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Application Instructions for ProGibb LV Plus® Plant Growth Regulator

Last spring, gibberellic acid (GA₃) was approved for use on avocado — including use in certified organic orchards — to increase fruit size and yield. The only material registered for this purpose is ProGibb LV Plus®, a low volatile organic compound (LVOC) formulation, manufactured by Valent BioSciences Corporation. It's important to note that the older formulation — sold under the name ProGibb® and other generic GA₃ products — cannot be used on avocado.

Because spring is the ideal time to apply ProGibb LV Plus®, we are sharing application instructions for the product courtesy of Professor Carol J. Lovatt of the University of California, Riverside.

Application Timing

ProGibb LV Plus® is applied as a foliar spray at the cauliflower stage of avocado inflorescence development (Figure 1). The applications should be

made when 50 percent of the trees in the block have 50 percent of their bloom at the cauliflower stage. This means that 25 percent of the bloom will be at an earlier stage of inflorescence development and 25 percent will be approaching full bloom (open flowers).

If you are unable to make the application at this time, being slightly late in applying the treatment affords better efficacy than being too early (Figure 2). It is worth noting that applications made at full bloom are typically not effective.

Spray Volume and Dilution Rate

The sprays should be applied like a pesticide spray to give full canopy coverage, especially of the developing inflorescences, but should not be sprayed to run-off. The maximum allowable dose is 25 g GA₃ (active ingredient) per acre. Research indicates that lower and high-

er doses are less effective.

As concerns spray volume, for ground applications Dr. Lovatt's research team used the same amount of GA₃ (25 g ai/acre), but a spray volume of 200 to 250 gallons of water per acre, depending on tree size, to achieve good coverage without causing the material to run off the tree and with minimum spray volume left in the tank after application. For the aerial (helicopter) application, the greatest efficacy was achieved with ProGibb LV Plus® (12.5 fluid ounces, 25 g ai) in 75 gallons of water/acre.

Use of spray volumes greater than the label rate of 100 gallons of water per acre for ground application is the decision of the agricultural commissioner for each county. Growers should consult with their county agricultural commissioner if they wish to apply ProGibb LV Plus® (25 g ai) in more than 100 gallons of water per acre as a ground spray.



Figure 1. Cauliflower stage of inflorescence development.

Recommended dilution rates are as follows:

- Ground application — use 12.5 fluid ounces of ProGibb LV Plus® (25 grams active ingredient [g ai]) in 100 gallons of water/acre.
- Aerial (helicopter) application — use 12.5 fluid ounces (25 g ai) in 75 gallons of water/acre.

Spray Solution pH

The final pH of the spray solution used in Dr. Lovatt's research was between pH 5.5 to 6.0. ProGibb LV Plus® is stable at pH 4.0 to 8.5, thus the pH of the water used should be

adjusted accordingly. To prevent breakdown of the material, prolonged exposure of GA₃ to a pH > 8.5 should be avoided.

Wetting Agent

Dr. Lovatt's research team used the organosilicone surfactant Silwett L-77® or Widespread Max® at a final concentration of 0.05 percent as a wetting agent. Similar pure organosilicone type surfactants also are acceptable as wetting agents.

For more complete information concerning ProGibb LV Plus®, read "ProGibb LV Plus® Plant Growth Regulation to Increase Fruit Size and Yield of Avocados" in the Summer 2018 issue of *From the Grove*. 🥑



Figure 2. Inflorescence development slightly beyond cauliflower stage, but still okay for gibberellic acid treatment.