026

2026–2027 Florida Citrus Production Guide: Herbicide Recommendation Tables[1]

Ramdas Kanissery and Brent A. Sellers[2]

Recommended Chemical Controls

Use these tables with Chapter 42 ("Weeds") in booklet 1 of the *Florida Citrus Production Guide*. **ALWAYS READ THE HERBICIDE PRODUCT LABEL BEFORE USE**, as labels are updated regularly.

Apply preemergence herbicides to weed-free soil before emergence; consult booklet 1 for timing and soil type before selecting products from Table 1.

Nonselective postemergence systemic herbicides translocate (move) through the plant, controlling weeds from the foliage down to the roots. Consult booklet 1 for when to spray postemergence herbicide products and how weather can affect their performance.

Glyphosate products differ in acid equivalent (A.E.) concentration. Use Table 3 to calculate how much product to use based on the A.E. rate listed in Table 2. Refer to booklet 1 to see how water quality and spray volume affect glyphosate performance.

Contact postemergence herbicides only affect the plant tissue directly reached by the spray. Regrowth from perennial species should be expected. Thorough coverage and appropriate adjuvants are essential; refer to booklet 1 for application equipment and band width guidance.

Selective postemergence herbicides target either grasses or broadleaf weeds, not both. Correct weed identification is essential before choosing a product. See booklet 1 for scouting guidance.

Rotating herbicide chemical families (modes of action) helps delay herbicide tolerance and resistance development. Booklet 1 addresses herbicide tolerance and resistance management. Switching modes of action limits selection pressure from repeated use of the same product. Use Table 6 with Tables 1 through 5 to put together a rotation program using different modes of action.

Root sprouts from cut citrus stumps can reestablish unwanted vegetation and, where root grafting exists, may allow translocated herbicides to injure adjacent trees. Booklet 1 details safe application methods and precautions for stump treatments. Apply products from Table 7 immediately after cutting for best results and follow all label requirements.

Table 1. Preemergence soil residual herbicides.

Herbicide Name	HRAC MOA[1]	Rate per Treated Acre; Time of Application	Comments
Indaziflam Alion	L — Cellulose-biosynthesis inhibitor	5–6.5 oz/acre. Do not exceed 10.3 oz/acre per 12-month period.	Preemergence control of seed-germinating grass and broadleaf weeds. A postemergence herbicide should be tank-mixed to control weeds that have already emerged at the time of application. Best control is achieved when minimal weed debris is present on the soil surface at application. Avoid spray contact with foliage (direct or indirect), as it may cause chlorotic speckling. Do not apply Alion within 30 days prior to planting or within 30 days after planting citrus trees. For repeat application, allow a minimum of 90 days between applications.
Bromacil Hyvar X 80 WP	C1	Soil restriction (Ridge): Do not use on vulnerable, deep-sandy, ridge soil types. See product label under general precautions and use restrictions for specific soil series.	Controls annual and perennial grasses and annual broadleaf weeds. Postemergence activity, particularly with a surfactant.
		Soil restriction (Flatwoods): Do not exceed a total of 6 lb/acre per year.	
Trees 4 years and older		2–4 lb. The higher recommended rates may be required for heavier soil types and for certain established perennial grass species. Apply prior to weed emergence or during early postemergence (seedling stage).	
Trees established 1–3 years		2–3 lb. Use lower recommended rates on lighter soils or in low weed-infestation areas. Do not exceed maximum allowable yearly rates.	
Bromacil:Diuron Krovar I DF	C1, C2	Soil restriction (Ridge): Do not use on vulnerable, deep-sandy, ridge soil types. See supplemental product label for further details.	Controls annual broadleaf weeds, annual vines, and annual and perennial grasses. Extra diuron in product increases activity on broadleaf weeds. Contact activity enhanced by the surfactant.
		Soil restriction (Flatwoods): Do not exceed 12 lb/acre per year.	
Trees 3 years and older		4–6 lb/acre. Apply prior to weed emergence or early postemergence.	
Trees established 1–3 years		2–4 lb/acre. Do not exceed 8 lb per year. Use lower rates on lighter soils or in low weed-infestation areas.	

Herbicide Name	HRAC MOA[1]	Rate per Treated Acre; Time of Application	Comments
Flumioxazin Chateau EZ	E	6–12 oz/acre. Maximum rate of 24 oz/acre per 12-month period. Do not make a sequential application within 30 days of the first application.	Apply prior to weed emergence or during early postemergence (seedling stage). Residual weed control will be reduced if vegetation prevents herbicide from reaching the soil surface. When weeds are present, application must be mixed with a labeled surfactant and burndown product. Do not apply to trees less than 1 year old unless protected from spray contact by non-porous wrap. Rainfall or irrigation of at least ¼ inch is required to activate the herbicide into soil for weed control.
Diuron	C2		Do not exceed 8 lb a.i./acre per year on flatwoods soils. Do not exceed 6.4 lb a.i./acre per year on ridge soils. In Highlands County, do not exceed 4.8 lb a.i./acre per year. Do not exceed 2 lb or 2 qt per application on trees less than 1 year old on shallow, poorly drained soils. Do not apply to row middles. Apply prior to weed emergence or early postemergence.
Diuron 80DF		2–4 lb product	Controls annual broadleaf weeds and annual grasses. Contact activity enhanced by addition of surfactant. Foliage contacted by diuron may develop a bleached or bronzed appearance. Certain grapefruit varieties, like 'Flame', are relatively more sensitive to this herbicide.
Direx/Diuron 4L		1.6–3.2 qt	
Karmex 80DF		2–4 lb product	
Norflurazon Solicam 80DF	F1	2.5–5 lb/acre. Do not exceed 10 lb per year. For best results, apply prior to weed emergence.	Controls annual and perennial grasses and certain broadleaf weeds. Spectrum of broadleaf weeds controlled increased by tank mixing with simazine or diuron. Suppresses established nutsedge and perennial grasses; control requires repeat applications. Dense weed growth should be controlled with contact or systemic herbicides prior to Solicam application to allow maximum contact with the soil surface. Tank mixes with postemergence contact or systemic herbicides may be used where weed growth is low-growing and sparse. Solicam activity is highly dependent on good soil moisture following application, i.e., rainfall or irrigation. Contact with tree canopy can result in a bleached appearance and some distortion of young growth flushes.

Herbicide Name	HRAC MOA[1]	Rate per Treated Acre; Time of Application	Comments
Solicam 80DF Water ring treatment	F1	2.3 oz/500 gal water. Apply 10 gal per tree assuming a ring diameter of 4 ft. Adjust rate according to ring diameter and amount of water. Apply prior to weed emergence. See product label for details. Apply at second or third watering — not during the planting operation.	
Chemical injection through low-volume subcanopy irrigation systems		2–3 lb. Apply prior to weed emergence as a supplemental treatment to herbicide strip. No treated area should receive more than 10 lb/acre per year from any combination of applications.	Solicam applied through irrigation systems will prolong weed control in areas influenced by emitters from which herbicides may have leached. Rate per acre should be based on measurement of area wetted by emitters and number of emitters per acre. See product label for calibration procedures. **CAUTION**: To be used only through irrigation systems that meet state requirements for chemical injection.
Oryzalin Oryzalin 4 AS Surflan 4 AS	K1	Do not exceed 1.5 gal per year. Apply prior to weed emergence; Surflan does not have postemergence activity. 0.5–1.5 lb/acre.	Controls annual grasses and certain broadleaf weeds. Does not control perennial grasses or sedges. Spectrum of broadleaf weeds controlled is increased by tank mixing with simazine, diuron, or Krovar I. Will not control weeds that have germinated prior to application. Tank mixes with postemergence herbicides, such as paraquat or glyphosate, should be used to control existing weeds. ½ to 1 inch rainfall or sprinkler irrigation is required to activate oryzalin and move it into the zone of weed-seed germination. Oryzalin will extend residual control of susceptible weeds when used in tank mixes with other products.
Chemical injection through low-volume subcanopy irrigation systems		Apply prior to weed emergence as supplemental treatment to herbicide strip. No treated area should receive more than 1.5 gal per tree of oryzalin per acre per year from any combination of applications. See label for instructions for calculating product rates.	Oryzalin applied through irrigation systems will prolong weed control in areas influenced by emitters from which other herbicides have leached. Rate per acre should be based on measurement of area wetted by emitters and number of emitters per acre. See product label for further restrictions and for calibration procedures. **CAUTION**: To be used only through irrigation systems that meet state requirements for chemical injection.
Pendimethalin Prowl 3.3EC (Nonbearing only)	K1	2.4–4.8 qt/acre. Do not exceed 7.3 qt/acre per year.	Controls annual grasses. Does not control sedges. Spectrum of broadleaf weeds controlled is increased by tank mixing with

Herbicide Name	HRAC MOA[1]	Rate per Treated Acre; Time of Application	Comments
Prowl H_20		2.1–6.3 pt/acre. Do not exceed 6.3 qt/acre per year.	diuron. Tank mixes with postemergence herbicides, such as paraquat or glyphosate, should be used to control existing weeds. Rain or irrigation is required within 21 days to move pendimethalin into the zone of weed-seed germination.
Simazine	C1	For application to oranges and grapefruit only. Do not exceed 8 lb a.i./acre per year.	
Caliber 90WDG		4.4 lb (spring and/or fall) or a single application of 8.8 lb in the spring applied once per 12 months.	Controls annual broadleaf weeds, annual vines, and annual grasses. Does not control perennial grasses.
Princep 4L		1.0 gal (spring and/or fall) or a single application of 2.0 gal/acre in the spring once per 12 months.	Higher single application rates are intended for difficult species, such as balsam-apple and Spanish needles, and for a spring application. Do not exceed 4 lb a.i. per treated acre per year on trees established for less than 1 year, on sandy soils with low organic matter content, or on poorly drained sites. Apply only prior to weed emergence unless mixed with a postemergence contact or systemic herbicide. Has no contact activity. Avoid application during summer rainy period.
Simazine 4L		1.0 to 2.0 gal product. 2 gal/acre in spring (ridge), 3.2 qt in bedded groves; apply only once per year.	
Simazine 90DF		4.4 lb (spring and/or fall) or a single application of 8.8 lb in the spring applied once per 12 months.	

[1] Mode of action class for citrus pesticides from the Herbicide Resistance Action Committee (HRAC). Refer to chapter 4, "Pesticide Resistance and Resistance Management."

Table 2. Nonselective postemergence systemic herbicides.

Herbicide Name	HRAC MOA[1]	Rate per Treated Acre in Acid Equivalent (A.E.); Time of Application[2]	Comments
Glyphosate — undertree	G	Annual weeds: 0.75–1.5 lb A.E./acre, depending on stage of maturity. Perennial weeds: 1.5–3.75 lb A.E./acre. Use higher rates for more difficult-to-control grasses, woody vines, and shrubs. Refer to product labels for annual maximum rate per acre.	Consult label rates for specific weed species. Some weeds require repeat application for control. Apply in (water volume of) 10–40 GPA. Glyphosate may be tank mixed with labeled residual herbicides. Water sources containing Ca, Mg, Fe, and Al at levels above 400 ppm may require the use of ammonium sulfate at a 1%–2% solution (8.5–17 lb per 100 gal) for optimum activity. Rainfall within 1–6 hours after application may reduce effectiveness (product-dependent). **AVOID CONTACT WITH CITRUS FRUIT, FOLIAGE, AND GREEN BARK.** Application to early-maturing varieties in late summer/early fall may result in fruit drop when contacted by spray drift. Not all formulations of glyphosate contain surfactant. Addition of surfactant improves weed control if not present in original product.
Glyphosate — spot treatment	G	1%–2% solution	**AVOID CONTACT WITH CITRUS FRUIT, FOLIAGE, AND GREEN BARK.**
Middles Management			
Glyphosate — chemical mowing	G	Bahiagrass: 0.125 lb A.E. followed by a second application 45 days later. Bermudagrass: 0.125–0.37 lb A.E.	For suppression of grasses and broadleaf weeds in row middles for 45–90 days. Do not mow within 1 week before or after chemical mowing application.
Glyphosate — wiping	G	5%–10% solution — carpet wiper 50%–100% solution — panel wiper	Use wipers to remove tall-growing and difficult-to-control weed species from desirable turf.

[1] Mode of action class for citrus pesticides from the Herbicide Resistance Action Committee (HRAC). Refer to chapter 4, "Pesticide Resistance and Resistance Management."

[2] NOTE: See Table 3 for conversion of A.E. to amount of product to use to achieve desired weed control.

Table 3. Nonselective postemergence systemic herbicide-glyphosate conversions.

Product[1] Acid Equivalence (A.E.) (lb/gal)	Target Rate per Treated Acre in A.E. (from Table 2)						
	0.094 lb	0.188 lb	0.282 lb	0.37 lb	0.75 lb	1.5 lb	2.25 lb
	Amount of Product to Equal the Above Pounds of A.E.						
3.0	4 oz	8 oz	12 oz	16 oz	1 qt	2 qt	3 qt
4.0	3 oz	6 oz	9 oz	12 oz	24 oz	48 oz	72 oz
4.5	2.7 oz	5.4 oz	8.1 oz	10.8 oz	21.5 oz	43 oz	64.5 oz
5.0	2.4 oz	4.8 oz	7.2 oz	9.5 oz	19.2 oz	38.4 oz	57.6 oz

Product[1] Acid Equivalence (A.E.) (lb/gal)	Target Rate per Treated Acre in A.E. (from Table 2)						
	0.094 lb	0.188 lb	0.282 lb	0.37 lb	0.75 lb	1.5 lb	2.25 lb
	Amount of Product to Equal the Above Pounds of A.E.						
[1] Various formulations of glyphosate are currently registered for use in Florida citrus. It is important to adjust the application rate used according to the product concentration. A product concentration is stated in pounds per gallon of acid equivalent (A.E.) on the label.							

Table 4. Nonselective postemergence contact herbicides.

Nonselective Postemergence Herbicide	HRAC MOA[1]	Rate per Treated Acre; Time of Application	Comments
Carfentrazone-ethyl Aim 2 EC	E	Up to 2.0 fl oz per application and not to exceed 7.9 fl oz per year. Tank-mixing with other postemergence products increases weed spectrum controlled. Higher rates are needed when larger weeds are present.	An adjuvant, such as a nonionic surfactant or crop oil concentrate, is required. Avoid contact with green tissue or fruit. Good coverage is essential for control. Apply in a finished spray volume of at least 20 GPA. Do not make applications less than 14 days apart.
Glufosinate-ammonium Rely 280 Scout	H	48–82 fl oz/acre per application with higher rates on taller, susceptible weeds. Do not apply more than 246 fl oz (4.5 lb a.i./acre) per year. Do not make more than 3 applications at maximum rate per year. Do not apply within 14 days of harvest.	For best results, apply to emerged, young, actively growing weeds. Warm temperatures, high humidity, and bright sunlight improve performance. Avoid application to weeds under stress. Avoid application during conditions where temperature inversions that would favor drift are likely. Avoid contact or spray drift with green bark, stems, or foliage, because injury may occur. Young trees with green stems should have a nonporous wrap in place to avoid contact with susceptible tissue. Follow-up applications must be a minimum of 14 days apart.
Paraquat Gramoxone SL 2.0	D	2.5–4.0 pt/acre. Do not apply in excess of 20 pt/acre per year. Apply as required alone or in combination with residual herbicides to control emerged weeds. Apply before weed growth becomes too dense, as thorough spray coverage is required.	Controls all green weed tissue contacted. Rapid regrowth can be expected from perennial species. New labeling requirements require mandatory training program be completed by all applicators, and all applicators must be certified applicators of restricted use pesticides. Addition of a surfactant is essential for maximum contact activity. **AVOID CONTACT WITH CITRUS FOLIAGE, GREEN STEMS, AND FRUITS.** Maximum of 5 applications per year.
[1] Mode of action class for citrus pesticides from the Herbicide Resistance Action Committee (HRAC). Refer to chapter 4, "Pesticide Resistance and Resistance Management."			

Table 5. Selective postemergence systemic herbicides.

Herbicide Name	HRAC MOA[1]	Rate per Treated Acre; Time of Application	Comments
Fluazifop-p-butyl Fusilade DX 2 EC	A	Do not apply more than 24 oz/acre per application and not more than 72 fl oz/acre per year, with a minimum of 21 days between applications. Apply as needed to control emerged, actively growing grasses. Repeat applications may be necessary to control many species. Grasses are most susceptible at early growth stages (before seedhead formation.)	Controls annual grasses and perennials such as Bermuda, guinea, and torpedo. **Does not control broadleaf weed species.** Repeat applications (at 3- to 4-week intervals) will be required for guinea grass and torpedograss. Guinea grass should be treated when 6–12 inches tall. **Do not apply Fusilade to grasses under stressed conditions.** Visible effects of herbicide activity on most grasses will be apparent in 2–3 weeks. If used according to label directions, Fusilade will not injure citrus. For spot treatment, use 1% v/v solution Fusilade with 1% crop oil concentrate or 0.25% nonionic surfactant in 30–40 GPA.
Mesotrione Broadworks 4 L	F2	Do not exceed 6 fl oz/acre at the first application. Do not exceed 12 fl oz/acre or more than 3 applications within a 12-month period. Allow at least 12 weeks between 2 subsequent applications of 6 fl oz/acre each, and at least 6 weeks between one application of 6 fl oz/acre and 1 or 2 subsequent applications of 3 fl oz/acre.	The use of a crop oil concentrate at 1% v/v or nonionic surfactant at 0.25% v/v is recommended. The addition of ammonium sulfate is suggested. Provides short-term residual weed control, and can be tank mixed with nonselective postemergence products to broaden the weed control spectrum, or with several preemergence products to lengthen residual weed control. Consult the label for allowable tank-mix partners.
Sethoxydim Poast Plus 1.0 EC	A	2.25–3.75 pt/acre. Do not exceed 15 pt/acre per year. Apply as needed to control actively growing grasses. Repeat applications may be necessary for perennial species and guinea grass.	Controls annual and perennial grasses such as Bermuda, guinea, and torpedo. **Does not control broadleaf weeds.** Repeat applications (at 3- to 4-week intervals) may be required for control of more troublesome species. It is advantageous to apply Poast Plus to grasses less than 12 inches in height. **Do not apply Poast Plus to grasses under stress conditions.** Visible effects will generally be observed within 2–3 weeks, depending upon environmental conditions. Carrier volume should not exceed 20 GPA. For spot treatment, use a 1.5%–2.25% v/v solution of Poast Plus with 1% crop oil concentrate. If used according to label directions, Poast Plus will not injure citrus.
Saflufenacil Treevix	E	1.0 oz per treated acre as a postemergence-directed spray application. For optimum burndown activity, an adjuvant such as methylated seed oil must be used and should be combined with ammonium sulfate.	Controls many broadleaf weeds. **Does not control grass weeds.** Thorough spray coverage is required for control of emerged broadleaf weeds. Avoid contact with tree trunks, especially young trees, until bark is fully formed. Do not exceed 3 applications per year; applications must be separated by 21 days. Increased efficacy has been observed at spray volumes of 20–40 GPA.

Herbicide Name	HRAC MOA[1]	Rate per Treated Acre; Time of Application	Comments
2,4-D Embed Extra	O	1.0–4.0 pt per treated acre as a postemergence-directed spray application. **The application should be made only when there is no hazard from spray drift.**	Controls annual and perennial broadleaf weeds. Use coarse, low-pressure sprays and sufficient water for thorough coverage of weeds. Apply when weeds are small and actively growing. Apply only to groves that have been established for at least 1 year. **Avoid contact with tree trunks and foliage.**
[1] Mode of action class for citrus pesticides from the Herbicide Resistance Action Committee (HRAC). Refer to chapter 4, "Pesticide Resistance and Resistance Management."			

Table 6. Herbicide chemical family.

