

2026–2027 Florida Citrus Production Guide: General Consideration for Use of PGRs in Citrus Groves in Florida¹

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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)	To improve vegetative growth and reduce fruit drop ⁴	August–November (repeated application 30–45 days apart)	Gibberellic acid, GA ₃ (ProGibb LV Plus)	20 g a.i.
Late varieties		September–December (repeated application, 30–45 days apart)		

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.

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

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