

## **TECH TIP: Paclobutrazol Drenches for Garden Mums**



**Here are some best practices for paclobutrazol drenches for your mum crop. There are two functional ways to use paclo drenches in mum production:**

1. Low application rates in the early or middle stages of production to tone and slow growth.
2. Higher application rates (relatively speaking) to cause a hard stop on mature crops that are budded but haven't stopping growing when you want them to.

PGR drenches have a more potent effect per ppm of active ingredient than foliar sprays at the same rate, so only use drenches when your decision is backed up by data—growth trends from graphical tracking. Other things to consider before applying a paclo drench include:

- If applying through a drip irrigation system, use pressure-compensating drip emitters. Failure to do so will cause a BIG difference in the amount of PGR applied to pots closer to your injector or water source versus the pots furthest away. *If your drippers are not pressure-compensating, drenching may not be a good option for your irrigation system.*
- Different container sizes call for different amounts of PGR solution. Here's a link to the [Bonzi drench guide from Syngenta](#). The table at the bottom of page 6 offers recommendations on how much solution to apply to different-sized pots.
- If you use a rate between 0.5 and 1 ppm, going a little over the recommended fluid ounces of PGR solution per pot won't be the end of the world. Overdoing it at 2 ppm or higher, however, could spell disaster if you're trying to check early- or mid-season growth spikes.
- Never drench paclo (or ANY PGRs, for that matter) into dry soil OR saturated soil. Time your application so media is at a moderate moisture level before a drench application. Also avoid drenching right before a heavy rain (if growing outside).

### **Paclobutrazol Drench Execution**

If you're drenching pot-by-pot, a chem-doser, which applies a precise amount of solution each time you pull the trigger, will yield the best results. Highly skilled applicators can get close to the target volume per pot using a breaker and shutoff valve, counting the seconds the valve is open, but the chances of

applying variable amounts of PGR across the crop is very high using this method. As such, a drip irrigation system with pressure-compensating emitters is the best alternative if you don't have a chem-doser. With the BMPs above in mind, the following approach will help you hit your target PGR volume per pot right on the nose (or darn close to it):

1. Calculate the total amount of stock solution needed to treat all pots. For this, you'll need the fl. oz. of PGR solution per pot based on container size, the number of pots you're treating, desired rate of paclo, and your injector ratio.
2. Mix up the amount of solution than you need at the desired rate and add a generous amount of colored dye to the stock bucket.
3. Put a measuring cup or graduated cylinder under an unoccupied dripper about 1/2 to 2/3 of the way down the supply line (or punch an extra one in). This will be your "monitor dripper."
4. Start the drench and run it until the PGR stock solution runs out. When the PGR stock bucket is empty, swap it for a clear water bucket and continue to run the injector. You'll want to monitor the volume applied using the measuring device under your monitor dripper as the drench runs. This will ensure that enough solution is applied *and* serve as an insurance policy in case you miscalculated and made more stock solution than needed (which would lead to over-PGRing if it's all applied). If you collect 90 to 95% of the target drench volume from your monitor dripper and there's still a significant amount of paclo stock solution left, switch from the PGR stock bucket to the clear water bucket ASAP.
5. Run the injector with the clear water bucket until the colored dye is no longer noticeable in the droplets coming out of your monitor dripper. This indicates that the system has been cleared of PGR solution and ensures that all the active ingredient has been applied to your crop.

The result should be an even paclo application and uniform control of growth across your crop. Regular dripper maintenance and cleaning of filters in your system are critical to ensure each pot receives the same amount of PGR. Be sure to check drip emitter output uniformity across the entire system and make necessary repairs or modifications to equilibrate dripper output before you attempt to apply a paclobutrazol drench through your system.