



By Erik Runkle



A New Paclobutrazol

Paclobutrazol is probably the most widely used active ingredient used to regulate extension growth of floriculture crops in the United States. Paclobutrazol was introduced to the floriculture industry as Bonzi (Syngenta Professional Products) over 20 years ago. Since then, several additional products containing paclobutrazol at a concentration of 0.4 percent (4,000 ppm) have been registered for use in the United States including Paczol (OHP), Piccolo (Fine Americas) and Downsize (Greenleaf Chemical).

In 2011, Fine Americas released a new, more concentrated formulation of paclobutrazol called Piccolo 10XC. It is presently registered in all U.S. states except Alaska and California. The registration in California is currently under review and pending approval from California Department of Pesticide Regulation. As the name implies, the product is ten times the strength of other formulations, including its Piccolo brand. Thus, containers are smaller and can be easier to handle.

We and other researchers have performed experiments to compare the efficacy of existing paclobutrazol products with the 10XC product. As we have found with other

plant growth regulators (PGRs) with the same active ingredient, plant responses were similar when the same volume and application rate were used. For example, chrysanthemum 'Ashley' was 20 to 25 percent shorter when drenched with 1 ppm of either Piccolo or Piccolo 10XC at two days before the start of short days (Figure 1). Additional trial results with 10XC can be found at www.fineamericas.com/Content/prodT.asp?id=115.

Piccolo 10XC

contains a solution of paclobutrazol, whereas other products contain paclobutrazol as a suspension. Over time, suspensions settle in the tank (similar to orange juice pulp in a bottle) and thus, solutions of those products require frequent agitation for thorough mixing. In contrast, paclobutrazol is dissolved in Piccolo 10XC tank solutions, so agitation is not required once the solution is mixed.

As with all PGRs, conduct small-scale trials to determine appropriate rates for your plants, growing conditions and desired responses.



Figure 1. When applied at the same volume and concentration, Piccolo and Piccolo 10XC provided a similar degree of height control. (Photo from Cathy Whitman, Michigan State University.)

Regardless of paclobutrazol product, applications are most effective when contact is made with the stems and especially the media. Roots actively absorb paclobutrazol and distribute it throughout the plant. Sprays can be less effective, especially if the stems are not thoroughly wetted, because the product does not move out of the leaves. Sprays can also have a larger effect on reducing flower size because of the sprays make direct contact with the flower buds.

Paclobutrazol is a relatively long-lasting PGR. Depending on the situation, the persistence of media applications can be desirable (such as with finished hanging baskets) or undesirable (such as with plugs and liners). As with all PGRs, conduct small-scale trials to determine appropriate rates for your plants, growing conditions and desired responses. ■

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