



Going Beyond the Surface

In some cases, adding a surfactant to a plant growth regulator solution can improve the product's efficacy and increase uptake. How can you know when to use these products?

By Erik Runkle



Surfactants do not increase the activity of a plant growth regulator, but they can improve contact and uptake, and, therefore, improve the PGR's effectiveness on plants.

A number of different plant growth regulators are applied to influence the architecture (such as height and branching), flowering or postharvest performance of greenhouse crops. Most of these chemicals can be successfully applied as a spray. Some products, including those that contain daminozide (B-Nine and Dazide), are applied almost exclusively as sprays.

Should one add a surfactant — sometimes called a spreader/sticker, a wetting agent or a spray adjuvant — to a PGR spray solution to improve its efficacy? One grower recently asked me this question because he noted that more people are recommending one with PGR sprays. In some cases, the addition of a surfactant can indeed improve the efficacy of a PGR spray, but that depends on the chemical, the crop and the rate applied.

A surfactant, which is a shortened form of "surface active agent," is a compound that, when added to a solution, reduces the surface tension of a liquid. Surfactants increase spreading of a product on leaves, stems, flowers and media. There are many different surfactants on the market that are labeled for use on ornamentals in greenhouses, such as CapSil and Sufusion. Each product has its own characteristics; thus, its product label should be read and closely followed.

Essentially, all PGRs already contain a wetting agent. Some PGR labels specifically indicate whether an additional surfactant can or should be added to the product's solution, especially for products that have been on the market for a long time. Some more

recently released products contain little or no mention of adding a surfactant. Of course, chemical applicators are obligated to follow label guidelines.

When product rates are low or when a spray application is made to hydrophobic leaves, the chemicals can bead up on the foliage or, worse, run off the plant. In those instances, adding a surfactant to a PGR solution can increase chemical contact and thus, improve absorbance and efficacy. Surfactants do not increase the activity of another chemical, but they can improve contact and uptake, and, therefore, improve the product's effectiveness on plants.

Where Surfactants Might Help

Therefore, under what conditions might the addition of a surfactant to a PGR be useful?

- When the primary chemical (PGR) permits the addition of a surfactant
- When PGR application rates are low
- When spray applications without an additional surfactant do not adhere well to plant tissues

Growers are advised to conduct small trials when surfactants are added to PGRs to ensure that no crop injury will occur. It has been reported that in rare instances, some PGRs and surfactants can be incompatible or phytotoxicity can occur. **GPN**

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