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

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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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