Herbicide Common Name	Chemical Family	HRAC MOA[1]	Weeds Controlled	
			Broadleaf	Grasses
Preemergence				
bromacil	uracils	C1		X
bromacil:diuron	uracils + ureas	C1, C2	X	X
diuron	ureas	C2	X	
flumioxazin	N-phenyl-imides	E	X	X
indaziflam	alkylazines	L2	X	X
norflurazon	pyridazinones	F1	X	X
oryzalin	dinitroanilines	K1		X
pendimethalin	dinitroanilines	K1		X
simazine	triazines	C1	X	X
Postemergence				
2,4-D	phenoxy-carboxylates	O	X	
carfentrazone-ethyl	N-phenyl-triazolinones	E	X	
fluazifop-p-butyl	aryloxyphenoxypropionates	A		X
glufosinate	phosphinic acid	H	X	X
glyphosate	glycine	G	X	X
glyphosate + 2,4-D	glycine + phenoxy-carboxylates	G, O	X	X
mesotrione	triketones	F2	X	
paraquat	pyridiniums	D	X	X
saflufenacil	uracils	E	X	
sethoxydim	cyclohexanediones	A		X
[1] Mode of action class for citrus pesticides from the Herbicide Resistance Action Committee (HRAC). Refer to chapter 4, "Pesticide Resistance and Resistance Management."				

Table 7. Recommended chemical controls for citrus root sprouts.

Herbicide/Chemical	Application	Comments
Glyphosate (check specific product labels)	Apply in 50% to 100% solution to freshly cut surface immediately after cutting to cover the entire cambium layer of the stump. Delays in application may result in reduced performance.	Do not make stump applications when roots of desirable trees may be grafted to the roots of the cut stump. Injury may result from root grafting in adjacent trees allowing materials to move systemically into the nearby tree. **NOTE:** Not all glyphosate products contain a statement for stump treatments.
Triclopyr Remedy Ultra	Apply as a 25% solution in diesel, kerosene, or quality basal oil (1 qt in 3 qt oil). Apply spray mixture directly to cut stump, and avoid applications that allow spray solution to contact soil surface adjacent to the cut stump.	Applications to the soil adjacent to cut stump may injure newly transplanted trees. Do not replant within 30 days of treatment. Do not make stump applications when the roots of adjacent desirable trees may be grafted to the roots of cut stump. Injury or symptoms resulting from root grafting may occur in adjacent trees. Avoid application methods that would allow spray drift to occur.

[1] This document is CG120, one of a series of the Department of Horticultural Sciences, UF/IFAS Extension. Original publication date August 2026. Revised annually. Visit the Ask IFAS website at https://ask.ifas.ufl.edu for the currently supported version of this publication. © 2026 UF/IFAS. This publication is licensed under CC BY-NC-ND 4.0.

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

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ENY-601
doi.org/10.32473/edis-cg017-2023

2026–2027 Florida Citrus Production Guide: Pesticides

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The following are lists of products that are registered for use on citrus, regardless of whether or not they are recommended for use. In cases where there are many similar products, such as copper fungicides, sulfurs, or petroleum oils, separate tables have been set up for each. Table 4 lists other products grouped according to use: insecticides, acaricides, and nematicides. Table 5 lists molluscicides. Table 6 lists fungicides. Table 7 lists herbicides. Table 8 lists other products such as plant growth regulators and fumigants.

READ THE LABEL.

Table 1. Copper fungicides (FRAC MOA M01) registered for citrus and the diseases for which they have been evaluated.

Trade Name	Common Name	Cu (%)[1]	EPA Reg. No.	Evaluated for:[2]				
				Melanose	Greasy Spot	Alternaria	Scab	Canker
AmeriCop 40 DF	Copper hydroxide	40	35484-4	X	X	ND	ND	X
Badge SC	Copper oxychloride + copper hydroxide	20	10163-396	X	X	X	ND	X
Badge X_2	Copper oxychloride + copper hydroxide	28.2	10163-402	ND	ND	ND	ND	X
Champ DP	Copper hydroxide	37.5	55146-57	X	X	X	X	X
Champ Formula 2 Flowable	Copper hydroxide	24.4	55146-64	X	X	ND	X	ND
Champ WG	Copper hydroxide	50	55146-1	X	ND	ND	ND	X
ChampION++	Copper hydroxide	30	55146-115	ND	ND	ND	ND	ND
C-O-C-S WDG	Copper oxychloride + basic copper sulfate	51.25	34704-326	ND	ND	ND	ND	ND
Copper-Count-N[5]	Copper diammonia diacetate complex	8.0	10465-3	X	ND	X	ND	ND
Copper Sulfate Crystals[5]	Copper sulfate pentahydrate	25.1	56576-1	ND	ND	ND	ND	ND
Cueva	Copper octanoate	1.8	67702-2-70051	ND	ND	ND	ND	ND
Cuprofix Flex	Basic copper sulfate	40	70506-393	ND	ND	ND	ND	ND
Cuprofix Ultra 40 Disperss	Basic copper sulfate	40	70506-201	X	X	ND	ND	X
Instill	Copper sulfate pentahydrate	5.4	49538-5-92632	ND	ND	ND	ND	ND
Instill-O	Copper sulfate pentahydrate	3.1	49538-7-92632	ND	ND	ND	ND	ND
Kalmor[3]	Copper hydroxide	30	91411-11-59807	ND	ND	ND	ND	ND
Kocide 2000-O	Copper hydroxide	35	91411-10-70051	ND[4]	ND[4]	ND[4]	ND[4]	ND[4]
Kocide 3000-O	Copper hydroxide	30	91411-11-70051	ND[4]	ND[4]	ND[4]	ND[4]	ND[4]
KOP-Hydroxide	Copper hydroxide	24.4	19713-301	ND	ND	ND	ND	ND
KOP-5	Copper sulfate pentahydrate	5	19713-695	ND	ND	ND	ND	ND

Trade Name	Common Name	Cu (%)[1]	EPA Reg. No.	Evaluated for:[2]				
				Melanose	Greasy Spot	Alternaria	Scab	Canker
Magna-Bon CS 2005	Copper sulfate pentahydrate	5.0	66675-3	ND	ND	ND	ND	X
Mastercop	Copper sulfate pentahydrate	5.4	55272-18-66222	ND	ND	ND	ND	X
Nordox 30/30 WG	Cuprous oxide	30	48142-7	ND	ND	ND	ND	X
Nordox 75 WG	Cuprous oxide	75	48142-4	ND	ND	ND	ND	X
Nu-Cop HB	Copper hydroxide	50	42750-132	X	X	ND	ND	ND
Nu-Cop 30 HB	Copper hydroxide	30	42750-281	ND	ND	ND	ND	ND
Nu-Cop 50 WP	Copper hydroxide	50	45002-7	ND	ND	ND	ND	X
Previsto	Copper hydroxide	3.3	10163-330	ND	ND	ND	ND	ND
Quimag Copper Sulfate Crystals	Copper sulfate pentahydrate	25.2	73385-1	ND	ND	ND	ND	ND
Top Cop with Sulfur	Basic copper sulfate + sulfur	4.7	57538-6	ND	ND	ND	ND	ND

[1] Percentage of metallic copper.

[2] X — Products indicated have been evaluated and have provided adequate control of the disease in question; ND — No data. Most of the products would be expected to provide adequate disease control.

[3] Nonbearing citrus only.

[4] These products were tested to be effective for all listed diseases as previous formulations, but the new formulations have not yet been assessed. It is expected they are as effective as the previous formulations.

[5] These products have a 48-hour REI.

Table 2. Sulfur products registered for use on citrus and spectrum of activity against pest mites on citrus in Florida.

Trade Name and Formulation	Common Name	% Sulfur	EPA Reg. No.	Registered[1] for Use on		Efficacy[2]	
				Citrus Rust Mite	Broad Mite	Citrus Rust Mite	Broad Mite
Acoidal	Sulfur	80%	62562-4	X	X	ID	ID
Auron 80 DF	Sulfur	80%	937-45-1-2935	X	X	ID	ID
Brandt Lime Sulfur	Calcium polysulfide	29%	61842-30-48813	X	–	ID	ID

Trade Name and Formulation	Common Name	% Sulfur	EPA Reg. No.	Registered[1] for Use on		Efficacy[2]	
				Citrus Rust Mite	Broad Mite	Citrus Rust Mite	Broad Mite
Cosavet DF	Sulfur	80%	70905-1	X	–	ID	ID
Crusade DF	Sulfur	80%	62562-8-71058	X	X	ID	ID
Drexel 80% Micronized Wettable Sulfur	Sulfur	80%	19713-552	X	–	ID	ID
Drexel Suffa	Sulfur	52%	19713-39	X	X	ID	ID
Drexel Suffa Supreme	Sulfur	52%	19713-712	X	X	ID	ID
Drexel Sulfur 80 WDG	Sulfur	80%	19713-674	X	X	ID	ID
Lime-Sulfur Solution	Calcium polysulfide	29%	61842-30-90930; 61842-30	X	-	ID	ID
Lime Sulfur ULTRA	Calcium polysulfide	27%	71096-11	X	–	ID	ID
Liquid Sulfur Six	Sulfur	52%	5905-437	X	–	ID	ID
Microfine Sulfur	Sulfur	90%	6325-13-34704	X	–	ID	ID
Micro Sulf	(Micronized) sulfur	80%	55146-75	X	X	ID	ID
Microthiol Disperss	(Micronized) sulfur	80%	70506-187	X	X	+	+
Sulforix	Calcium polysulfide	27.5%	61842-31-90930	X	–	ID	ID
Sulfur 80 WDG	Sulfur	80%	19713-674	X	X	ID	ID
Thiolux	(Micronized) sulfur	80%	34704-1079	X	–	ID	ID
Yellow Jacket Wettable Sulfur	Sulfur	53%	6328-22	X	X	ID	ID
Yellow Jacket Wettable Sulfur II	Sulfur	90%	6325-22	X	–	ID	ID

[1] X indicates product is registered for control of citrus rust or broad mites; – = not registered.

[2] + indicates product is effective; ID indicates incomplete data available; sulfurs are generally effective for false spider mites and ineffective for spider mites, while efficacy data on pink citrus rust mites are incomplete.

Table 3. Spray oils registered for use on Florida citrus.

Company	Trade Name	Midpoint Boiling Range	EPA No.[1]	Efficacy[2]	
				Greasy Spot	Citrus Rust Mite
Brandt	TresOil	435°F	48813-1	ID	ID
BVA	Spray 10	412°F	55206-1	ID	ID
BVA	Spray 13	435°F	55206-2	+	+
BVA	Spray 15	455°F	55206-3	+	+
BVA	Spray 22	471°F[3]	55206-4	ID	ID
Calumet	Orchex 692	412.7°F	75652-2	ID	ID
Calumet	Orchex 796	436°F	75652-1	+	+
Diamond R	435 Soluble Oil	435°F	35276-1	ID	ID
Drexel	435 Oil 98.8	435°F	19713-394	ID	ID
Drexel	455 Oil 98.8	455°F	19713-396	ID	ID
Helena Chemical	Sol-Oil 97	435°F	5905-294	ID	+
Helena Chemical	Mite-E-Oil	435°F	5905-302	+	+
Integrated Agribusiness Professionals (IAP)	435 All Purpose Spray Oil	435°F	71058-2	ID	ID
Integrated Agribusiness Professionals (IAP)	455 All Purpose Spray Oil	455°F	71058-2	ID	ID
JMS Flower Farms, Inc.	JMS Stylet-Oil	Unknown	65564-1	ID	ID
Loveland Products	BioCover UL	415°F	34704-806	ID	+
Loveland Products	BioCover MLT	435°F	34704-805	+	+
Loveland Products	BioCover LS	455°F	34704-808	+	+
Loveland Products	BioCover SS	470°F[3]	34704-809	+	+
Loveland Products	Glacial Spray Fluid	435°F	34704-849	ID	ID
Petro-Canada	PureSpray Green	435°F	69526-9	ID	ID

Company	Trade Name	Midpoint Boiling Range	EPA No.[1]	Efficacy[2]	
				Greasy Spot	Citrus Rust Mite
Petro-Canada	PureSpray Spray Oil 10E	408°F	69526-5	ID	ID
Wilbur-Ellis	415 Superior Spray Oil	415°F	2935-546	ID	ID

[1] Most oils are registered for use against citrus rust mite, greasy spot, spider mites, scale insects, whitefly, and other homopterans, and for removal of sooty mold.

[2] + = effective; – = not effective; ID = incomplete data; Orchex 796 has been found to control pink citrus rust mite without harm to beneficial mites; others have not been tested.

[3] 470 weight oils have not been evaluated for their effects on fruit coloring or ripening and are more likely to be phytotoxic than lighter oils.

Table 4. Pesticides registered for use on Florida citrus — insecticides, acaricides, and nematicides.

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Abamectin Products	Abamectin (6)		0.02	7	NO	12	-	10,000	-
Abacus V Abacus V6		83100-32-83979 83100-59-83979							
Abamectin 0.15 LV		87290-68							
Abamectin 0.7 SC		87290-36							
Abamex		228-734							
AbbA Ultra		5481-621							
Other Use Requirements: RESTRICTED PESTICIDE.[8] Toxic to fish, mammals, and aquatic organisms. Highly toxic to honeybees.[9] Limit of 3 applications per growing season. Do not apply more than 40 fl oz (0.047 lb a.i.) per acre of any abamectin product in a growing season.									
Acenthrin	Acephate (1B) Bifenthrin (3A)	70506-339	Nonbearing	N/A	NO	24			
Other Use Requirements: Do not harvest citrus for one year after treatment. Spray with 100–200 gal of water per acre.									
Acephate products	Acephate (1B)		Nonbearing	12 months	NO	24		10,000	

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Acephate 90 Prill		53883-253							
Acephate 90 WDG		34704-1051 84229-7							
Acephate SG		5905-620							
Acephate 97 UP		70506-8							
Acephate 97 WDG		66222-266							
Other Use Requirements: Do not harvest citrus for one year after treatment. Minimum 3 days spray interval for up to 0.5 lb a.i. per acre and 7 days for rates greater than 0.5 lb a.i. per acre.									
Acephate 97 SG	Acephate (1B)	80697-13	Nonbearing	0	NO	24	-	-	-
Other Use Requirements: Ground application. Toxic to bees and birds.									
Aceta	Acetamiprid (4A)	5905-613	1	7	NO	12	-	-	-
Other Use Requirements: Maximum of 5 applications. Limit to 29.3 oz (0.55 lb a.i.) per acre per crop.									
Acetamiprid 30 SG 70 WP	Acetamiprid (4A)	91234-14-5905 91234-15-5905	1	7	NO	12	-	-	-
Other Use Requirements: Maximum of 5 applications. Limit to 29.3 oz (0.55 lb a.i.) per acre per crop.									
Acronyx 4F	Imidacloprid (4A)	91234-164	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 14 oz per acre per season or 0.5 lb a.i. per acre per year.									
Actara	Thiamethoxam (4A)	100-938	0.4	0	NO	12	-	-	-
Other Use Requirements: Do not exceed a total of 11.0 oz (0.172 lb a.i.) of thiamethoxam-containing products per acre per growing season. Do not apply during prebloom or during bloom when bees are actively foraging.									
Admire Pro	Imidacloprid (4A)	264-827	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 14 oz per acre per season or 0.5 lb a.i. per acre per year. SLN FL-120008 permits up to 1.0 lb a.i. per acre per 12 months when applied as a soil drench. See SLN label for specific details.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Advise Four Advise Four Insecticide	Imidacloprid (4A)	1381-219, 228-528-1381	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 32 oz (0.5 lb a.i.) per acre per year.									
Afflict 30 SG Afflict 70 WP	Acetamiprid (4A)	2749-610 2749-609	1	7	NO	12	-	-	-
Other Use Requirements: Maximum of 5 applications. Limit to 29.3 oz (0.55 lb a.i.) per acre per crop. Toxic to aquatic invertebrates, pollinating insects, and birds.									
Agri-Flex miticide/insecticide	Abamectin (6) Thiamethoxam (4A)	100-1350	0.02 0.4	7	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish, mammals, and aquatic organisms. Do not apply during prebloom or during bloom when bees are actively foraging. To avoid illegal residues, Agri-Flex must be mixed with a minimum of 0.20% oil. Do not apply more than 17 fl oz per acre of Agri-Flex or more than 0.047 lb a.i. per acre of any foliar-applied abamectin product or more than 0.172 lb a.i. per acre of any foliar-applied thiamethoxam product per growing season. Do not make more than 3 applications of Agri-Flex or other foliar-applied abamectin-containing product per growing season. Refer to product label for additional use requirements.									
Agri-Mek SC	Abamectin (6)	100-1351	0.02	7	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish, mammals, and aquatic organisms. Highly toxic to honeybees.[9] Limit of 3 applications per growing season. Do not apply more than 8.5 fl oz (0.047 lb a.i.) per acre of any abamectin-containing product per growing season.									
Agro Pro X Agro XP	Sesame oil (UNE) Soybean oil (UNE)	Exempt	N/A	0	NO	0	-	-	-
Other Use Requirements: Follow label for specific mixing instructions.									
Alias 4F	Imidacloprid (4A)	66222-156	0.07	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 16 oz per acre per season or 0.5 lb a.i. per acre per year.									
Alluma	Garlic oil (UNE)	Exempt	N/A	0	NO	0	-	-	-
Other Use Requirements: The pH of spray solution must be kept between 6 and 7. Use spray solutions within 12 hours of mixing.									
Altacor Altacor eVo	Chlorantraniliprole (28)	352-730; 279-9607 279-9660	1.4	1	NO	4	-	-	-

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: Do not make more than 3 applications per season. Do not apply more than 9 oz (0.2 lb a.i.) of chlorantraniliprole-containing product per acre per crop season.									
Altrevin Fire Ant Bait	Metaflumizone (22B)	7969-270	3 ppm fruit 10 ppm oil	5	NO	12	-	-	-
Other Use Requirements: Do not apply more than 6 lb per acre per season. Do not apply more than 4 times per season.									
Altus	Flupyradifurone (4D)	101563-186, 432-1575	3	1	NO	12	-	-	-
Other Use Requirements: Do not apply more than 28 fl oz per acre per season. Toxic to aquatic organisms and bees.									
Amavi SC	Abamectin (6)	89167-123-89391	0.02	7	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish, mammals, and aquatic organisms. Highly toxic to honeybees.[9] Limit of 3 applications per growing season.									
Amdro	Hydramethylnon (20A)	241-322	N/A	0	NO	12	-	-	-
Other Use Requirements: Toxic to fish.									
Anarchy 30 SG Anarchy 70 WP	Acetamiprid (4A)	34704-1096 34704-1098	0.5	7	NO	12	-	-	-
Other Use Requirements: Toxic to fish.									
Apta	Tolfenpyrad (21A)	71711-36	1.5	3	NO	12	-	-	-
Other Use Requirements: Do not apply more than 27.0 fl oz per acre per growing season. Do not make more than 2 applications per year. Do not apply by air.									
Aramite	Cinnamon (UNK) Clove oil (UNK)	Exempt	N/A	0	NO	0	-	-	-
Artist	Thiamethoxam (4A)	83529-125	0.4	0	NO	12	-	-	-
Other Use Requirements: Do not exceed a total of 11.0 oz (0.172 lb a.i.) of thiamethoxam-containing products per acre per growing season. Do not apply during prebloom or during bloom when bees are actively foraging.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
ArVida 30 SG ArVida 70 WP	Imidacloprid (4A)	9123-14 9123-15	0.07	7	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic invertebrates, bees, and birds. Maximum of 5 applications per season. Maximum of 29.3 oz per acre per season.									
Assail 30 SC Assail 30 SG	Acetamiprid (4A)	8033-141-70506 8033-36-70506	0.5	7	NO	12	-	-	-
Other Use Requirements: Limit to 5 applications per year. Limit to 29.3 oz (0.55 lb a.i.) per acre per crop.									
Assail 70WP	Acetamiprid (4A)	8033-23-70506	0.5	7	NO	12	-	-	-
Other Use Requirements: Limit to 5 applications per year. Limit to 12.5 oz (0.55 lb a.i.) per acre per crop.									
Aster 30 SG	Acetamiprid (4A)	93930-87	0.5	7	NO	12	-	-	-
Other Use Requirements: Limit to 5 applications per year. Limit to 12.5 oz (0.55 lb a.i.) per acre per crop.									
Ateka	Spirotetramat (23)	66222-313	0.6	1	NO	24	-	-	-
Other Use Requirements: Do not apply more than 32 fl oz (0.32 lb a.i.) per acre per growing season. Do not apply within 10 days prior to bloom, during bloom, or until petal fall is complete.									
Atrevia 1.2% SL Atrevia 3.0% SL	Azadirachtin (UN)	91234-306 91234-305	Exempt	0	NO	12	-	-	-
Other Use Requirements: Toxic to fish and aquatic animals.									
Avenger S3 Avenger Max	Bifenthrin (3A) Imidacloprid (4A)	89168-21-89391 89168-85-89391	0.05 0.07	1	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic organisms and pollinators including bees. Maximum of 64 fl oz per season.									
Averland FC Averland SM	Abamectin (6)	89118-10 89118-7	0.02	7	NO	12	-	10,000	-
Other Use Requirements: Toxic to aquatic organisms, bees, and wildlife. Maximum of 8.5 fl oz per acre per season.									
Aza-Direct	Azadirachtin (UN)	71908-1-10163	Exempt	0	NO	4	-	-	-

