By Erik Runkle

Spray... Versus Sprench... Versus Drench

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There are several ways to apply a plant growth regulator to floriculture crops. The two traditional application methods are a foliar spray and a substrate drench. Growers of garden plants, particularly bedding plants, are increasingly using the sprench method, which can be described as a hybrid between a spray and a drench. Not sure which is best for your situation? Here are some guidelines to help you determine which method is most appropriate.

Sprays

Sprays are generally applied to achieve a relatively short-term response. Sprays are also most appropriate when a small to moderate effect on plant height is desired. All of the common PGRs are effective when applied as a foliar spray. Sprays are applied at a volume of 2 (or sometimes 3) quarts per 100 square feet of crop space. Specific examples of when sprays can be the most appropriate PGR application method include:

- During production of plugs and liners
- For height control of slow-growing (less-vigorous) plants
- Toward the end of the production period of garden plants to be transplanted by homeowners
- When shipping is delayed and plants need to be held a week or two

Drenches

Drenches are generally applied when a long-term effect and moderate to large stem extension are desired. Here, the PGR solution is applied to the media, with little or moderate contact with the foliage. Nearly all PGRs are effective as a substrate drench, with the exception of daminozide (B-Nine and Dazide). The appropriate volume of PGR drench solution depends on the container size: 2 ounces per 4-inch pot, 3 ounces per 5-inch pot, 4 ounces per 6-inch pot, 15 ounces per 10-inch hanging basket and 20 ounces per 606- or 1801-cell flat. Drenches can be a desirable PGR application method:

- Soon after transplant of plugs or liners of bedding plants and perennials in the garden
- For height control of aggressive container crops
- Once plants approach a desired size for crops to be enjoyed by consumers in their present container (potted plants and hanging baskets)

Sprenches

Not surprisingly, sprenches are desirable when a moderately long-lasting response and moderate effect on height control is desired. Applications are typically made so that the foliage is covered by the PGR solution and the solution penetrates the top ½-inch to inch of the media. Unlike sprays and drenches, there is not a specifically defined volume of solution per area or container; a sprench for one grower could be 50 percent more than a sprench for another grower. Sprenches can be delivered using a sprayer or boom mist by applying three or four times the volume of a spray (6 to 8 quarts per 100 square feet) during finish production. During propagation, a sprench may be only twice the volume of a spray given the small media volume. A sprench also can be delivered through the hose as a light watering, where the foliage gets wet and the solution penetrates the surface of the media. Sprenches are effective with all PGRs except daminozide. Appropriate uses of sprenches include:

- Early in the propagation phase of aggressive crops
- During production of garden plants until flower buds are visible
- To slow down but not stop growth near the end of potted plant production

Sprays and sprenches are generally applied multiple times (for example, every two or three weeks) during the production period of finish crops, whereas drenches are typically applied once, sometimes twice. An advantage of sprays and sprenches: Growers have more decision points for whether a PGR needs to be applied and at what rate. Drenches can be long-lasting, and the chosen rate may be too slow or too fast depending on the crop type, spacing and environmental conditions. g

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