

2026–2027 Florida Citrus Production Guide: Decay Control of Florida Fresh Citrus¹

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

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