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: None.									
AzaGuard	Azadirachtin (UN)	70299-17	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
AZAPRO	Azadirachtin (UN)	92629-1	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Azatin O	Azadirachtin (UN)	70051-9-59807	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Azomar	Azadirachtin (UN)	91234-14-92488	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Bacillus thuringiensis			Exempt	0	NO	4	-	-	-
Agree WG	*Bt aizawai* strain GC-91	70051-47							
Biobit HP	*Bt kurstaki* strain ABTS-351	73049-54							
Bioprotec PLUS	*Bt kurstaki* strain EVB-113-19	89046-12							
BT Now	*Bt kurstaki* strain EVB-113-19	89046-12-70299							
Crymax	*Bt kurstaki* strain EG7841	70051-86							
Deliver	*Bt kurstaki* strain SA-12	70051-69							
DiPel DF	*Bt kurstaki* strain H0-1	73049-39							
Javelin WG	*Bt kurstaki* strain SA-11	70051-66							
Leprotec	*Bt kurstaki* strain EVB-113-19	70051-66-88847		0	NO	4			
XenTari	*Bt aizawai* strain ABTS-1857								
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Banister 2 EC Banister LFC	Bifenthrin (3A)	93930-17 93930-23	0.05	1	NO	12	-	-	100
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage. Apply only to individual citrus resets, not solid planted rows. Do not apply more than 0.5 lb a.i. per acre per year.									
Batallion 10 WSP Batallion 2 EC Batallion LFC	Bifenthrin (3A)	91234-117 91234-104 91234-177	0.05	1	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage. Apply only to individual citrus resets, not solid planted rows. Do not apply more than 0.5 lb a.i. per acre per year.									
Baythroid XL	Beta-cyfluthrin (3A)	264-840	0.2	0	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to aquatic invertebrates; highly toxic to honeybees.[9] Do not apply directly to water.									
Belay	Clothianidin (4A)	59639-150	0.07	365	NO	12	-	-	-
Other Use Requirements: Do not harvest citrus for one year after treatment. Toxic to aquatic invertebrates; highly toxic to honeybees up to 5 days post application.[9] Do not apply directly to water.									
Beleaf 50 SG	Flonicamid (29)	71512-10-279	4.5	0	NO	12	-	-	-
Other Use Requirements: Maximum of 8.4 oz per acre per season.									
Bemix	Clove oil (UN)	Exempt	N/A	0	No	0	-	-	-
Other Use Requirements: Use immediately after mixing — do not store diluted solution. Water pH must be between 4 and 8.									
Bestero 50 WG	Flonicamid (29)	91234-300	4.5	0	NO	12	-	-	-
Other Use Requirements: Maximum of 8.4 oz per acre per season.									
Bi-Dash 2E	Bifenthrin (3A)	83529-48	0.05	1	NO	12	-	-	-
Bifen 2 AG Gold Bifen 2 EC Select	Bifenthrin (3A)	83222-1 92647-32	0.05	1	NO	12			
Bifender FC	Bifenthrin (3A)	89118-2	0.05	1	NO	12	-	10,000	-

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Bifenthrin 2 EC Bifenthrin LFC Bifenthrin Technical	Bifenthrin (3A)	2749-5565905-626 94730-21 91813-53	0.05	1	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage. Apply only to individual citrus resets, not solid planted rows. Do not apply more than 0.5 lb a.i. per acre per year.									
Bifenture EC Bifenture 10 DF Bifenture LFC	Bifenthrin (3A)	70506-57 70506-227 70506-305	0.05	1 1 0	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage. Apply only to individual citrus resets, not solid planted rows. Do not apply more than 0.5 lb a.i. per acre per year.									
BioCeres EC BioCeres GR BioCeres WP	*Beauveria bassiana* strain ANT-03	89600-4 89600-7 89600-2	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
BioCover MLT BioCover SS BioCover UL	Mineral oil (UN)	34704-805 34704-809 34704-806	N/A	60 60 0	-	4 4 4	-	-	-
Other Use Requirements: Toxic to aquatic organisms.									
Bizate 4SC	Bifenazate (20D)	34704-1116	Nonbearing	-	-	12	-	-	-
Other Use Requirements: Maximum of 1 application per season. Toxic to aquatic invertebrates, pollinators, and birds.									
Botanigard ES Botanigard WP Botanigard Optima ES	*Beauveria bassiana* strain GHA	82074-1 82074-2 82074-17	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Botanigard MAXX	*Beauveria bassiana* strain GHA Pyrethrins (3A)	82074-5	Exempt	0	NO	12	-	-	-
Other Use Requirements: None.									
BoteGHA ES BoteGHA Optima ES	*Beauveria bassiana* strain GHA	82074-1 82074-17	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Boxadon 360 SC	Spirotetramat (23)	70506-643	0.6	1	NO	24	-	-	-
Other Use Requirements: Do not apply more than 20 fl oz (0.32 lb a.i.) per acre per crop season. Do not apply within 10 days prior to bloom, during bloom, or until petal fall is complete.									
Bracket 90 WDG	Acephate (1B)	84229-7-1381	Nonbearing	12 months	NO	24	-	-	-
Other Use Requirements: Do not harvest citrus for 1 year after treatment. Minimum 3 days spray interval for up to 0.5 lb a.i. per acre and 7 days for rates greater than 0.5 lb a.i. per acre.									
Bracket 97 Bracket 97 WDG	Acephate (1B)	70506-8-1381 66222-266-1381	Nonbearing	12 months	NO	24	-	-	-
Other Use Requirements: Do not harvest citrus for one year after treatment. Minimum 3 days spray interval for up to 0.5 lb a.i. per acre and 7 days for rates greater than 0.5 lb a.i. per acre.									
Brandt Ecotec Plus	Geraniol Peppermint oil Rosemary oil	Exempt	N/A	0	0	0	-	-	-
Other Use Requirements: None.									
Brigade 2 EC	Bifenthrin (3A)	279-3313	0.05	1	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage. Apply only to individual citrus resets, not solid planted rows. Do not apply more than 0.5 lb a.i. per acre per year.									
Brigade eVo	Bifenthrin (3A)	279-9675	0.05	1	NO	12	-	-	-

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage. Apply only to individual citrus resets, not solid planted rows. Do not apply more than 0.5 lb a.i. per acre per year.									
Brigade WSB	Bifenthrin (3A)	00279-3108	0.05	1	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Soil application only. Do not allow contact with fruit or foliage. Toxic to fish and aquatic organisms; highly toxic to honeybees.									
Brigadier	Imidacloprid (4A) Bifenthrin (3A)	279-3332	0.07 0.05	Soil — 1 Foliar — 14	NO	12	-	-	100
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Maximum of 0.13 lb a.i. per acre per season of imidacloprid and 0.13 lb a.i. per acre per season of bifenthrin.									
Bronte	Inactivated *Burkholderia rinojensis* strain A396	84059-34	Exempt	0	NO	4			
Other Use Requirements: None.									
Captiva	Capsicum oleoresin extract Soybean oil Garlic oil	10163-326	Exempt	0	NO	4	-	-	-
Captiva Prime	Capsicum oleoresin extract Canola oil Garlic oil	10163-336	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Capture LFR	Bifenthrin (3A)	279-3302	0.05	1	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage. Apply only to individual citrus resets, not solid planted rows. Do not apply more than 0.5 lb a.i. per acre per year.									
Carbaryl 4L (see also Sevin)	Carbaryl (1A)	34704-447; 19713-49	10	5	NO	12	10	10,000	1
Other Use Requirements: Highly toxic to aquatic invertebrates and honeybees.[9] Do not apply more than 20 qt per acre per crop.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Carbine 50 WG	Flonicamid	71512-9-279	1.5	0	NO	12	-	-	-
Other Use Requirements: Do not apply more than 0.267 lb a.i. per acre per year.									
Chlorpyrifos 4E AG	Chlorpyrifos (1B)	66222-19	1	21 (0–7 pt) 35 (7–12 pt)	YES	5 days	100	10,000	1
Other Use Requirements: ***Check current label and tolerances prior to use.*** Tolerances have been revoked and reinstated over the course of recent years. RESTRICTED USE PESTICIDE[8]. Toxic to fish, aquatic organisms, mammals, and birds. Limit 2 applications per year.									
Clever 50 DF	Hexythiazox (10A)	91234-38	Nonbearing	0	NO	12		10,000	-
Other Use Requirements: Maximum of 1 application per season.									
Clinch Ant Bait	Abamectin (6)	100-894	0.02	0	NO	12	-	-	-
Other Use Requirements: None.									
Confirm 2F	Tebufenozide (18)	8033-111-10163	2	14	NO	4	-	-	-
Other Use Requirements: Toxic to aquatic invertebrates. Maximum of 80 fl oz per acre per year.									
Conserve SC	Spinosad (5)	62719-291	0.3	1	NO	4	-	-	-
Other Use Requirements: Maximum of 5 applications per season.									
Contigo 600 SC	Chlorantraniliprole (28)	91234-380	1.4	1	NO	4	-	-	-
Other Use Requirements: Do not make more than 3 applications per season. Do not apply more than 9 oz (0.2 lb a.i.) of chlorantraniliprole-containing product per acre per crop season.									
Contraxio SC	Spinosad (5)	91234-281	0.3	1	NO	4	-	-	-
Other Use Requirements: Maximum of 5 applications per season.									
Cortes Maxx	Zeta-cypermethrin (3A)	91234-273	0.3	1	NO	1	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish and aquatic organisms. Do not apply more than 0.2 lb a.i. zeta-cypermethrin per acre per season.									
Cusack Citrus	Pyriproxyfen (7C)	91234-58	0.5	1	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic invertebrates, aquatic organisms, and fish. Maximum rate of 16 fl oz per acre per season.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Danitol 2.4 EC Spray	Fenpropathrin (3A)	59639-35	2	1	NO	24	-	10,000	100
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish, aquatic organisms, and honeybees. Do not apply during bloom.									
Datsun	Zeta-cypermethrin (3A)	83529-234	0.3	1	NO	1	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish and aquatic organisms. Do not apply more than 0.2 lb a.i. zeta-cypermethrin per acre per season.									
Debug ON	Fats and Glyceridic oils, margosa	1021-2879	Exempt	0	NO	4	-	-	-
Other Use Requirements: OMRI-listed, toxic to aquatic invertebrates, fish, and bees.									
Debug Optimo	Fats and Glyceridic oils, margosa Azadirachtin	1021-2876	Exempt	0	NO	4	-	-	-
Other Use Requirements: OMRI-listed, toxic to aquatic invertebrates, fish, and bees.									
Debug Tres	Oils, margosa Azadirachtin	1021-2877	Exempt	0	NO	4	-	-	-
Other Use Requirements: OMRI-listed, toxic to aquatic invertebrates, fish, and bees.									
Debug Turbo	Oils, margosa Azadirachtin	70310-5; 1021-2874	Exempt	0	NO	4	-	-	-
Other Use Requirements: OMRI-listed, toxic to aquatic invertebrates, fish, and bees.									
Delegate WG	Spinetoram (5)	62719-541	0.3	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 12 oz (0.188 lb a.i.) per acre per season. Do not make more than 3 applications per calendar year.									
DeltaGard	Deltamethrin (3A)	101563-155	0.02	0	NO	0	-	-	-
Other Use Requirements: Do not apply more than 10 fl oz per acre per season.									
Des-X	Potassium salts of fatty acids	67702-22-70051	Exempt	0	NO	12	-	-	-
Other Use Requirements: OMRI-listed, toxic to aquatic invertebrates. Maximum 3 applications per season.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Diflubenzuron 2SC	Diflubenzuron (15)	84229-49	3	7	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to aquatic organisms.									
Dimate 4 EC	Dimethoate (1B)	9779-273	2	15–45 (depending on rate)	YES	10 days	500	10,000	10
Other Use Requirements: Limit to 2 applications to mature fruit. Highly toxic to honeybees.[9] Toxic to aquatic organisms.									
Discipline 2EC	Bifenthrin (3A)	5481-517	0.05	1	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish and aquatic organisms. Maximum of 32 fl oz per acre per season. Do not apply more than 0.5 lb per acre per year.									
Discus L	Imidacloprid (4A) Cyfluthrin (3A)	59807-18	Nonbearing	0	NO	12			
Other Use Requirements: Do not apply during periods of high bee activity. Do not apply more than 0.5 lb a.i. imidacloprid or 0.12 lb a.i. cyfluthrin per acre per year.									
Dominus	Allyl isothiocyanate (UN)	89285-2; 10163-387	Exempt	0	YES	5 days	-	-	-
Other Use Requirements: Do not apply within 25 feet of occupied structure.									
Dimethoate 4 EC	Dimethoate (1B)	19713-231	2	15–45 (depending on rate)	YES	10 days	500	10,000	10
Other Use Requirements: Limit to 2 applications to mature fruit. Highly toxic to honeybees.[9] Toxic to aquatic organisms.									
Drexel Damoil	Petroleum oil (UN)	19713-123	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Drexel Damoil Supreme	Mineral oil (UN)	19713-708	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Ecotrol PLUS	Geraniol, Peppermint oil, Rosemary oil (UN)	Exempt	N/A	0	NO	0	-	-	-
Other Use Requirements: None.									
EcoWorks	Neem oil (UN)	89152-4	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Ecozin Plus 1.2% ME	Azadirachtin (UN)	-	Exempt	0	NO	12	-	-	-
Other Use Requirements: None.									
Endomite	Propargite (12C)	91234-33	Nonbearing	0	YES	16 days	-	10,000	10
Other Use Requirements: Do not mix with oil, products with petroleum-based solvents, lime, or lime sulfur. Do not apply within 2 weeks of oil application. Avoid application to immature leaves and fruit. Limit 2 applications per season. Toxic to fish.									
Engame	Methoxyfenozide (18)	62719-442	3	1	NO	4	-	-	-
Other Use Requirements: Maximum of 4 applications per season. Maximum of 64 fl oz per acre.									
Enterik 0.15 LV Enterik 0.7 SC	Abamectin (6)	91234-51 91234-252	0.02	7	NO	12	-	-	-
Other Use Requirements: Maximum of 40 oz per acre per season. Toxic to amphibians, bees, and aquatic organisms.									
Entrapment CK Entrapment FV Entrapment RC Entrapment SP	Xanthan gum (UN)	92988-3 92988-2 92988-4 92988-2	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Entrust Entrust SC	Spinosad (5)	62719-282 62719-621	0.3	1	NO	4	-	-	-

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: Limit to 2 applications per year. Limit to 9 oz (0.45 lb a.i.) per acre per season.									
Envidor 2SC	Spirodiclofen (23)	264-831	0.5	7	NO	12	-	-	-
Other Use Requirements: Limit to 1 application per year. Limit to 20 oz per acre per season.									
Eprius 0.5 G FAB	Pyriproxyfen (7C)	34704-1171	0.5	1	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic organisms. Do not water treated area for 24 hours after application. Do not apply any other ant pesticide for 7–10 days after application.									
Esteem Ant Bait	Pyriproxyfen (7C)	59639-114	0.3	1	NO	12	-	-	-
Other Use Requirements: None.									
Estero SC	Spinosad (5)	91234-278	0.3	1	NO	4	-	-	-
Other Use Requirements: Limit to 2 applications per year. Limit to 9 oz (0.45 lb a.i.) per acre per season.									
Ethos Elite LFR	*Bacillus subtilis*, *Bacillus velezensis*, Bifenthrin (3A)	279-9651	0.05	0	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic organisms and pollinators. Toxic to bees[9]. Do not apply to flowering crops or crops with flowering weeds if bees are visiting them.									
Eventex 400SC	Chlorantraniliprole (28)	83100-77	1.4	1	NO	4	-	-	-
Other Use Requirements: Do not make more than 3 applications per season. Do not apply more than 9 oz (0.2 lb a.i.) of chlorantraniliprole-containing product per acre per crop season.									
Evergreen EC 60-6	Pyrethrins + piperonyl butoxide (3A)	1021-1770	Pyrethrins (1) Piperonyl butoxide (8)	0	NO	12	10,000	-	1
Other Use Requirements: None.									
Ex-Icute/Rapid-O	Clove oil, Sesame oil, Soybean oil, Rosemary oil (UN)	Exempt	Exempt	0	NO	0	-	-	-
Other Use Requirements: None.									
Exirel	Cyantraniliprole (28)	279-9615	0.70	1	NO	12	-	-	-

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: Do not apply a total of more than 0.4 lb a.i. per acre of any cyantraniliprole-containing product per year. See label for pollinator restrictions.									
Extinguish	Methoprene (7A)	2724-475	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Fanfare EC	Bifenthrin (3A)	66222-261	0.05	1	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Soil application only. Do not allow contact with fruit or foliage. Toxic to fish and aquatic organisms. Highly toxic to honeybees.[9]									
Fastac CS	Alpha-cypermethrin (3A)	7969-364	0.35	1	NO	12	-	-	100
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish and aquatic organisms. Do not apply more than 0.075 lb a.i. per acre per season.									
Firefighter Ant Bait	Spinosad (5)	67702-56-70051	0.3	0	NO	4	-	-	-
Other Use Requirements: Toxic to aquatic invertebrates.									
Fyfanon	Malathion (1B)	279-3540	8	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Do not apply when trees are in bloom. Maximum 1.5 lb a.i. per year. Maximum 1 application per year.									
GCS Bifenthrin 2EC	Bifenthrin (3A)	94730-8	0.5	1	NO	12	-	-	100
GCS Bifenthrin LFC	Bifenthrin (3A)	94730-21	0.5	0	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage.									
GCS Methoxy 2F	Methoxyfenozide (18)	94730-10	3	1	NO	4	-	-	-
Other Use Requirements: Maximum of 4 applications per season. Maximum of 64 fl oz per acre.									
Glacial Spray Fluid	Mineral oil (UN)	34704-849	Exempt	0	NO	4	-	-	-
Other Use Requirements: Toxic to aquatic organisms. OMRI listed.									
Gladiator	Zeta-cypermethrin (3A) Avermectin (6)	279-3441	0.35	7	NO	12			

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish and aquatic organisms. Do not apply more than 0.2 lb a.i. zeta-cypermethrin per acre and 0.047 lb a.i. avermectin per season. Must be applied with an adjuvant.									
Golden Pest Spray Oil	Soybean oil (UN)	57538-11	N/A	0	NO	4	-	-	-
Other Use Requirements: None.									
Grandevo	*Chromobacterium subtsugae*	84059-27	Exempt	0	NO	4	-	-	-
Other Use Requirements: Highly toxic to honeybees;[9] do not apply during bloom.									
Hexamite	Hexythiazox (10A)	42750-311	0.6	0	NO	12	-	-	100
Other Use Requirements: Do not make more than 1 application per year.									
Imidacloprid 2F 2F T&O 4 F 4SC	Imidacloprid (4A)	38167-36-5905; 84229-15 38167-37-5905 38167-41-5905; 84229-59 87290-326	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 32 oz (0.5 lb a.i.) per acre per year.									
Imidashot DF	Imidacloprid (4A)	70905-3	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 40 oz (0.5 lb a.i.) per acre per year.									
ImidaStar 2L T&O	Imidacloprid (4A)	42750-115	0.7	7	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 40 oz (0.5 lb a.i.) per acre per year.									
Imperium	Deltamethrin (3A)	101563-155	Exempt	0	NO	0	-	-	-
Other Use Requirements: Do not apply more than 10 fl oz per acre per season.									
Inspirato 2 F	Methoxyfenozide (18)	91234-62	3	1	NO	4	-	10,000	-
Other Use Requirements: Do not apply more than 16 fl oz per acre per application or 64 fl oz (1 lb a.i.) per acre per season. Do not apply within 14 days of last application.									
Intrepid 2F	Methoxyfenozide (18)	62719-442	3	1	NO	4	-	-	-

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: 24(c) SLN-FL-100001; do not apply more than 16 fl oz per acre per application or 64 fl oz (1 lb a.i.) per acre per season. Do not apply within 14 days of last application.									
Intrepid Edge	Spinetoram (5) Methoxyfenozide (18)	62719-666	0.3 3	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 1 lb a.i. methoxyfenozide or 0.14 lb a.i. spinetoram per acre per season. Maximum of 3 applications per year. Do not apply within 7 days of previous application.									
Intruder Max 70 WP	Acetamiprid (4A)	8033-23-70506	1	7	NO	12	-	-	-
Other Use Requirements: Do not apply more than 0.55 lb a.i. per acre per season.									
Invertid 2F	Methoxyfenozide (18)	34704-1107	3	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 1 lb a.i. per acre per season.									
Invicar 2SC	Methoxyfenozide (18)	83100-65	3	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 0.55 lb a.i. per acre per season.									
Isarid	*Isaria fumosorosea* strain FE 9901	89635-5	Exempt	0	NO	12	-	-	-
Other Use Requirements: None. OMRI listed.									
Kibosh SC	Spinosad (5)	62719-621	0.3	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 29 oz per acre per crop year. Limit 3 applications per season.									
Kryocide	Cryolite (UN)	70506-172	7	15	NO	12	-	-	-
Other Use Requirements: Limit to 90 lb per acre per season.									
Lada 2F Lada 75WSP	Imidacloprid (4A)	83100-6-83979 83100-26-83979	0.7	14	NO	12	-	-	-
Other Use Requirements: For use on nonbearing trees only.									
Lancer 2EC Lancer FC	Bifenthrin (3A)	42750-368 45002-36	0.05	1	NO	12	-	10,000	-

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage.									
Livid 90 Prill Livid 97 Prill	Acephate (1B)	89167-27-89391 89167-35-89391	Nonbearing	12 months	NO	24	-	10,000	-
Other Use Requirements: Do not harvest citrus for one year after treatment. Minimum 3 days spray interval for up to 0.5 lb a.i. per acre and 7 days for rates greater than 0.5 lb a.i. per acre.									
Macho 2.0 FL 4.0 4 FL	Imidacloprid (4A)	42750-110 42750-140 93930-24	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 32 oz (0.5 a.i.) per acre per year. Do not apply within 10 days prior to bloom or when bees are foraging.									
Madari	Imidacloprid (4A)	93930-24	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 32 oz (0.5 a.i.) per acre per year. Do not apply within 10 days prior to bloom or when bees are foraging.									
Malathion 57 EC	Malathion (1B)	279-3607-53883 67760-40-53883	8	7	NO	72	-	10,000	100
Other Use Requirements: Highly toxic to honeybees.[9] Do not apply when trees are in bloom. Maximum 1.5 lb a.i. per year. Maximum 1 application per year.									
Malice 2F	Imidacloprid (4A)	34707-893	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 a.i. per acre per year.									
Mallet 2F T&O	Imidacloprid (4A)	228-695	0.7	7	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 a.i. per acre per year.									
Marathon 1% Granular	Imidacloprid (4A)	59807-15	Nonbearing	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 a.i. per acre per year.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Match-Up	Bifenthrin (3A) Chlorpyrifos (1B)	34704-1086	Orchard floor application	28	YES	5 days	100	10,000	1
Other Use Requirements: RESTRICTED USE PESTICIDE[8]. For orchard floor application only. Do not contact fruit. Maximum of 3 applications per year. Maximum of 82.1 fl oz per acre per year. Toxic to aquatic organisms, bees, birds, and mammals.									
Micromite 2L Micromite 80WGS	Diflubenzuron (15)	70506-535	0.5	7	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to aquatic invertebrates.									
Midash Forte	Imidacloprid (4A)	83529-6	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 a.i. per acre per year.									
Minecto Pro	Cyantraniliprole (28) Abamectin (6)	100-1592	0.70 0.002	7	NO	12	-	-	-
Other Use Requirements: Do not apply more than 0.4 lb a.i. per calendar year of any cyantraniliprole-containing product. Do not apply from onset of flowering until petal fall is complete.									
Minerio 2F Flex	Imidacloprid (4A)	91234-304	0.7	7	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 lb a.i. per acre per year.									
MitoMax II	Propargite (12C)	2749-577	10	0	YES	16			
Other Use Requirements: RESTRICTED USE PESTICIDE[8]. After 48 hours, workers may enter treated area if they wear proper personal protective equipment. Limit 2 applications per season.									
Montana 2F 4F	Imidacloprid (4A)	83100-7-83979 83100-21-83979	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 lb a.i. per acre per year.									
Movento	Spirotetramat (23)	264-1050	0.6	1	NO	24	-	-	-
Other Use Requirements: Do not apply more than 20 fl oz (0.32 lb a.i.) per acre per crop season. Do not apply within 10 days prior to bloom, during bloom, or until petal fall is complete.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Movento MPC	Spirotetramat (23)	264-1065	0.6	1	NO	24	-	-	-
Other Use Requirements: Do not apply more than 32 fl oz (0.32 lb a.i.) per acre per growing season. Do not apply within 10 days prior to bloom, during bloom, or until petal fall is complete.									
Mustang	Zeta-cypermethrin (3A)	279-3126	0.3	1	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Do not make more than 4 applications (0.20 lb a.i.) per crop season. Do not make applications less than 14 days apart. Highly toxic to honeybees;[9] do not apply during bloom.									
Mustang Maxx	Zeta-cypermethrin (3A)	279-3426	0.3	1	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Do not make more than 4 applications (0.10 lb a.i.) per crop season. Do not make applications less than 14 days apart. Highly toxic to honeybees;[9] do not apply during bloom.									
Mycotrol ESO Mycotrol Optima ES Mycotrol WPO	*Beauveria bassiana* strain GHA	82074-1 82074-17 82074-2	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Nealta	Cyflumetofen (25)	7969-336	0.3	7	NO	12	-	-	-
Other Use Requirements: Do not apply more than twice per season per crop. Do not apply more than 0.36 lb a.i. per season per crop.									
Nexter Miticide/Insecticide SC	Pyridaben (21A)	81880-4-10163 81880-28-10163	0.9	7	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees[9] and fish. Do not exceed 2 applications per season. Do not apply by air or handgun.									
Nirvana RTU	Bifenthrin (3A)	91234-177-89391	0.05	0	NO	12			
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Soil application only. Do not allow contact with fruit or foliage. Toxic to fish and aquatic organisms; highly toxic to honeybees. Do not apply more than 0.5 lb a.i. per acre per year.									
NoFly WP	*Isaria fumosorosea* strain FE9901	88664-1	Exempt	0	NO	12	-	-	-
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Nuprid 4 Max	Imidacloprid (4A)	228-528	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 lb a.i. per acre per year.									
Odeza	Buprofezin (16)	71711-21-60063	4	3	NO	12	-	-	-
Other Use Requirements: Maximum of 2 applications per season. Maximum 92 oz per acre per season.									
Onager Onager Optek	Hexythiazox (10A)	10163-277 101163-337	Nonbearing	0	NO	12	-	-	-
Other Use Requirements: Do not make more than one application per calendar year. Do not apply more than 24 oz per acre per calendar year.									
Orthene 97 Orthene Turf, Tree, and Ornamental 97 Spray Orthene Turf, Tree, and Ornamental WSP	Acephate (1B)	5481-8978 5481-8978 5481-8971	Nonbearing	12 months	NO	24	10	10,000	1
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to fish and birds. Do not harvest citrus for 1 year after treatment. Minimum 3 days spray interval for up to 0.5 lb a.i. per acre and 7 days for rates greater than 0.5 lb a.i. per acre.									
Osaria Osaria Ultra 70 WDG	Chlorantraniliprole (28)	91234-366 91234-379	1.4	1	NO	4	-	-	-
Other Use Requirements: Do not make more than 3 applications per season. Do not apply more than 9 oz (0.2 lb a.i.) of chlorantraniliprole-containing product per acre per crop season.									
Pest Out	Cottonseed oil, Clove oil, Garlic oil (UN)	0238-D-D-1	Exempt	0	NO	0	-	-	-
Other Use Requirements: None.									
PFR-97 PFR 97 10% ES	*Isaria fumosorosea* Apopka strain 97 (UN)	70051-133 70051-19	Exempt	0	NO	12	-	-	-
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Pilot 15G 4E	Chlorpyrifos (1B)	93182-8 93182-7	1	28 (Orchard floor)	YES	5 days	100	10,000	1
Other Use Requirements: Check current label and tolerances prior to use. Tolerances have been revoked and reinstated over the course of recent years. RESTRICTED USE PESTICIDE[8]. Toxic to fish, aquatic organisms, mammals, and birds. Limit 2 applications per year.									
Plaid 70 WG	Chlorantraniliprole (28)	279-9707	1.4	1	NO	4	-	-	-
Other Use Requirements: Do not make more than 3 applications per season. Do not apply more than 9 oz (0.2 lb a.i.) of chlorantraniliprole-containing product per acre per crop season.									
Platinum 75 SG	Thiamethoxam (4A)	100-1291	0.4	0	NO	12	-	-	-
Other Use Requirements: Do not exceed a total of 3.67 (0.172 lb a.i.) per acre of thiamethoxam-containing products per acre per growing season. Do not apply during prebloom or during bloom when bees are actively foraging.									
Portal	Fenpyroximate (21A)	71711-19	0.6	3 14	NO	12	- -	- -	1000 100
Other Use Requirements: Do not apply more than 4 pt per season.									
PQZ	Pyrifluquinazon (9B)	71711-37	0.7	1	NO	12	-	-	-
Other Use Requirements: Do not make more than 2 applications per year. Allow a minimum of 7 days between applications.									
Prey 1.6	Imidacloprid (4A)	34704-894	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 40 oz (0.5 lb a.i.) per acre per year.									
Prev-AM	Sodium tetraborohydrate decahydrate (8D)	72662-3	No tolerance established	0	NO	24	-	-	-
Other Use Requirements: None.									
Prokil Cryolite 96	Sodium aluminoflouride (UN)	10163-41	7	15	NO	12	-	-	-
Other Use Requirements: Do not apply more than 90 lb per acre per year.									
Provoke	Imidacloprid (4A)	89168-23-89391	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 lb a.i. per acre per year.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Pyganic EC 1.4 II Pyganic EC 5.0 II	Pyrethrins (3A)	1021-1771 1021-1772	1	0	NO	12	-	-	1
Other Use Requirements: None.									
Pylon	Chlorfenapyr (13)	241-374	Nonbearing	Nonbearing	NO	12	-	-	-
Other Use Requirements: Maximum 3 applications per year to nonbearing trees only. Maximum 41 fl oz per acre per year.									
Pyrenone Crop Spray	Piperonyl butoxide (UN) Pyrethrins (3A)	432-1033	8 1	0	NO	12	-	-	16
Other Use Requirements: Toxic to fish.									
Pyronyl Crop Spray	Piperonyl butoxide Pyrethrins (3A)	89459-26	Exempt	0	NO	12	-	-	-
Other Use Requirements: Maximum 10 applications per season. Toxic to aquatic organisms and pollinators.									
Rango	Neem oil (UN)	88760-10	Exempt	0	NO	4	-	-	-
Other Use Requirements: Toxic to aquatic organisms.									
Reaper 0.15EC Reaper Advance Reaper ClearForm	Abamectin (6)	34704-923 34704-923 34704-1078	0.02	7	NO	12	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish, mammals, and aquatic organisms. Highly toxic to honeybees.[9] Limit of 3 applications per growing season. Do not apply more than 0.047 lb a.i. per acre per year of any abamectin product in a growing season.									
Reemit 0.5 G Fire Ant Bait	Pyriproxyfen (7C)	91234-59	0.5	1	NO	12	-	10,000	-
Other Use Requirements: Maximum rate of 26.8 lb per acre per season. Do not apply when rain is expected within 6 hours. Do not water treated area for 24 hours after application.									
Reemit 0.86 EC	Pyriproxyfen (7C)	91234-58	0.5	1	NO	12	-	10,000	100
Other Use Requirements: Maximum 2 applications per season. Maximum 26 fl oz per acre. Toxic to aquatic organisms.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Requiem Prime	Terpene constituents of the extract of *Chenopodium ambrosioides* (UN)	264-1185-70051	Exempt	0	NO	4	-	-	-
Other Use Requirements: Do not apply by aerial application. Toxic to aquatic organisms.									
ReTurn	Oxamyl (1A)	83100-53-83979	3	7	YES	4 days	-	-	100
Other Use Requirements: RESTRICTED USE PESTICIDE[8]. Toxic to aquatic organisms, bees, birds, and mammals. Do not apply when bees are in the area. Minimal treatment interval is 14 days. Do not apply more than 24 pt per acre per year. Do not apply more than 8 pt per acre in under 30 days. Do not apply more than 6 times per year.									
Reveal Reveal Endurx	Bifenthrin (3A)	89168-19-893191 89768-79-89391	0.05	1	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Soil application only. Do not allow contact with fruit or foliage. Toxic to fish and aquatic organisms; highly toxic to honeybees. Do not apply more than 0.5 lb a.i. per acre per year.									
Ruckus LFR	Bifenthrin (3A)	279-3302-5905	0.05	0	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Soil application only. Do not allow contact with fruit or foliage. Toxic to fish and aquatic organisms; highly toxic to honeybees. Do not apply more than 0.5 lb a.i. per acre per year.									
Sabano 50 WDG	Flonicamid (29)	91234-301	1.5	0	NO	12	-	10,000	-
Other Use Requirements: Maximum of 3 applications per season. Maximum 8.56 oz per acre. Toxic to bees.									
Seduce Insect Bait	Spinosad (5)	67702-25-7051	0.3	1	NO	4	-	-	-
Other Use Requirements: Maximum 3 applications per season. Maximum 0.45 lb a.i. (including foliar applications) per acre. Toxic to aquatic invertebrates.									
Sefina	Afidopyropen (9D)	7969-391	0.15	0	NO	12	-	-	-
Other Use Requirements: Do not make more than 2 sequential applications without rotating another chemistry. Do not apply more than 0.09 lb a.i. per acre per year.									
Seican	Cinnemaldehyde oil (UN)	91473-2-88783	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Senstar	Pyriproxyfen (7C) Spirotetramat (23)	59639-243	0.5 0.6	1	NO	24	-	-	100

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: Do not apply within 10 days prior to bloom or until petal fall is complete. Do not apply more than 0.156 lb a.i. spirotetramat and 0.055 lb a.i. pyriproxyfen per acre per application. Do not apply more than 0.313 lb a.i. spirotetramat and 0.109 lb a.i. pyriproxyfen per acre per year.									
Sevin XLR Plus (see also Carbaryl)	Carbaryl (1A)	61842-37	10	5	NO	12	-	10,000	100
Other Use Requirements: Do not apply more than 20 lb a.i. per acre per year for all uses. Highly toxic to honeybees.[9] Toxic to aquatic invertebrates.									
Shenzi 700 WDG	Chlorantraniliprole (28)	70506-609	1.4	1	NO	12	-	-	-
Other Use Requirements: Do not make more than 3 applications per season. Do not apply more than 9 oz (0.2 lb a.i.) of chlorantraniliprole-containing product per acre per crop season.									
Sherpa	Imidacloprid (4A)	34704-983	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 lb a.i. per acre per year.									
Siesta Fire Ant Bait	Metaflumizone (22B)	7969-232	3 ppm fruit 10 ppm oil	5	NO	12	-	-	-
Other Use Requirements: Do not apply more than 6 lb per acre per season. Do not apply more than 4 times per season.									
Simpai	Spinosad (5)	91234-279	0.3	1	NO	4	-	10,000	-
Other Use Requirements: Maximum 29 fl oz per acre per season. Toxic to aquatic invertebrates and pollinators.									
Sivanto 200 SL Sivanto HL Sivanto Prime	Flupyradifurone (4D)	264-1141 264-1198 264-1141	3.0	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 28.0 fl oz per acre per year.									
Skyraider	Bifenthrin (3A) Imidacloprid (4A)	66222-247	0.5 0.7	1	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Highly toxic to bees. Toxic to aquatic organisms. Maximum 32 fl oz per acre. Limit 0.5 lb a.i bifenthrin per acre per year and limit 0.5 lb a.i. imidacloprid per acre per year.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Sniper Sniper Helios Sniper LFR	Bifenthrin (3A)	34704-858 34704-858 34704-1089	0.05	1	NO	12	-	10,000	100
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage. Apply only to individual citrus resets, not solid planted rows. Do not apply more than 0.5 lb a.i. per acre per year.									
SNS-209 Organic Systemic Pest Control	Rosemary, Rosemary oil (UN)	None	Exempt	0	NO	0	-	-	-
Other Use Requirements: None.									
Soyote	Soybean oil, Sodium lauryl sulfate (UN)	None	Exempt	0	NO	0	-	-	-
Other Use Requirements: None.									
Spear-LEP Spear-T Liquid Concentrate	GS-omega/kappa-Hxtx-Hv1a (32)	88847-6	Exempt	0	NO	4	-	-	-
Other Use Requirements: Limit 10 pt per acre per season.									
Spellbound	Spinetoram (5)	34704-1212	0.3	1	NO	4			
Other Use Requirements: Do not apply more than 12 oz (0.188 lb a.i.) per acre per season. Do not make more than 3 applications per calendar year.									
Spine	Spirodiclofen (23)	83529-202	0.5	7	NO	12	-	-	-
Other Use Requirements: Maximum 1 application per season. Maximum 19.1 fl oz per acre per season. Toxic to bees.									
Spintor 2 SC	Spinosad (5)	62719-294	0.3	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 29 oz (0.45 lb a.i.) per acre per crop year. Limit 2 applications per season.									
Spliven	Spinosad (5)	91234-263	0.3	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 29 oz (0.45 lb a.i.) per acre per crop year. Limit 2 applications per season.									
Squadron LFC	Bifenthrin (3A)	2749-644	0.05	0	NO	12	-	-	-

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] For soil application only. Maximum 42.5 fl oz per acre per season. Toxic to aquatic organisms and bees.									
Success	Spinosad (5)	62719-292	0.3	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 29 oz (0.45 lb a.i.) per acre per crop year. Limit 2 applications per season.									
Suffoil-X	Mineral oil (UN)	48813-1-68539	Exempt	0	NO	4	-	-	-
Other Use Requirements: Toxic to aquatic organisms.									
Sulfur	Sulfur (NR)	See Table 2.	Exempt	0	NO	24	-	-	-
Other Use Requirements: Do not apply within 21 days of an oil spray.									
Surround WP	Kaolin (NR)	61842-18	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Swagger	Imidacloprid (3A) Bifenthrin (4A)	34704-1045	0.05 0.7	1	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Highly toxic to bees. Do not apply within 10 days prior to bloom or when bees are foraging. Do not allow product to contact fruit or foliage. Maximum of 0.25 lb a.i. imidacloprid per acre per year and maximum of 0.25 lb a.i. bifenthrin per acre per year.									
Telone II	1,3-dichloropropene	95290-1	None	0	YES	5 days	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE[8].									
Tempest	Imidacloprid (3A) Bifenthrin (4A)	279-3459-5905	0.05 0.7	1	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Highly toxic to bees. Do not apply within 10 days prior to bloom or when bees are foraging. Do not allow product to contact fruit or foliage. Maximum of 0.25 lb a.i. imidacloprid per acre per year and maximum of 0.25 lb a.i. bifenthrin per acre per year.									
Tersus	Pyrethrins (3A)	1021-2616	1	0	NO	12	-	-	1
Other Use Requirements: Toxic to bees and aquatic organisms. Maximum of 10 applications per season.									
Thwartex	Methoxyfenozide (18)	85588-18	3	1	NO	4	-	-	-
Other Use Requirements: Maximum 4 applications per season. Maximum 64 fl oz per acre per season. Toxic to aquatic invertebrates.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Tigris Imida 4F	Imidacloprid (4A)	92647-22	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 14 oz per acre per season or 0.5 lb a.i. per acre per year.									
Timectin 0.15 EC Ag	Abamectin (6)	84229-2	0.02	7	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish, mammals, and aquatic organisms. Highly toxic to honeybees.[9] Limit of 3 applications per growing season. Do not apply more than 8.5 fl oz (0.047 lb a.i.) of any abamectin-containing product per acre per growing season.									
Tivado	Spirotetramat (23)	91234-392	0.6	1	NO	24	-	-	-
Other Use Requirements: Do not apply within 10 days prior to bloom or until petal fall is complete. Do not apply more than 0.156 lb a.i. spirotetramat and 0.055 lb a.i. pyriproxyfen per acre per application. Do not apply more than 0.313 lb a.i. spirotetramat and 0.109 lb a.i. pyriproxyfen per acre per year.									
Transform WG	Sulfoxaflor (4C)	62719-625	0.7	1	NO	24	-	-	-
Other Use Requirements: Notify beekeepers within 1 mile of treatment area 48 hours before product is applied. Do not apply when pollinators are actively foraging. Do not make more than 4 applications per crop. Do not apply more than 0.266 lb a.i. per acre per year. One application is allowed between 3 days before bloom and until after petal fall.									
Trilogy	Extract of neem oil (UN)	70051-2	Exempt	0	NO	4	-	-	-
Other Use Requirements: None.									
Trinalor	Chlorantraniliprole (28)	66222-309	1.4	1	NO	4	-	-	-
Other Use Requirements: Do not make more than 3 applications per season. Do not apply more than 9 oz (0.2 lb a.i.) of chlorantraniliprole-containing product per acre per crop season.									
Troubadour 2F	Methoxyfenozide (18)	62719-442-5905; 5905-653	3	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 1 lb a.i. per acre per year.									
Tundra EC LFC	Bifenthrin (3A)	1381-196 70506-305-1381	0.05	1	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage. Apply only to individual citrus resets, not solid planted rows. Do not apply more than 0.5 lb a.i. per acre per year.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Turazi	Chlorantraniliprole (28)	279-9607-34704	1.4	1	NO	4	-	-	-
Other Use Requirements: Do not make more than 3 applications per season. Do not apply more than 9 oz (0.2 lb a.i.) of chlorantraniliprole-containing product per acre per crop season.									
TurnStyle	Methoxyfenozide (18)	70506-332	3	1	NO	4			
Other Use Requirements: Do not apply more than 1 lb a.i. per acre per season. Do not apply more than 16 fl oz per acre per application.									
Tyoga	Fenpyroximate (21A)	71711-19-60063	1	2	NO	12	-	-	-
Other Use Requirements: Maximum 2 applications per season. Maximum 4 pt per acre per season. Toxic to aquatic organisms.									
Vendex 50WP	Fenbutatin oxide (12B)	70506-211	20	7	NO	48	-	10,000	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish; limited to 2 applications per 12-month period with at least a 60-day interval.									
Verdepryn 100 SL	Cyclaniliprole (28)	71512-34-88783	0.4	1	NO	4	-	-	-
Other Use Requirements: Bloom spray limited to 0.054 lb a.i. per acre; must be made when bees are not actively foraging. Maximum of 3 applications per year. Do not apply more than 0.22 lb a.i. per acre per year.									
Verimark	Cyantraniliprole (28)	279-9616	0.70	1	NO	4	-	-	-
Other Use Requirements: Do not apply more than 0.4 lb a.i. per acre of any cyantraniliprole-containing product per year, regardless of whether applications are made to the soil or foliarly.									
Verso 30 SG 70 WP	Acetamiprid (4A)	89167-70-89391 89167-71-89391	1	7	NO	12	-	10,000	-
Other Use Requirements: Maximum of 5 applications. Limit to 29.3 oz (0.55 lb a.i.) per acre per crop.									
Vexer	Methoxyfenozide (18)	91234-62-89391	3	1	NO	4 days	-	-	-
Other Use Requirements: Do not apply more than 1 lb a.i. per acre per season.									
Viloprid 4 Viloprid FC 1.7	Imidacloprid (4A)	89118-16 89118-9	0.7	0	NO	12	-	-	-

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 14 oz per acre per season or 0.5 lb a.i. per acre per year.									
Viper RTU	Permethrin (3A)	4-393-53883	Nonbearing	0	NO	0	-	-	-
Other Use Requirements: Do not enter field until sprays have dried.									
Voliam Flexi	Chlorantraniliprole (28) Thiamethoxam (4A)	100-1319	1.4 0.4	1	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Do not apply when bees are actively foraging. Do not exceed a total of 14.0 oz of Voliam Flexi or 0.172 lb a.i. of thiamethoxam-containing products or 0.2 lb a.i. of chlorantraniliprole-containing products per acre per growing season.									
Vydate L	Oxamyl (1A)	352-372	3	7	NO	48	100	10,000	1
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to birds and mammals. Limit to 6 applications per year. Do not apply more than 24 pt per acre per year.									
Vypera L	Oxamyl (1A)	89167-94-89391	3	7	NO	4 days	-	10,000	100
Other Use Requirements: RESTRICTED USE PESTICIDE[8]. Toxic to aquatic organisms, bees, birds, and mammals. Do not apply when bees are in the area. Minimal treatment interval is 14 days. Do not apply more than 24 pt per acre per year. Do not apply more than 8 pt per acre in under 30 days. Do not apply more than 6 times per year.									
Warhawk Warhawk Clearform	Chlorpyrifos (1B)	34704-857 34707-1077	1	21 (0–7 pt) 35 (7–12 pt)	YES	5 days	100	10,000	1
Other Use Requirements: Check current label and tolerances prior to use. Tolerances have been revoked and reinstated over the course of recent years. RESTRICTED USE PESTICIDE[8]. Toxic to fish, aquatic organisms, mammals, and birds. Limit 2 applications per year.									
Widow	Imidacloprid (4A)	34704-893	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 lb a.i. per acre per year.									
Wrangler	Imidacloprid (4A)	34707-931	0.7	0	NO	12	-	-	-
Other Use Requirements: Highly toxic to honeybees.[9] Toxic to aquatic invertebrates. Limit to 0.5 lb a.i. per acre per year.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Wrath Insecticide	Geraniol Peppermint oil Cottonseed oil Rosemary oil	None	Exempt	0	NO	0	-	-	-
Other Use Requirements: None. OMRI listed.									
Xpedient Plus Xpedient Plus V	Bifenthrin (3A)	5481-517	0.05	1	NO	12	-	-	-
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Use as a soil barrier application; do not allow application to contact fruit or foliage. Apply only to individual citrus resets, not solid planted rows. Do not apply more than 0.5 lb a.i. per acre per year.									
Zelvia	Zeta-cypermethrin (3A)	89167-126-89391	0.3	1	NO	12	-	10,000	100
Other Use Requirements: RESTRICTED USE PESTICIDE.[8] Toxic to fish and aquatic organisms. Do not apply more than 0.2 lb a.i. zeta-cypermethrin per acre per season.									
Zivalgo	Isocycloseram (30)	100-1711	0.5	Rate of 1.1 fl oz/acre = 7 Rate greater than 1.1 fl oz/acre = 21	NO	3	-	-	-
Other Use Requirements: Do not apply 3 days prior to flowering until the end of bloom. Maximum single application rate of 2.5 fl oz per acre per application. Do not exceed 0.06 lb a.i. per acre of isocycloseram-containing products. Do not apply by air.									

Trade Name or Generic Name	Common Name (IRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[10]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[7, 8, 9]
							1	2	
Zylo	Methoxyfenozide (18)	70506-332	3	1	NO	4	-	-	-
Other Use Requirements: Toxic to aquatic invertebrates. Do not apply more than 1 lb a.i. per acre per year.									

[1] Mode of action class for citrus pesticides from the Insecticide, Fungicide, and Herbicide Resistance Action Committees. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Extracted from product labels, Code of Federal Regulations, and other federal and state regulations.

[3] Tolerances for U.S. market. For additional markets, search the online MRL database: bcglobal.bryantchristie.com.

[4] Read product label for specific use precautions, especially Worker Protection Standards and environmental concerns.

[5] Emergency Planning and Community Right-To-Know Act. The information presented here is not intended to take the place of the actual regulation. Call the State Emergency Response Commission at 1-800-635-7179 for additional details.

[6] Threshold Planning Quantity. If the grower meets or exceeds this amount, notification must be made. Placard vehicle is not a facility. (1 = active ingredient is a gas, is molten, in solution of or is a fine powder; 2 = is a granular or other larger particle form.)

[7] Reportable Quantity. The amount of active ingredient that when spilled or released requires reporting to authorities within 15 minutes. It should be reported by telephone to 850-413-9919 or 800-320-0519.

[8] A certification license is required to purchase and apply or must be under the supervision of a licensee and only for those uses covered by the certified applicator's certification.

[9] Will kill bees for 24 hours following application.

[10] Under revisions to the WPS, mandatory posting is required for any product with an REI greater than 48 hours. Refer to chapter 8, "Quick Reference Guide to the Worker Protection Standard (WPS)," for more details.

Table 5. Molluscicides registered for use in Florida citrus.

Trade Name or Generic Name	Common Name[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest[2, 4]	Field Posting Required[2]	REI hr[2, 4]	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7, 8]
							1	2	
Bio-Sul Slug & Snail Bait	Sulfur (UN)	71096-16	Exempt	0	NO	24	-	-	-

Other Use Requirements: OMRI listed.									
Deadline Bullets Deadline GT	Metaldehyde	5481-507 6836-350-5481	0.26	0	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic organisms, mammals, and wildlife.									
DESPOT Snail & Slug Bait	Sodium ferric EDTA	67702-33-95428	Exempt	0	NO	0	-	-	-
Other Use Requirements: Apply uniformly in areas of infestation.									
Durham Metaldehyde Granules 3.5 Durham Metaldehyde Granules 7.5	Metaldehyde	5481-91 5481-103	0.26	0	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic organisms, mammals, and wildlife.									
Ferroxx	Sodium ferric EDTA	67702-33	Exempt	0	NO	0	-	-	-
Other Use Requirements: None.									
IronFist Slug and Snail Bait	Sodium ferric EDTA	37702-32-87865	Exempt	0	NO	0	-	-	-
Other Use Requirements: None.									
Metarex	Metaldehyde	7173-257	0.26	0	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic organisms, mammals, and wildlife.									
Slug-Fest All Weather Formula	Metaldehyde	71096-4	0.26	0	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic organisms, mammals, and wildlife.									
Slugger 4.0 Slugger Ultra	Metaldehyde	71093-13	0.26	0	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic organisms, mammals, and wildlife.									
Sluggo	Iron phosphate	67702-3-70051	Exempt	0	NO	0	-	-	-
Other Use Requirements: None. OMRI listed.									
Stomp Slug	Garlic oil	None	Exempt	0	NO	0	-	-	-
Other Use Requirements: Toxic to aquatic organisms. OMRI listed.									

Trail's End 3.5	Metaldehyde	5481-91	0.26	0	NO	12	-	-	-
Other Use Requirements: Toxic to aquatic organisms, mammals, and wildlife.									

Table 6. Pesticides registered for use on Florida citrus — fungicides.

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
A-Zox 25SC	Azoxystrobin (11)	83529-64	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz (1.5 lb a.i.) per acre per season for all uses. Minimum retreatment interval is 7 days. Not for use in nursery propagation.									
Acadia 2 SC Acadia LFC	Azoxystrobin (11)	91234-74 91234-248	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	LFC 10,000 lb	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz per acre per season of 2 SC or 116 fl oz per acre per season of LFC for all uses — or 1.5 lb a.i. per acre per season. Not for use in nursery propagation.									
Acadia ESQ	Azoxystrobin (11) Difenoconazole (3)	91234-205	A fruit (group 10-10) 15 A 20 (dried pulp) A 40 (oil) D fruit (group 10) 0.60 D (dried pulp) 2.0 D 25 (oil)	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 61.5 fl oz (0.80 lb a.i. azoxystrobin and 0.5 lb a.i. difenoconazole) per acre per season for all uses. Do not apply more than 0.5 lb a.i. difenoconazole or 1.5 lb a.i. azoxystrobin per acre per season. Not for nursery production use. Minimum retreatment interval is 7 days.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Actigard 50WG (formerly Blockade)	Acibenzolar-S-methyl (P 01)	100-922	Fruit (group 10-10) 0.02	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 12.8 oz (0.4 lb a.i.) per acre per season. Minimum retreatment interval is 30 days.									
Actinovate AG	*Streptomyces lydicus* WYEC 108 (BM 02)	73314-20	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Adorn Fungicide	Fluopicolide (43)	59639-141	Nonbearing Fruit (group 10-10) 0.01 0.03 (dried pulp) 1.0 (oil)	12 months	NO	12	--	--	--
Other Use Requirements: Nonbearing only. Do not apply more than 17.4 fl oz (0.54 lb a.i.) per acre per year. Must be tank mixed for resistance management with another registered product that is registered for phytophthora management. Do not apply more than twice in a cropping cycle.									
Aframe	Azoxystrobin (11)	100-1098	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	--	--	1,000 Sodium hydroxide
Other Use Requirements: Do not apply more than 90.0 fl oz (1.5 lb a.i.) per acre per season for all uses. Not for use in nursery propagation. Minimum retreatment interval is 7 days.									
Aliette WDG	Fosetyl-Al (aluminum tris) (P 07)	264-516	Fruit (group 10-10) 9.0	30	NO	24	--	--	--
Other Use Requirements: Do not exceed 4 applications per season or 20 lb per acre per year; for foliar application, do not exceed 500 gal per acre (GPA) for bearing and 100 GPA for nonbearing. Do not feed livestock or feed forage from treated groves.									
Alumni	Thiabendazole (1)	100-889	15 (oil) Fruit (group 10-10) 10	PH	NA	12	--	--	--
Other Use Requirements: Maximum 1 application.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Amistar Top (formerly Quadris Top)	Azoxystrobin (11) Difenoconazole (3)	100-1313	A fruit (group 10-10) 15 A 20 (dried pulp) A 40 (oil) D fruit (group 10) 0.60 D (dried pulp) 2.0 D 25 (oil)	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 61.5 fl oz (0.80 lb azoxystrobin and 0.50 lb difenoconazole) per acre per season for all uses. Do not apply more than 0.5 lb a.i. difenoconazole or 1.5 lb a.i. azoxystrobin per acre per season. Not for nursery propagation use. Minimum retreatment interval is 7 days.									
Arius 250	Azoxystrobin (11)	60063-59	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 90.0 fl oz per acre per season for all uses or 1.5 lb a.i. per acre per season. Not for use in nursery propagation. Minimum application interval of 7 days.									
Aura Citrus	Flg22-Bt Peptide (P 09)	92188-3-34704	Exempt	0	NO	12	--	--	--
Other Use Requirements: None.									
Aviv	*Bacillus subtilis* strain IAB/BS03 (BM 02)	91473-1-88783	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Azoxy 2SC	Azoxystrobin (11)	93809-9	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz per acre per season for all uses or 1.5 lb a.i. per acre per season. Not for use in nursery propagation. Minimum retreatment interval is 7 days.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
AzoxyStar	Azoxystrobin (11)	42750-261	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz per acre per season for all uses or 1.5 lb a.i. per acre per season. Not for use in nursery propagation. Minimum retreatment interval is 7 days.									
Azoxyzone	Azoxystrobin (11)	71532-35-91026	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz per acre per season for all uses or 1.5 lb a.i. per acre per season. Not for use in nursery propagation.									
AZterknot	Azoxystrobin (11) *Reynoutria sachalinensis* extract (P 05)	89118-14	A Fruit (group 10-10) 15 A 20 (dried pulp) A 40 (oil) R Exempt	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 110.3 fl oz (1.5 lb a.i. azoxystrobin and 0.86 lb a.i. RSE) per acre per season for all uses. Not for use in nursery propagation. Minimum retreatment interval is 7 days.									
AZteroid FC 3.3 Pro	Azoxystrobin (11)	89118-11 89118-18	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 58.2 fl oz (FC 3.3) for all uses or 1.5 lb a.i. per acre per season. Not for use in nursery propagation. Minimum retreatment interval is 7 days.									
BACIX	*Bacillus subtilis* strain IAB/BS03 (BM 02)	93505-1-70506	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Banner MAXX II	Propiconazole (3)	100-1326	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	12	--	--	--
Other Use Requirements: Nonbearing only; do not apply more than 5.4 gal per acre per season. Do not use in greenhouses. Do not inject into trees.									
BellaTrove Companion Maxx WP	*Bacillus amyloliquefaciens* strain ENV503 (BM 02)	94485-5	Exempt	0	NO	4	--	--	1,000 lb
Other Use Requirements: Do not mix with copper-based fungicides, concentrated acids, solvents, oxidizing agents, or bactericides.									
BioSpectra 100SC	Natamycin (48)	87485-2-64864	Exempt	PH[8]	NA	NA	--	--	--
Other Use Requirements: None.									
Bio-Tam 2.0	*Trichoderma gamsii* (ICC 080) and *T. asperellum* (ICC 012) (BM02)	10163-399	Exempt	0	NO	4	--	--	--
Other Use Requirements: Not compatible with imazalil, dichloran, mancozeb, propiconazole, tebuconazole, thiram, and triflumizole.									
Bonafide	Boscalid (7)	83529-124	4.5 (dried pulp) 85.0 (oil) Fruit group (10-10) 2.0	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 27.2 oz for all uses or 1.2 lb a.i. per acre per season. Minimum retreatment interval is 10 days.									
Botector	*Aureobasidium pullulans* strain DSM 14941 *A. pullulans* strain DSM 14940 (NC)	86174-3	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
BotryStop WP Biofungicide	*Ulocladium oudemansii* (U3 strain) (NC)	68539-17 75747-2-68539	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Broadform	Trifloxystrobin (11) Fluopyram (7)	432-1537	T 1.0 (dried pulp) T 38 (oil) T Fruit (group 10) 0.6 F Fruit (group 10-10) 1.0 F 8.0 (oil)	Nonbearing	NO	12	--	--	--
Other Use Requirements: Do not apply more than 27.1 fl oz per acre per year. Do not exceed more than 0.44 lb a.i. fluopyram or 0.44 lb a.i. trifloxystrobin per year for all uses. Aerial applications are not allowed.									
Bumper 41.8 EC	Propiconazole (3)	66222-42	Nonbearing 1000 (oil) Fruit (group 10-10) 8	Nonbearing	NO	12	--	--	--
Other Use Requirements: Do not apply more than 24 fl oz (0.67 a.i.) per acre per year.									
Cadera	Azoxystrobin (11)	91234-74-92735	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	10,000	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz for all uses or 1.5 lb a.i. per acre per season. Not for use in nursery propagation.									
Carb-O-Nator	Potassium bicarbonate (NC)	70051-117	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Cevya	Mefentrifluconazole (3)	7969-407	2.0 (dried pulp) Fruit (group 10-10) 15 (oil)	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 15 fl oz (0.39 lb a.i.) for all uses per acre per season. Minimum retreatment interval is 14 days.									
Copper fungicides	Various (M 01)	See Table 1.	Exempt	0	NO	SL[9]	--	--	--
Other Use Requirements: None.									
DECCO AZ	Azoxystrobin (11)	70506-351-2792	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	PH[8]	NO	0	--	--	--
Other Use Requirements: Do not make more than 2 postharvest applications.									
DECCO FLUDI SC	Fludioxonil (12)	2792-84	F 500 (oil) Fruit (group 10-10) 10	PH[8]	NO	0	--	--	--
Other Use Requirements: Do not make more than 2 applications (31.68 oz fludioxonil) to citrus fruit.									
DECCO PROPI	Propiconazole (3)	2792-90	1000 (oil) Fruit (group 10-10) 8	PH[8]	NO	0	--	--	--
Other Use Requirements: Do not make more than 2 postharvest applications. The maximum rate for the 2 applications is 0.88 lb per gal or 0.88 lb per 250,000 fruit.									
DECCO Pyrimethanil 400 SC	Pyrimethanil (9)	2792-82	150 (oil) Fruit (group 10-10) 10	PH[8]	NO	0	--	--	--
Other Use Requirements: Do not apply by more than a combination of three application methods.									
DECCO SALT No. 19	Thiabendazole (1)	2792-50	15 (oil) Fruit (group 10-10) 10	PH[8]	NO	0	--	--	--

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: None.									
DECCOSOL 125 Concentrate	Sodium ortho-phenylphenate (NC)	2792-32	10	PH[8]	NO	0	--	--	1,000
Other Use Requirements: None.									
DECCO TBZ 500 SC	Thiabendazole (1)	2792-86	15 (oil) Fruit (group 10-10) 10	PH[8]	NO	0	--	--	--
Other Use Requirements: None.									
DECCOZIL EC-289	Imazalil (3)	2792-51	25 (dried pulp) 200 (oil) Fruit (postharvest) 10	PH[8]	NO	0	--	--	--
Other Use Requirements: No more than 2 applications regardless of method.									
Dorado	Propiconazole (3)	100-741	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	12	--	--	--
Other Use Requirements: Nonbearing only. Do not apply more than 5.4 gal per acre per year.									
Double Nickel 55 LC	*Bacillus amyloliquefaciens* strain D747 (BM 02)	70051-108 70051-107	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Drexel Azoxystrobin SC	Azoxystrobin (11)	19713-715	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: Do not apply more than 92.3 fl oz (1.5 lb a.i.) per acre per season for all uses. Not for use in nursery propagation. Can also be used postharvest. See label for details. Minimum retreatment interval is 7 days.									
Drexel Phiticide	Mono- and dibasic sodium, potassium, and ammonium phosphites (P 07)	19713-625	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Duralev	Cerevisane (Cell walls of *Saccharomyces cerevisiae* strain LAS117) (P 06)	91810-2-51517	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Ecopro	Propiconazole (3)	83529-135	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	12	--	--	--
Other Use Requirements: Nonbearing only. Do not apply more than 5.5 gal (7.2 lb a.i.) per acre per year.									
EcoSwing Botanical	Extract of *Swinglea glutinosa* (BM 01)	10163-357	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Empire	Boscalid (7) Pyraclostrobin (11)	83529-178	P 12.5 (dried pulp) P 9.0 (oil) P fruit (group 10-10) 2.0 B 4.5 (dried pulp) B 85.0 (oil) B fruit (group10-10) 2.0	0	NO	12	--	--	--
Other Use Requirements: No more than 74 oz per acre per year. No more than 1.17 lb a.i. boscalid or 0.592 lb a.i. pyraclostrobin. Minimum retreatment interval is 10 days.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Empress Intrinsic	Pyraclostrobin (11)	7969-355	Nonbearing 12.5 (dried pulp) 9.0 (oil) Fruit (group 10-10) 2.0	12 months	NO	12	--	--	--
Other Use Requirements: For drench applications. Do not apply more than 1.5 gal per acre per season or other MOA Group 11 fungicides per season. Do not use more than 2 sequential applications/season.									
Enable 2F	Fenbuconazole (3)	62719-416	5.0 (dried pulp) 40 (oil) Fruit (group 10) 1.0	0	NO	12	--	--	--
Other Use Requirements: No more than 3 applications per year. No more than 24 fl oz (0.38 lb a.i.) per acre per year. Minimum retreatment interval is 21 days. Do not apply with polymer adjuvants. Do not feed livestock from treated groves. Do not apply via chemigation. Apply in a minimum of 10 gal per acre aerially and 20 gal per acre by ground.									
Endura	Boscalid (7)	7969-197	4.5 (dried pulp) 85.0 (oil) 2.0 Fruit (group 10-10)	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 27.2 oz (1.20 lb a.i.) per acre per season. Do not make more than 2 sequential applications.									
Everlon	Pyraclostrobin (11) Fluxapyroxad (7)	7969-311-1381	P 12.5 (dried pulp) P 9.0 (oil) P 2.0 Fruit (group 10-10) F 3.0 (dried pulp) F 40 (oil) F 1.0 Fruit (group 10-10)	0	NO	12	--	--	--

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: Do not apply more than 44 fl oz (0.478 lb a.i./year fluxapyroxad and 0.956 lb a.i./year pyraclostrobin) per acre per season. Do not make more than 2 sequential applications. Minimum retreatment interval is 10 days.									
Ferbam Granuflo	Ferbam (M 03)	45728-7	4.0 fruit (group 10)	0	NO	24	--	--	--
Other Use Requirements: Ferbam has been deregistered but the tolerance was still valid as of May 10, 2026. Confirm if the tolerance (https://www.ecfr.gov/) is still valid, if a concern.									
Fireline 17 WP 45 WP	Oxytetracycline hydrochloride (41)	80990-1 80990-6	Fruit (group 10-10) 0.01	40	YES	12	--	--	--
Other Use Requirements: Do not use more than 4.5 lb (17 WP) or 1.69 lb (45 WP) or 0.82 lb a.i. oxytetracycline per acre per season. Minimum retreatment interval is 21 days. No more than 3 applications per year.									
Fitness	Propiconazole (3)	34704-1031	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	12	--	--	100 Naphthalene
Other Use Requirements: Do not use more than 24 fl oz (0.67 lb a.i.) per acre per season.									
Flare Xtra	Trifloxystrobin (11)	91234-347	1.0 (dried pulp) 38 (oil) 0.6 Fruit (group 10)	7	NO	12	--	--	--
Other Use Requirements: Do not use more than 15.2 fl oz (0.481 lb a.i) per acre per year. Do not make more than 2 sequential applications. Minimum retreatment interval is 7 days.									
Flint Extra	Trifloxystrobin (11)	264-826	1.0 (dried pulp) 38 (oil) 0.6 Fruit (group 10)	7	NO	12	--	--	--
Other Use Requirements: Do not use more than 15.2 fl oz (0.481 lb a.i.) per acre per year. Do not make more than 2 sequential applications. Minimum retreatment interval is 7 days.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Fosphite	Phosphorous acid, mono- and dipotassium salts (P 07)	68573-2	Exempt	0	NO	4	--	--	--
Other Use Requirements: Minimum retreatment interval is 3 days; to avoid phytotoxicity, do not apply less than 20 days after copper-based products.									
Fungi-Phite	Phosphorous acid, mono- and dipotassium salts (P 07)	73771-5	Exempt	0	NO	4	--	--	--
Other Use Requirements: If chemigating, do not apply more than 4 times per crop cycle. To avoid phytotoxicity, do not make foliar applications less than 20 days after copper-based products.									
Fun-Thyme	Thyme oil (BM 01)	99869-2-2935	Exempt	0	NO	48	--	--	--
Other Use Requirements: None.									
Gem 500 SC	Trifloxystrobin (11)	264-826	1.0 (dried pulp) 38 (oil) 0.6 Fruit (group 10)	7	NO	12	--	--	--
Other Use Requirements: Do not apply more than 15.2 fl oz per acre per season for all uses. Do not make more than 2 sequential applications of Gem 500 SC or other MOA Group 11 fungicides. No more than 4 applications of Gem 500 SC or other MOA Group 11 fungicides per season.									
GCS Azoxy 2SC	Azoxystrobin (11)	94730-6	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz (1.5 lb a.i.) per acre per season for all uses. Not for use in nursery propagation. Do not make more than 2 sequential applications of GCS Azoxy 2SC or other MOA Group 11 fungicides per season.									
Graduate MAX MP	Fludioxonil (12)	100-969 100-1242	500 (oil) Fruit (group 10-10) 10	PH[8]	NO	0	--	--	--
Other Use Requirements: Do not make more than 2 applications to citrus fruit.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Graduate A+	Fludioxonil (12) Azoxystrobin (11)	100-1308	F 500 (oil) Fruit (group 10-10) 10 A 20 (dried pulp) A 40 (oil) A fruit (group 10-10) 15	PH[8]	NO	0	--	--	--
Other Use Requirements: Do not make more than 2 applications to citrus fruit. Maximum rate per crop 116 fl oz. Do not exceed 1.99 lb a.i. fludioxonil or 1.80 lb a.i. azoxystrobin per crop.									
Guarda	Thyme oil (BM 01)	92144-2-70299	Exempt	0	NO	0	--	--	--
Other Use Requirements: None.									
Gunner 14.3 MEC	Propiconazole (3)	91234-262	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	12	--	--	--
Other Use Requirements: Do not use more than 5.4 gal (7.2 lb a.i.) per acre per year. Minimum retreatment interval is 21 days.									
HDH Foam 26	Sodium ortho-phenylphenate (NC)	83103-2	10	PH[8]	NA	NA	--	--	--
Other Use Requirements: None.									
Headline SC	Pyraclostrobin (11)	7969-186 7969-289	12.5 (dried pulp) 9.0 (oil) 2.0 Fruit (group 10-10)	0	NO	12	--	--	Naphthalene (100 lb) SC --
Other Use Requirements: Do not apply more than 54 fl oz (0.88 lb a.i.) per acre per season or other MOA Group 11 fungicides per season. Do not use more than 2 sequential applications per season.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Honor Guard PPZ	Propiconazole (3)	66222-41-53883	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	12	--	--	--
Other Use Requirements: None.									
Howler EVO	*Pseudomonas chlororaphis* strain AFS009 (BM 02)	70051-141	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Hurricane	Pyraclostrobin (11)	83529-284	12.5 (dried pulp) 9.0 (oil) Fruit (group 10-10) 2.0	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 54 fl oz (0.86 lb a.i.) per acre per season or other MOA Group 11 fungicides per season. Do not use more than 2 per season. The minimum retreatment interval is 10 days.									
Hydroxycide 527	Peroxyacetic acid (NC) Hydrogen peroxide (NC)	2686-21	P Exempt up to 100 ppm in solution H Exempt when ≤ 1% per application	0	NO	4	500 (Peroxyacetic acid)	--	500 (Peroxyacetic acid) 1,000 (hydrogen peroxide) 5,000 (Acetic acid)
Other Use Requirements: None.									
Indar 2F	Fenbuconazole (3)	62719-416	5.0 (dried pulp) 40 (oil) 1.0 Fruit (group 10)	0	NO	12	--	--	--
Other Use Requirements: No more than 3 applications per year; no more than 24 fl oz (0.38 lb a.i.) per acre per year; minimum retreatment interval is 21 days. Do not apply with polymer adjuvants. Do not feed livestock from treated groves. Do not apply in less than 10 gallons or 20 gallons of water per acre aerially or by ground, respectively.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Innliven Elite	Pyraclostrobin (11) Difenoconazole (3)	89168-134-89391	P 12.5 (dried pulp) P 9.0 (oil) P 2.0 Fruit (group 10-10) D 0.60 Fruit (group 10) D 2.0 (dried pulp) D 25 (oil)	0	NO	12	--	--	1,000
Other Use Requirements: Do not apply more than 33.6 fl oz (0.60 lb a.i. pyraclostrobin and 0.50 lb a.i. difenoconazole) per acre per year. Do not use more than 2 sequential applications per season before moving to a non-Group 3 or 11 fungicide. Minimum retreatment interval is 10 days.									
Innliven P	Pyraclostrobin (11) Propiconazole (3)	89168-131-89391	Nonbearing Py 12.5 (dried pulp) Py 9.0 (oil) Py 2.0 Fruit (group 10-10) Pr 1000 (oil) Pr 8 Fruit (group 10-10)	12 months	NO	12	--	--	--
Other Use Requirements: Do not apply more than 42.5 fl oz (0.74 lb a.i. pyraclostrobin and 0.63 lb a.i. propiconazole) per acre per year. Do not use more than 2 sequential applications per season before moving to a non-Group 3 or 11 fungicide. Minimum retreatment interval is 10 days.									
Insignia SC Intrinsic	Pyraclostrobin (11)	7969-290	Nonbearing 12.5 (dried pulp) 9.0 (oil) Fruit 2.0 (group 10-10)	12 months	NO	12	--	--	--

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: Do not apply more than 1.5 gal (0.88 lb a.i.) per acre per season or other MOA Group 11 fungicides per season. Do not use more than 2 sequential applications per season.									
Jet-Ag 5%	Peroxyacetic acid (NC) Hydrogen peroxide (NC)	84059-32	P Exempt up to 100 ppm in solution H Exempt when ≤ 1% per application	0	YES	4	--	--	73,529 Acetic acid
Other Use Requirements: None.									
Julietta	*Saccharomyces cerevisiae* strain LAS02 (P 06)	86431-38	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
KeyPlex 350 Organic	Yeast extract hydrolysate from *Saccharomyces cerevisiae* (P 06)	73512-1 73512-4	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
K-Phite 7LP	Mono- + dipotassium salts of phosphorous acid (P 07)	73806-1	Exempt	0	NO	4	--	--	--
Other Use Requirements: Do not apply at intervals less than 3 days.									
LALSTOP G46 WG	*Clonostachys rosea* strain J1446 (BM 02)	64137-13	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
LALSTOP K61 WP	*Streptomyces* sp. strain K61 (BM 02)	64173-5	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
LifeGard LC WG	*Bacillus mycoides* isolate J (P 06)	70051-126 70051-119	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Linebacker WDG	Fosetyl-Al (P 07) Also known as aluminum tris (O-ethyl phosphonate)	61842-9	Fruit (group 10-10) 9.0	0	NO	24	--	--	--
Other Use Requirements: Do not exceed 4 applications or 20 lb (16 lb a.i.) per acre per year. Do not exceed 100 GPA (nonbearing) or 500 GPA (bearing) for foliar applications. Do not tank mix with copper compounds.									
LPI Azoxy 2 SC	Azoxystrobin (11)	34704-1163	20 (dried pulp) 40 (oil) fruit (group 10-10) 15	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz per acre per season for all uses or 1.5 lb a.i. per acre per season. Not for use in nursery propagation.									
Luna Flex	Difenoconazole (3) Fluopyram (7)	264-1218	D 2.0 (dried pulp) D 25 (oil) D 0.6 Fruit (group 10) F 1.0 Fruit (group 10-10) F 8.0 (oil)	7	NO	12	--	--	--
Other Use Requirements: Maximum 27.2 fl oz per acre per year. Do not apply more than 0.46 lb a.i. difenoconazole or 0.446 lb a.i. fluopyram per acre per year. Minimum retreatment interval is 7 days. Do not make more than 2 sequential applications of any Group 7-containing products.									
Luna Sensation	Trifloxystrobin (11) Fluopyram (7)	264-1090	T 1.0 (dried pulp) T 38 (oil) T 0.6 Fruit (group 10) F 1.0 Fruit (group 10-10) F 8.0 (oil)	7	NO	12	--	--	--
Other Use Requirements: Maximum 27.1 fl oz per acre per year. Do not apply more than 0.445 lb a.i. trifloxystrobin per acre per year or 0.445 lb a.i. fluopyram per acre per year. Do not make more than 2 sequential applications of any Group 7- or Group 11-containing products.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Mazolin	Azoxystrobin (11)	92647-2-92488	Fruit (group 10-10) 15 20 (dried pulp) 40 (oil)	0	NO	4	10,000 lb	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz (1.5 lb a.i.) per acre per season for all uses. Not for use in nursery propagation. Do not make more than 2 sequential applications of Group 11 fungicides.									
Mefenoxam 2AQ	Mefenoxam (4)	53883-433	Nonbearing 1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	12 months	NO	48	--	--	--
Other Use Requirements: Do not use in greenhouse citrus nursery stock intended for commercial fruit production.									
Mentor EC	Propiconazole (3)	100-780 100-1562	1000 (oil) Fruit (group 10-10) 8	PH[8]	NO	0	--	--	--
Other Use Requirements: Postharvest use. Make no more than 2 postharvest applications. Do not exceed 128 fl oz (0.88 lb a.i.) per year.									
MetaStar 2E	Metalaxyl (4)	71532-5-91026	1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	0	NO	48	--	--	--
Other Use Requirements: Do not use in greenhouse citrus nursery stock. Do not apply more than 6 gal per acre per year.									
Milagrum Plus	*Bacillus subtilis* strain IAB/BS03 (BM 02)	91554-1-100004	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
MilStop SP	Potassium bicarbonate (NC)	68539-13	Exempt	0	NO	1	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Minuet	*Bacillus subtilis* strain QST 713 (BM 02)	264-1202	Exempt	0	NO	4	--	--	--
Other Use Requirements: Applications should not exceed 32 oz of diluted solution.									
Miravis Top	Pydiflumetofen (7) Difenoconazole (3)	100-1602	P 1 Fruit (group 10-10) P Oil 30 D 0.60 Fruit (group 10) D (dried pulp) 2.0 D 25 (oil)	0	NO	12	--	--	1,000 sodium hydroxide
Other Use Requirements: Maximum rate is 60.9 fl oz per year. Do not apply more than 0.50 lb a.i. difenoconazole or 0.30 lb a.i. pydiflumetofen per acre per year. Minimum retreatment interval is 7 days. Do not make more than 2 sequential applications of any Group 3- or Group 7-containing products.									
Mite-Phite ZM	Phosphorous acid (P 07)	48222-14	Exempt	0	NO	48	--	--	--
Other Use Requirements: Do not apply in intervals less than 3 days.									
Mycoshield	Calcium oxytetracycline (41)	55146-97	Fruit (group 10-10) 0.01	40	YES	12	--	--	--
Other Use Requirements: Do not use more than 4.5 lb or 0.77 lb a.i. per acre per season. Minimum retreatment interval is 21 days. No more than 3 applications per year.									
OBRONA	PDHP 25279 Protein derived from harpin protein (BM0 02)	71771-14-2935	Exempt	0	NO	4	--	--	--
Other Use Requirements: Do not mix this product with pyrophosphates, phosphoric acid, or other strong oxidizers. Can be used in nursery production.									
Obtego	*Trichoderma gamsii* ICC 012 *T. asperellum* ICC 080 (BM 02)	10163-399-67690	Exempt	0	NO	4	--	--	--
Other Use Requirements: For greenhouse use.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Omni Brand Propiconazole 41.8% EC	Propiconazole (3)	38167-35-5905	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	12	--	--	--
Other Use Requirements: Do not use more than 24 fl oz (0.67 lb a.i.) per acre per season.									
Orondis	Oxathiapiprolin (49)	100-1571	Fruit 0.06 (group 10-10) 0.09 (dried pulp) 2.0 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not use in a nursery. Do not apply sequentially more than 2 soil applications per year. Do not follow an Orondis soil application with a foliar application of a FRAC Group 49-containing product. Do not use more than 19.2 fl oz (0.25 lb a.i.) per acre per season for soil applications. Minimum retreatment interval is 30 days. ***Foliar applications are no longer allowed with Orondis.***									
Orondis Ultra	Oxathiapiprolin (49) Mandipropamid (40)	100-1612	O 0.06 Fruit (group 10-10) O 0.09 (dried pulp) O 2.0 (oil) M 0.5 Fruit (group 10-10) M 0.70 (dried pulp) M 15 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not use in a nursery. Do not apply more than 1 application per year. Do not apply more than 8 fl oz per acre per year. Do not apply more than 0.016 lb a.i. oxathiapiprolin or 0.13 lb a.i. mandipropamid per acre per year. Do not follow a FRAC Group 49-containing soil application with a foliar application of a FRAC Group 49-containing product. Use either a FRAC Group 49-containing soil application or a foliar application but not both.									
OSO 5% SC	Polyoxin D zinc salt (19)	68173-4-70051	Exempt	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 4.3 oz a.i. per acre per year.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Oxem 4ME Select	Mefenoxam (4)	42750-392-89442	Nonbearing 1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	12 months	NO	48	--	--	--
Other Use Requirements: Do not apply more than 6.0 lb a.i. per acre per year. Do not make more than 2 sequential applications in a year. Not for nursery production for commercial groves.									
OxiDate 2.0 5.0	Peroxyacetic acid (NC) Hydrogen peroxide (NC)	70299-12 70299-28	P Exempt up to 100 ppm in solution H Exempt when < 1% per application	0	YES	1	500 (Peroxyacetic acid) 1,000 (hydrogen peroxide)	--	500 (Peroxyacetic acid) 1,000 (hydrogen peroxide) 5,000 acetic acid
Other Use Requirements: Posting required when applying through chemigation; consult the label.									
OxiPhos	Mono- + dipotassium salts of phosphorous acid (P 07) Hydrogen peroxide (NC)	70299-22	PA Exempt H Exempt when ≤ 1% per application	0	YES	4	1,000 (hydrogen peroxide)	--	1,000 (hydrogen peroxide)
Other Use Requirements: Posting required when applying through chemigation; consult the label.									
PacRite AZOXY 250SC	Azoxystrobin (11)	42750-261-64864	15 (fruit group 10-10) 20 (dried pulp) 40 (oil)	PH[8]	NA	NA	--	--	--
Other Use Requirements: Postharvest only. Do not make more than 2 postharvest applications.									
PacRite FDL	Fludioxonil (12)	64864-70	500 (oil) 10 (fruit group 10-10)	PH[8]	NA	NA	--	--	--
Other Use Requirements: Postharvest only. Do not make more than 2 postharvest applications.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
PacRite Fungaflor 500 EC 75 WSG	Imazalil (3)	43813-6-64864 43813-26-64864	200 (oil) 10 (PH fruit) 25 (dried pulp)	PH[8]	NA	NA	--	--	--
Other Use Requirements: Postharvest only. Do not make more than 2 postharvest applications.									
PacRite Penbotec 400 SC	Pyrimethanil (9)	43813-32-64864	150 (oil) 10.0 (fruit group 10-10)	PH[8]	NA	NA	--	--	--
Other Use Requirements: Postharvest only. May be applied to citrus fruits by a maximum combination of three application methods.									
PacRite Propi 155 EC	Propiconazole (3)	64864-81	1000 (oil) Fruit (group 10-10) 8	PH[8]	NA	NA	--	--	--
Other Use Requirements: Postharvest only. The maximum annual rate is 88 fl oz (0.88 lb a.i.) per year. Do not make more than 2 postharvest applications.									
PacRite TBZ 4.0 SC	Thiabendazole (1)	64864-66	15 (oil) 10 (fruit group 10)	PH[8]	NA	12	--	--	--
Other Use Requirements: Postharvest only. One application per load.									
Pageant Intrinsic	Pyraclostrobin (11) Boscalid (7)	7969-251	P 12.5 (dried pulp) P 9.0 (oil) P 2.0 Fruit (group 10-10) B 4.5 (dried pulp) B 85.0 (oil) B Fruit (group 10-10) 2.0	0	NO	12	--	--	--
Other Use Requirements: No more than 74 oz per acre per year. No more than 1.17 lb a.i. boscalid or 0.592 lb a.i. pyraclostrobin per acre per year. Minimum retreatment interval is 10 days.									
PerCarb	Sodium carbonate peroxyhydrate (NC)	70299-15	Exempt	0	NO	1	--	--	--

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: Do not apply to a blooming crop.									
PH-D fungicide	Polyoxin D zinc salt (19)	70506-395	Exempt	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 6 applications of polyoxin as the active ingredient (4.2 oz a.i. per acre) per season. Use in alternation with other modes of action.									
Phostrol	Mono- + dibasic sodium, potassium, and ammonium phosphites (P 07)	55146-83	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Pilato SC	Fludioxonil (12)	91234-93	500 (oil) 10 (fruit group 10-10)	PH[8]	NA	NA	10,000	--	--
Other Use Requirements: Do not make more than 2 applications to fruit.									
PPZ 41.8 Select	Propiconazole (3)	89442-3	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	12	--	--	--
Other Use Requirements: Do not use more than 24 fl oz (0.67 lb a.i.) of propiconazole per acre per season.									
Presidio Fungicide	Fluopicolide (43)	59639-140	1.0 (oil) 0.03 (dried pulp) 0.01 fruit (group 10-10)	30	NO	12	--	--	--
Other Use Requirements: Do not make more than 1 application of 4 fl oz (0.125 lb a.i.) per acre per year.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Priaxor Xemium	Pyraclostrobin (11) Fluxapyroxad (7)	7969-311	P 12.5 (dried pulp) P 9.0 (oil) P 2.0 fruit (group 10-10) F 3.0 (dried pulp) F 40 (oil) F 1.0 fruit (group 10-10)	0	NO	12	--	--	5,000 lb Acetic acid; Methanol 1,000 lb Toluene; Sodium hydroxide; Acetaldehyde; Phenol 100 lb Heptane; Naphthalene; Formaldehyde; Propylene oxide; 1,4-dioxane 10 lb Sodium cyanide; Ethylene oxide
Other Use Requirements: No more than 4 applications (44 fl oz) per acre per year. No more than 0.478 lb a.i. fluxapyroxad or 0.956 lb a.i. pyraclostrobin. Minimum retreatment interval is 10 days. Do not make more than 2 sequential applications of any Group 11- or Group 7-containing products.									
Pristine	Pyraclostrobin (11) Boscalid (7)	7969-199	P 12.5 (dried pulp) P 9.0 (oil) P 2.0 fruit (group 10-10) B 4.5 (dried pulp) B 85.0 (oil) B 2.0 fruit (group10-10)	0	NO	12	--	--	--
Other Use Requirements: No more than 74 oz per acre per year. No more than 1.17 lb a.i. boscalid or 0.592 lb a.i. pyraclostrobin. Minimum retreatment interval is 10 days.									
ProCon-Z	Propiconazole (3)	34704-879	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	24	--	--	--

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) of propiconazole per acre per season.									
ProPhyt	Potassium phosphite (P 07)	42519-22-5905	Exempt	0	NO	4	--	--	--
Other Use Requirements: Use a minimum of 20 gal when applying by ground and 5 gal when applying aerially.									
Propiconazole 14.3	Propiconazole (3)	53883-363	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	10,000	--	--
Other Use Requirements: Do not apply more than 7.2 lb a.i. propiconazole per acre per season. Minimum retreatment interval is 21 days.									
Propiconazole 14.3 SELECT	Propiconazole (3)	89442-17	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	--	--	--
Other Use Requirements: Do not apply more than 7.2 lb a.i. propiconazole per acre per season.									
Propicure 3.6F	Propiconazole (3)	83222-18	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	--	--	100 Naphthalene
Other Use Requirements: Do not apply more than 24 fl oz (0.672 lb a.i.) per acre season.									
Propiczone	Propiconazole (3)	83529-22-91026	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	--	--	--
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) per acre per season.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
PropiMax EC	Propiconazole (3)	62719-346	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	--	--	--
Other Use Requirements: Do not apply more than 7.2 lb a.i. per acre per season.									
Propi-Star EC	Propiconazole (3)	42750-211	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	--	--	--
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) per acre per season.									
Propizol	Propiconazole (3)	74578-8	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	24	--	--	--
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) per acre per season.									
Provysol	Mefentrifluconazole (3)	7969-411	2.0 (dried pulp) 15 (oil) 0.6 Fruit orange (subgroup 10-10A)	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 15 fl oz (0.39 lb a.i.) per acre per year. Minimum retreatment interval is 14 days.									
Quadris (formerly Abound Flowable)	Azoxystrobin (11)	100-1098	Fruit 15 (group 10-10) 20 (dried pulp) 40 (oil)	0	NO	4	--	--	1,000 Sodium hydroxide
Other Use Requirements: Do not apply more than 90 fl oz (1.5 lb a.i.) per acre per season for all uses. Minimum application interval is 7 days. Not for use in nursery propagation.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Raclos 2EC	Pyraclostrobin	83100-82	12.5 (dried pulp) 9.0 (oil) 2.0 fruit (group 10-10)	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 54 fl oz (0.88 lb a.i.) per acre per year. Minimum retreatment interval is 10 days. Do not make more than 2 sequential applications of any Group 11-containing products.									
Rampart 6.8	Mono- and dipotassium salts of phosphorous acid (P 07)	34704-924 82940-1-34704	Exempt	0	NO	4	--	--	--
Other Use Requirements: Do not apply at intervals less than 3 days. Do not apply within 20 days of a copper application.									
ReCon 4 F	Metalaxyl (4)	91234-64	1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	0	NO	48	10,000 lb	--	--
Other Use Requirements: Do not apply more than 3 gal (12 lb a.i.) per treated acre per year. Do not exceed 3 applications per year. Do not use in enclosed nurseries.									
ReCon Bold SL	Mefenoxam (4)	91234-219	1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	0	NO	48		--	5,000 (acetophenone)
Other Use Requirements: Do not apply more than 12 pt (6 lb a.i.) per treated acre per year. Do not exceed 3 applications per year. Do not apply more than 2 pt per year to resets or young plantings to avoid phytotoxicity. Do not use in field or enclosed nurseries. Minimum retreatment interval is 90 days.									
Rectify	Oxytetracycline hydrochloride (41)	SLN FL230001	Fruit (group 10-10) 0.01	180	NO	12	--	--	--
Other Use Requirements: Injection only. Do not apply through the irrigation system. Only use the specified application rates. Do not apply more than 5.04 fl oz of solution per tree per application. Do not apply more than once per year on bearing citrus and twice per year on nonbearing citrus. Do not apply foliar oxytetracycline formulations within the same cropping year as injection. Label expires 12/31/2026.									
Regalia Biofungicide CG Biofungicide	*Reynoutria sachalinensis* extract (P 05)	84059-3 84059-3	Exempt	0	NO	4	--	--	--

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: None.									
REGEV	Tea tree oil (BM 01) Difenoconazole (3)	86182-5-88783	TTO Exempt D 0.60 fruit (group 10) D 2.0 (dried pulp) D 25 (oil)	7	NO	12	10,000	--	--
Other Use Requirements: Do not use more than 38 fl oz per acre per year. No more than 0.988 lb a.i. tea tree oil or 0.50 lb a.i. difenoconazole per acre per year. Do not apply more than 0.46 lb a.i. total of difenoconazole-containing products per acre per year. Minimum retreatment interval is 7 days.									
REGULATE SELECT	Metalaxyl (4)	89442-16	Nonbearing 1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	12 months	NO	24	--	--	--
Other Use Requirements: Do not use in greenhouse citrus nursery stock intended for commercial fruit production.									
Reliant	Mono- and dipotassium salts of phosphorous acid (P 07)	83416-1	Exempt	0	NO	4	--	--	1,000 potassium hydroxide
Other Use Requirements: None.									
ReMedium TI	Oxytetracycline hydrochloride (41)	SLN FL220005	Fruit (group 10-10) 0.01	180	NO	12	--	--	--
Other Use Requirements: Injection only. Do not apply through the irrigation system. Only use the specified application rates. Do not apply more than 5.1 fl oz of solution per tree per application. Do not apply more than once per year on bearing citrus and twice per year on nonbearing citrus. Do not apply foliar oxytetracycline formulations within the same cropping year as injection. Label expires 12/31/2026.									
Rendition	Peroxyacetic acid (NC) Hydrogen peroxide (NC)	68660-14-70051	P Exempt up to 100 ppm in solution HP Exempt when < 1% per application	0	YES	1	--	--	--

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: Posting required for chemigation.									
Republic	Pyraclostrobin (11) Fluxapyroxad (7)	7969-311-55467	P 12.5 (dried pulp) P 9.0 (oil) P 2.0 (fruit group 10-10) F 3.0 (dried pulp) F 40 (oil) F 1.0 (fruit, group 10-10)	0	NO	12	--	--	--
Other Use Requirements: Do not use more than 44 fl oz per acre per year. No more than 0.956 lb a.i. pyraclostrobin or 0.478 lb a.i. fluxapyroxad per acre per year. Minimum retreatment interval is 10 days. Do not make more than 2 sequential applications of any Group 11- or Group 7-containing products.									
Resist 57	Mono- and dipotassium salts of phosphorous acid (P 07)	82940-1	Exempt	0	NO	4	--	--	--
Other Use Requirements: Do not apply at intervals less than 3 days. Do not use more than the highest rate per application. Do not apply within 20 days of a copper application.									
Reveille	Potassium phosphite (P 07)	42519-22-5905	Exempt	0	NO	4	--	--	--
Other Use Requirements: No more than 3 applications.									
Revus	Mandipropamid (40)	100-1254	0.70 (dried pulp) 15 (oil) 0.50 (fruit, group 10-10)	0 365 nursery use	NO	4	--	--	--
Other Use Requirements: Do not use more than twice a year. For field use, do not apply more than 16 fl oz (0.26 lb a.i.) per acre per season. In nurseries, do not apply more than 32 fl oz (0.52 lb a.i.) per acre per season. Minimum retreatment interval of 30 days.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Reyzox	Azoxystrobin (11) *Reynoutria sachalinensis* extract (P 05)	89118-14-84059	A 15 Fruit (group 10-10) A 20 (dried pulp) A 40 (oil) R Exempt	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 110.3 fl oz per acre per season for all uses. No more than 1.5 lb a.i. azoxystrobin or 0.86 lb a.i. *Reynoutria sachalinensis* extract per acre per season. Not for use in nursery propagation. Minimum retreatment interval is 7 days. Do not make more than 2 sequential applications.									
Ridomil Gold GR	Mefenoxam (4)	100-798	1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	0	NO	48	--	--	--
Other Use Requirements: Do not exceed 240 lb (6 lb a.i.) per acre of mefenoxam-containing products. Do not use in greenhouse nurseries. Minimum application interval is 90 days.									
Ridomil Gold SL	Mefenoxam (4)	100-1202	1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	0	NO	48	--	--	ethenone, 1-phenyl- 5,000
Other Use Requirements: Do not exceed 12.0 pt (6 lb a.i.) per acre of mefenoxam- and metalaxyl-containing products. Do not use in nurseries. Minimum application interval is 90 days. Do not make more than 3 applications per year.									
RightLine PROPI 1.3 MEC	Propiconazole (3)	87290-40-93051	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	--	--	--
Other Use Requirements: No more than 5.4 gal per acre per year.									
ROMEO	*Saccharomyces cerevisiae* strain LAS117 (P 06) or Cerevisane	91810-2	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
RootShield Granules WP	*Trichoderma harzianum*, Rifai strain T-22 (BM 02)	68539-3 68539-7	Exempt	0	NO	4	--	--	--
Other Use Requirements: Products are not compatible with imazalil, propiconazole, tebuconazole, or triflumizole.									
RootShield Plus Granules Plus WP	*Trichoderma harzianum* Rifai strain T-22 (BM 02) *T. virens* strain G-41 (BM 02)	68539-10 68539-9	Exempt	0	NO	4	--	--	--
Other Use Requirements: Products are not compatible with imazalil, propiconazole, tebuconazole, or triflumizole.									
SaniDate HC	Peroxyacetic acid (NC) Hydrogen peroxide (NC)	70299-31	P Exempt up to 100 ppm in solution HP Exempt when < 1% per application	0	YES	1	H 1,000 P 500	--	H 1,000 P 500 Acetic acid 5,000
Other Use Requirements: Posting required for chemigation.									
Satori	Azoxystrobin (11)	34704-1068	Fruit (group 10-10) 15.0 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 90.0 fl oz per acre per season for all uses or 1.5 lb a.i. per acre per season. Not for nursery use. Minimum reapplication interval is 7 days.									
Serenade ASO OPTI (Optimum)	*Bacillus subtilis* strain QST 713 (BM 02)	264-1152 264-1160	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Serifel Biofungicide	*Bacillus amyloliquefaciens* MBI 600 (BM 02)	71840-18	Exempt	0	NO	12	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Shepherd	Propiconazole (3)	69117-3	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	0	--	--	--
Other Use Requirements: For injection applications only. Do not inject food-bearing plants.									
Sil-Matrix	Potassium silicate (NC)	70051-127	Exempt when ≤ 1% by weight of the aqueous solution	0	NO	4	--	--	--
Other Use Requirements: Do not make postharvest applications. Do not apply more than 20 gal (60 lb a.i.) per acre season.									
Slant EC	Propiconazole (3)	91234-221	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	24	--	--	1,2,4-trimethylbenzene and naphthalene 100
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) per acre per season. Minimum retreatment interval is 30 days.									
Sonata	*Bacillus pumilis* strain QST-2808 (BM 02)	264-1153	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
SOPP Soap	Sodium ortho-phenylphenate (NC) (o-phenylphenol)	64864-45	10 fruit	PH[8]	NA	NA	--	--	--
Other Use Requirements: Postharvest only.									
SPÄRRA	Mono- and dipotassium salts of phosphorous acid (P 07)	2935-560	Exempt	0	NO	4	--	--	--
Other Use Requirements: Do not apply at intervals less than 3 days. Do not use more than the highest rate per application. Do not apply within 20 days of a copper application.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Stergo GR Stergo MX	Mefenoxam (4)	91234-371 91234-222	Nonbearing 1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	12 months	NO	48	10,000 GR	--	--
Other Use Requirements: Not for greenhouse nursery stock intended for commercial production. Do not use more than 6.0 lb a.i. per acre per year. Minimum retreatment interval is 3 months for GR and 12 weeks for MX.									
Strider	Propiconazole (3)	228-623	Nonbearing 1000 (oil) Fruit (group 10-10) 8	12 months	NO	12	--	--	--
Other Use Requirements: Do not apply more than 5.5 gal (7.2 lb a.i.) per acre per season.									
Subdue GR MAXX	Mefenoxam (4)	100-794 100-796	Nonbearing 1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	12 months	NO	48	--	--	--
Other Use Requirements: Nonbearing. Do not exceed 6 lb a.i. per acre per season of mefenoxam-containing products. Do not use in greenhouse nursery stock intended for commercial use. Minimum retreatment interval of 30 days.									
T34 Biocontrol	*Trichoderma asperellum* Strain T34 (BM 02)	87301-1	Exempt	0	NO	12	--	--	--
Other Use Requirements:									
Tenet WP	*Trichoderma asperellum* Strain ICC 012 (BM 02) *T. gamsii* strain ICC 080 (BM 02)	10163-399	Exempt	0	NO	1	--	--	--
Other Use Requirements: Not compatible with imazalil, dichloran, mancozeb, propiconazole, tenbuconazole, thiram, and triflumizole. Do not tank-mix or apply Tenet within 3 days before or after use of these products.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Tesaris	Fluxapyroxad (7)	7969-309	3.0 (dried pulp) 40 (oil) 1.0 fruit group 10-10	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 25.2 fl oz (0.488 lb a.i.) per acre per year. Do not make more than 2 sequential applications before alternating to a non-Group 7 fungicide. Minimum retreatment interval.									
Tetraban	Azoxystrobin (11)	1381-267	Fruit (group 10-10) 15.0 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz per acre per season for all uses or 1.5 lb a.i. per acre per season. Do not make more than 2 sequential applications before alternating to a non-Group 11 fungicide. Do not use in citrus nurseries.									
Theia	*Bacillus subtilis* strain AFS032321 (BM 02)	70051-138	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Thrive 4M	Mefenoxam (4)	42750-391	1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	0	NO	48	--	--	--
Other Use Requirements: Do not apply more than 188.2 fl oz (6.0 lb a.i.) per acre per year. Minimum retreatment interval is 90 days. Do not use in citrus nurseries. Do not tank mix herbicides with this product and use on trees less than 3 years old. First apply the herbicide, then apply this product 3–4 weeks later.									
Tide Azoxystrobin 2SC	Azoxystrobin (11)	84229-47	15.0 Fruit (group 10-10) 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz (1.5 lb a.i.) per acre per season. Not for nursery use. Do not make more than 2 sequential applications before alternating to a non-Group 11 fungicide.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Tide Propiconazole 41.8EC	Propiconazole (3)	84229-11	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	--	--	5,000 N-butyl alcohol
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) per acre per season.									
Tigris Azoxy 2 SC	Azoxystrobin (11)	92647-2	Fruit (group 10-10) 15.0 20 (dried pulp) 40 (oil)	0	NO	4	10,000	--	--
Other Use Requirements: Do not apply more than 92.3 fl oz per acre per season for all uses or 1.5 lb a.i. per acre per season. Not for nursery use. Do not make more than 2 sequential applications before alternating to a non-Group 11 fungicide.									
Tigris Prop 41.8%	Propiconazole (3)	92647-20	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	10,000	--	--
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) per acre per season.									
Tilt	Propiconazole (3)	100-617	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	24	--	--	719 (p-xylene 100)
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) per acre per season.									
Timorex Act	Tea tree oil (BM 01)	86182-3-88783	Exempt	48	NO	4	10,000	--	--
Other Use Requirements: Do not apply more than 120 fl oz (0.89 lb a.i.) per acre per season.									
Topaz	Propiconazole (3)	42750-211-1381	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	--	--	100 lb naphthalene

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) per acre per season.									
Trevo	Azoxystrobin (11)	89167-39-89391	15.0 Fruit (group 10-10) 20 (dried pulp) 40 (oil)	0	NO	4	--	--	--
Other Use Requirements: Do not apply more than 90 fl oz (1.5 lb a.i.) per acre per season for all uses. Not for use in nurseries. Minimum retreatment interval is 7 days. Do not apply more than 2 sequential applications.									
Trevo DCZ Elite	Azoxystrobin (11) Difenoconazole (3)	89167-103-89391 89167-79-89391	A 15 fruit (group 10-10) A 20 (dried pulp) A 40 (oil) D 0.60 fruit (group 10) D (dried pulp) 2.0 D 25 (oil)	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 61.4 fl oz (DCZ) or 34 fl oz (Elite) per acre per season for all uses. Do not apply more than 0.5 lb a.i. difenoconazole or 1.5 lb a.i. azoxystrobin per acre per season. Not for nursery propagation use. Minimum retreatment interval 7 days.									
TRIANUM-G	*Trichoderma harzianum* Rifai strain KRL-AG2 (BM 02)	89635-2	Exempt	0	NO	4	--	--	--
Other Use Requirements: Not compatible with chemicals that contain the following active ingredients: benomyl, imazalil, propiconazole, febuconazole, and triflumizole. Do not apply immediately before these pesticides are used.									
TRIANUM-P	*Trichoderma harzianum* Rifai strain T-22 (BM 02)	89635-3	Exempt	0	NO	4	--	--	--
Other Use Requirements: Not compatible with chemicals that contain the following active ingredients: benomyl, imazalil, propiconazole, febuconazole, and triflumizole. Do not apply immediately before these pesticides are used.									
Triathlon BA	*Bacillus amyloliquefaciens* strain D747 (BM 02)	70051-107-59807	Exempt	0	NO	4	--	--	--

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: None.									
Tycoon	Azoxystrobin (11) Difenoconazole (3)	5905-651	A 15 fruit (group 10-10) A 20 (dried pulp) A 40 (oil) D 0.60 fruit (group 10) D (dried pulp) 2.0 D 25 (oil)	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 48.4 fl oz per acre per season for all uses. Do not apply more than 0.5 lb a.i. difenoconazole or 1.5 lb a.i. azoxystrobin per acre per season. Not for nursery propagation use. Minimum retreatment interval is 7 days.									
Ultra Flourish XHL	Mefenoxam (4)	55146-73 55146-166	1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	0	NO	48	--	--	UF only 100 lb (Naphthalene) XHL --
Other Use Requirements: Do not exceed the equivalent 24 pt (6 lb a.i.) of mefenoxam-containing products per acre. No more than 3 applications per season. Do not tank mix herbicides with this product and use on trees less than 3 years old. First apply the herbicide, then apply this product 3–4 weeks later.									
Vacciplant	Laminarin (P 04)	70506-608	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Vacres	Potassium bicarbonate (NC)	94201-1	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Vaunt Vaunt XL	Mefenoxam (4)	89167-89-89391 89167-124-89391	1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	0	NO	48	--	--	100 (naphthalene) for Vaunt

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Other Use Requirements: Do not exceed the equivalent 24 pt or 12 pt of XL (6 lb a.i.) per acre of metalaxyl- or mefenoxam-containing products. No more than 3 applications per season. For trees less than 3 years old, DO NOT tank mix herbicides with this product. First apply the herbicide and then apply this product 3–4 weeks later. Minimum retreatment interval for XL is 90 days. Not for use in nurseries.									
Veltyma	Pyraclostrobin (11) Mefentrifluconazole (3)	7969-409	P 12.5 (dried pulp) P 9.0 (oil) P 2.0 Fruit (group 10-10) M 2.0 (dried pulp) M 15 (oil)	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 30 fl oz. No more than 0.39 lb a.i. mefentrifluconazole or 0.88 lb a.i. pyraclostrobin per acre per year. Do not make more than 3 applications. Minimum retreatment interval of 14 days.									
Velum	Fluopyram (7)	264-1078	1.0 fruit (group 10-10) 8.0 (oil)	7	NO	12	--	--	--
Other Use Requirements: Do not exceed 13.7 fl oz (0.445 lb a.i.) per acre of fluopyram-containing products, regardless of application method. Minimum soil retreatment interval is 30 days.									
Venus	Trifloxystrobin (11)	83529-292	1.0 (dried pulp) 38 (oil) 0.6 Fruit (group 10-10)	7	NO	12	--	--	--
Other Use Requirements: Do not apply more than 15.2 fl oz (0.482 lb a.i.) per acre per season for all uses. No more than 3 applications of Venus or other MOA Group 11 fungicides per season. Do not make more than 2 sequential applications. Minimum retreatment interval is 7 days.									
Vigil	Propiconazole (3)	89168-14-89391	Nonbearing 1000 (oil) 8.0 Fruit (group 10-10)	0	NO	12	--	--	--
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) per acre per season.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Willowood Propicon 3.6EC	Propiconazole (3)	87290-7	Nonbearing 1000 (oil) Fruit (group 10-10) 8.0	12 months	NO	12	--	--	100 naphthalene
Other Use Requirements: Do not apply more than 24 fl oz (0.67 lb a.i.) per acre per season. Minimum retreatment interval is 30 days.									
Xyler FC	Metalaxyl (4)	89118-12	1.0 (fruit, citrus) 7.0 (oil) 7.0 (citrus pulp)	0	NO	48	--	--	--
Other Use Requirements: Do not exceed the equivalent 4.3 gal (12.0 lb a.i.) per acre of mefenoxam-containing products. Do not use in greenhouse nurseries.									
ZeroTol 2.0	Peroxyacetic acid (NC) Hydrogen dioxide (NC)	70299-12	P Exempt up to 100 ppm in solution HP Exempt when ≤ 1% per application	0	YES	1	P 500 H 1,000	--	P 500 H 1,000 Acetic acid 5,000
Other Use Requirements: Posting required for chemigation.									

Trade Name or Generic Name	Common Name (FRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)[3]	Days to Harvest	Field Posting Required[4]	REI hr	EPCRA[5]		
							TPQ (lb a.i.)[6]		RQ (lb a.i.)[7]
							1	2	
Zonix	Rhamnolipid biosurfactant (NC)	72431-1	Exempt	0	YES	4	--	--	--
Other Use Requirements: Posting required for chemigation.									

[1] Mode of action class for citrus pesticides from the Insecticide, Fungicide, and Herbicide Resistance Action Committees. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Extracted from product labels, Code of Federal Regulations, and other federal and state regulations.

[3] A letter before the number indicates to which common name the tolerance refers.

[4] Read product label for specific use precautions, especially Worker Protection Standards and environmental concerns.

[5] Emergency Planning and Community Right-To-Know Act. Information presented here is not intended to take the place of the actual regulation. Call the State Emergency Response Commission at 1-800-635-7179 for additional details.

[6] Threshold Planning Quantity. If the grower meets or exceeds this amount, notification must be made. Placard vehicle is not a facility. (1 = active ingredient is a gas, is molten, is in solution, or is a fine powder; 2 = is a granular or other larger particle form.)

[7] Reportable Quantity. The amount of active ingredient that when spilled or released requires reporting to authorities within a 15-minute time frame. It should be reported by telephone to 850-413-9919 or 800-320-0519.

[8] NA = not available; PH = postharvest only.

[9] SL = See label for use restrictions.

Table 7. Pesticides registered for use on Florida citrus — herbicides.

Trade Name or Generic Name	Common Name (HRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[3]	REI hr	EPCRA[4]		
							TPQ (lb a.i.)[5]		RQ (lb a.i.)[6]
							1	2	
Aim EC	Carfentrazone-ethyl (E)	279-3241	0.1	3	NO	12	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (HRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[3]	REI hr	EPCRA[4]		
							TPQ (lb a.i.)[5]		RQ (lb a.i.)[6]
							1	2	
Alion	Indaziflam (F2)	264-1106	0.01	7	NO	12	--	--	--
Other Use Requirements: 24(c) SLN No. FL-110004; for application in citrus groves to trees established less than 1 year.									
AXXE	Ammonium nonanoate (Z)	70299-23	NA[7]	0	NO	4	--	--	--
Other Use Requirements: None.									
Broadworks	Mesotrione (F2)	100-1131	0.01	30	NO	12	--	--	--
Other Use Requirements: Do not exceed 6 fl oz per acre at the first application. Do not exceed 12 fl oz per acre or more than 3 applications within a 12-month period. Allow at least 5 months between applications at 6 fl oz per acre, and at least 6 weeks between applications of 6 fl oz per acre and subsequent applications at 3 fl oz per acre.									
Bromacil Hyvar X	Bromacil (C1)	352-287	0.1	0	NO	12	--	--	--
Other Use Requirements: See Best Management Practice guidelines.									
Bromacil + Diuron Krovar I DF	Bromacil + diuron (C1, C2)	352-505	0.1, 1	0	NO	12	--	--	--
Other Use Requirements: See Best Management Practice guidelines.									
Chateau EZ	Flumioxazin (E)	59639-221	0.02	3	NO	12	--	--	--
Other Use Requirements: None.									
Chateau Complete	Flumioxazin + rimsulfuron (E, B)	59639-268	0.02, 0.01	3	NO	12	--	--	--
Other Use Requirements: Do not apply to trees established less than 1 year.									
Diuron	Diuron (C2)		NA	0	NO	12		--	100
Direx 4L		66222-54							
Diuron 4L		19713-36 (Drexel)							

Trade Name or Generic Name	Common Name (HRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[3]	REI hr	EPCRA[4]		
							TPQ (lb a.i.)[5]		RQ (lb a.i.)[6]
							1	2	
Diuron 4L		9779-329 (Winfield Solutions LLC)							
Diuron 4L		66222-54 (Mana)							
Diuron 4L		34704-854 (Loveland)							
Diuron 80		352-692							
Diuron 80		19713-274 (Drexel)							
Diuron 80DF		9779-318 (Agrisolutions)							
Diuron 80DF		66222-51 (Mana)							
Diuron 80 WDG		34704-648							
Karmex DF		66222-51							
Other Use Requirements: None.									
Embed Extra	2,4-D (O)	62719-726	0.05	7	NO	48	--	--	--
Other Use Requirements: 24c special local needs label for Florida. See supplemental labeling for restrictions.									
Fusilade DX	Fluazifop-P-butyl (A)	100-1070	0.03	14	NO	12	--	--	--
Other Use Requirements: None.									
Glyphosate	Glyphosate (G)		0.5	1	NO	4 to 12*	--	--	--
Buccaneer		55467-10							
Buccaneer Plus		55467-9							
Credit Extra		71368-65				4 to 12*			
Durango		62719-517							
Durango DMA		62719-556							

Trade Name or Generic Name	Common Name (HRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[3]	REI hr	EPCRA[4]		
							TPQ (lb a.i.)[5]		RQ (lb a.i.)[6]
							1	2	
Glyphomax		62719-323							
Glyphomax Plus		62719-322							
Honcho		524-445							
Honcho Plus		524-454							
Mad Dog		34704-889				4			
Mad Dog Plus		34704-890							
Ranger Pro		524-517							
Roundup PowerMax		524-549							
Roundup WeatherMAX		524-537							
Touchdown HiTech		100-1182							
Other Use Requirements: None. *See labels for REI details.									
Goal	Oxyfluorfen (E)	(2.0 E) 62719-424	Nonbearing	12 months	NO	24	--	--	--
Other Use Requirements: None.									
Gramoxone SL 2.0	Paraquat dichloride (D)	100-1431	0.05N	1	NO	24	10	10,000	1
Gramoxone SL 3.0	Paraquat dichloride (D)	100-1652	0.05N	1	NO	24	10	10,000	1
Other Use Requirements: RESTRICTED PESTICIDE.[8]									
Matrix Matrix FNV Matrix SG	Rimsulfuron (B)	352-556 352-671 352-768	0.01	3	NO	4	--	--	--
Other Use Requirements: RESTRICTED PESTICIDE.[8]									
Pendimethalin	Pendimethalin (K1)		0.1						
Prowl H_2O		241-418		1	NO	24	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (HRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[3]	REI hr	EPCRA[4]		
							TPQ (lb a.i.)[5]		RQ (lb a.i.)[6]
							1	2	
Poast Plus	Sethoxydim (A)	7969-88	0.5	15	NO	12	--	--	--
Other Use Requirements: None.									
Remedy Ultra	Triclopyr (O)	62719-552 SLN FL 080004	NA	NA	NO	Until dry	--	--	--
Other Use Requirements: See supplemental labeling.									
Rely 280	Glufosinate-ammonium (H)	264-829	0.15	14	NO	12	--	--	--
Other Use Requirements: None.									
Select Max	Clethodim (A)	59639-132	NA	NA	NO	24	--	--	--
Other Use Requirements: *Should be used ONLY in nonbearing citrus trees.*									
Simazine	Simazine (C1)		Grapefruit — 0.25 Oranges — 0.25	NA[7]	NO	12	--	--	--
Princep Caliber 90		100-603							
Princep 4L		100-526							
Simazine 4L		9779-296							
Simazine 4L		19713-60							
Simazine 4L		34704-687							
Simazine 90DF		33270-26							
Simazine 90DF		9779-295							
Simazine 90DF		19713-252							
Simazine 90 WDG		34704-686							
Sim-Trol 90DF		35915-12-60063							
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (HRAC MOA)[1]	EPA Registration Number[2]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[3]	REI hr	EPCRA[4]		
							TPQ (lb a.i.)[5]		RQ (lb a.i.)[6]
							1	2	
Solicam	Norflurazon (F1)	100-849	0.2	30	NO	12	--	--	--
Other Use Requirements: None.									
Surflan Oryzalin 4 A.S.	Oryzalin (K1)	(AS) 70506-43 66222-138	0.05	--	NO	24	--	--	--
Other Use Requirements: None.									
Treevix	Saflufenacil (E)	7969-276	0.03	1	NO	12	--	--	--
Other Use Requirements: None.									
Treflan HFP	Trifluralin (K1)	62719-250	0.05	--	NO	12	10	10,000	10
Other Use Requirements: None.									

[1] Mode of action class for citrus pesticides from the Insecticide, Fungicide, and Herbicide Resistance Action Committees. Refer to chapter 4, "Pesticide Resistance and Resistance Management," for more details.

[2] Extracted from product labels, Code of Federal Regulations, and other federal and state regulations.

[3] Read product label for specific use precautions, especially Worker Protection Standards and environmental concerns.

[4] Emergency Planning and Community Right-To-Know Act. Information presented here is not intended to take the place of the actual regulation. Call the State Emergency Response Commission at 1-800-635-7179 for additional details.

[5] Threshold Planning Quantity. If the grower meets or exceeds this amount, notification must be made. Placard vehicle is not a facility. (1 = active ingredient is a gas, is molten, is in solution, or is a fine powder; 2 = is a granular or other larger particle form.)

[6] The amount of active ingredient that when spilled or released requires reporting to authorities with a 15-minute time frame. Should be reported by telephone to 850-413-9919 or 800-320-0519.

[7] NA = not available.

[8] A certification license is required to purchase and apply or must be under the supervision of a licensee and only for those uses covered by the certified applicator's certification.

Table 8. Pesticides registered for use on Florida citrus — plant growth regulators and other products.

Trade Name or Generic Name	Common Name (Active Ingredients)	EPA Registration Number[1]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[2]	REI hr	EPCRA[3]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[5]
							1	2	
ADVANTIGRO II	Cytokinin + Indole-3-butyric acid + Gibberellins	62097-64-2935	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Arrive Plus	Cytokinin + Gibberellic acid + Indole-3-butyric acid	57538-13-89391	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Ascend	Cytokinin + Gibberellic acid + Indole-3-butyric acid	(SL) 1381-253 (WSG) 1381-254 (2) 1381-273	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Biorend	Chitosan (poly-D-glucosamine)	91664-1	Exempt	N/A	NO	48	--	--	--
Other Use Requirements: None.									
Citrus Fix	Isopropyl ester of 2,4-dichlorophenoxyacetic acid	5481-145	3	7	NO	12	--	--	--
Other Use Requirements: RESTRICTED PESTICIDE.[6]									
Crop Protect Direct PGP	Cytokinin + Indole-3-butyric acid	90866-13-101458	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Cytokin	Cytokinin	90930-3	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Cytoplex HMS	Cytokinin + Gibberellins + Auxins	90930-6	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Drexel Sprout-Stop	Potassium salt of maleic hydrazide	19713-2	N/A	--	NO	12	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (Active Ingredients)	EPA Registration Number[1]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[2]	REI hr	EPCRA[3]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[5]
							1	2	
EarthTrend Soil	Cytokinin	51517-3							
Other Use Requirements: None, use on nonbearing.									
Endurance	Choline chloride + Gamma-aminobutyric acid	34704-1125	--	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Falgro	Gibberellic acid	(20SP) 62097-3-82917 (4L) 62097-2-82917	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Fortified Stimulate Yield Enhancer Plus	Cytokinin + Gibberellic acid + Indole-3-butyric acid + Indole-3-acetic acid	57538-49	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Homobrassinolide	Homobrassinolide	69361-49	Exempt	15	NO	4	--	--	--
Other Use Requirements: None.									
Hormodin 3	Indole-3-butyric acid	59807-3	N/A	--	--	--	--	--	--
Other Use Requirements: Use on propagation.									
KickStand PGR	Indole-3-butyric acid	5905-540	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
MavRx	Cytokinin + Indole-3-butyric acid	89168-77-89391	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
N-Large	Gibberellic acid	57538-18	Exempt	7	NO	12	--	--	--
Other Use Requirements: None.									
N-Large Premier	Gibberellic acid	57538-20							
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (Active Ingredients)	EPA Registration Number[1]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[2]	REI hr	EPCRA[3]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[5]
							1	2	
Obrona (old version)	PDHP 25279	71771-14-2935							
Other Use Requirements: None.									
OnWard	Cytokinin + Gamma-aminobutyric acid + Choline chloride	95775-2 (Max) 90866-31-95775	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Periscope	Cytokinin + Gibberellic acid + Indole-3-butyric acid	62097-45-534	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
ProGibb	Gibberellic acid	(4%) 73049-15 (40%) 73049-1 (LV) 73049-498	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Radiate	Cytokinin + Indole-3-butyric acid	34704-909	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Radiate Next	Choline chloride + Indole-3-butyric acid + Gamma-aminobutyric acid + Cytokinin	90866-34-34704	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Receptor	Cytokinin + Gibberellic acid + Indole-3-butyric acid	5905-594	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Rhizopon AA #3	Indole-3-butyric acid	63310-21	N/A	--	NO	0	--	--	--
Other Use Requirements: None. Use on propagation.									

Trade Name or Generic Name	Common Name (Active Ingredients)	EPA Registration Number[1]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[2]	REI hr	EPCRA[3]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[5]
							1	2	
Rio 1-0-5	Cytokinin + Gibberellic acid + Indole-3-butyric acid + Potash + Nitrogen + Zinc + Manganese + Boron	66330-381	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Soline	Indole-3-butyric acid + Gibberellic acid + Homobrassinolide	90930-8	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Stimulate Auxin/Cytokinin	Indole-3-butyric acid + Cytokinin	57538-54							
Other Use Requirements: None.									
Stimplex Crop Biostimulant	Cytokinin	75287-3	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									
Stimulate Plus Seed Germ	Cytokinin + Gibberellic acid + Indole-3-butyric acid + Indole-3-acetic acid	57538-64							
Other Use Requirements: None.									
Stimulate Yield Enhancer Plus	Cytokinin + Gibberellic acid + Indole-3-butyric acid	57538-53	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Sugar Mover Premier	Cytokinin + Boron + Molybdenum	57538-67	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Sunergist EBR	24-Epibrassinolide	92983-2	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
Throttle	Cytokinin + Indole-3-butyric acid	62097-55-82917	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									

Trade Name or Generic Name	Common Name (Active Ingredients)	EPA Registration Number[1]	Tolerance Fruit (ppm)	Days to Harvest	Field Posting Required[2]	REI hr	EPCRA[3]		
							TPQ (lb a.i.)[4]		RQ (lb a.i.)[5]
							1	2	
Validate	Cytokinin	34704-910	Exempt	40	NO	4	--	--	--
Other Use Requirements: None.									
X-Cyte	Cytokinin	57538-15	Exempt	N/A	NO	4	--	--	--
Other Use Requirements: None.									
X-Pand	Gibberellic acid	57538-63	Exempt	0	NO	4	--	--	--
Other Use Requirements: None.									

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[1] This document is ENY-601, one of a series of the Department of Entomology and Nematology, UF/IFAS Extension. Original publication date October 1999. Revised annually. Most recent revision August 2026. Visit the Ask IFAS website at https://ask.ifas.ufl.edu for the currently supported version of this publication. © 2026 UF/IFAS. This publication is licensed under CC BY-NC-ND 4.0.

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