By Erik Runkle

Tips on Using Uniconazole

Uniconazole is the active ingredient in the plant growth retardants (PGR) Sumagic (Valent Professional Products) and Concise (Fine Americas). On a part per million (ppm) basis, uniconazole is the most active and persistent PGR used for height control of ornamentals. This high level of activity provides uses on a wide range of floriculture crops, and can be successfully applied as a foliar spray, media spray, media drench, liner dip and pre-plant bulb soak. Here are some suggestions for how and when to use uniconazole as a spray or drench to obtain desirable, more compact plants.

Sumagic and Concise are powerful at low concentrations — often around five times more powerful than paclobutrazol products such as Bonzi, Piccolo and Paczol. Therefore, accurate measurement and mixing of the product, and identification of a desirable rate and volume, are especially important with uniconazole. Research at Michigan State University (MSU) and other universities has found that Sumagic and Concise are similarly effective when applied at the same concentration and volume.

As with all PGRs, growers should perform their own trials to determine the best rates for their growing conditions and specific crops.

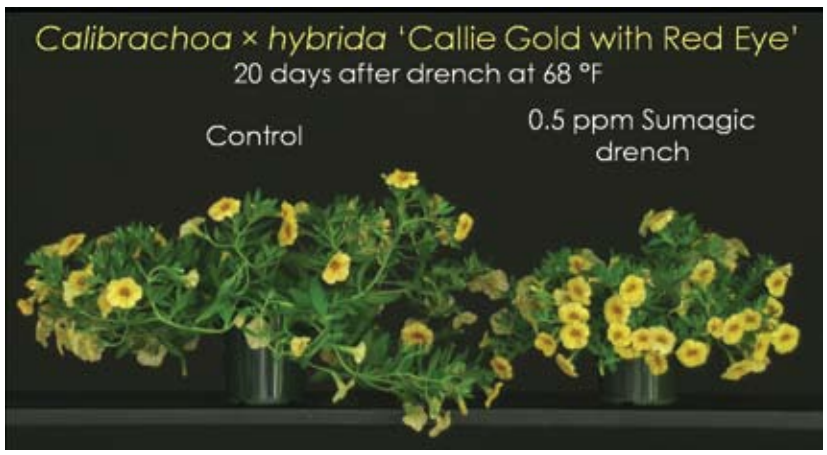

Figure 1. *Sumagic applied as a 0.5-ppm drench to calibrachoa had a desirable effect on inhibiting stem elongation. (Photo: Cathy Whitman)*

A single uniconazole spray at 1 to 2 ppm soon after transplant has a desirable growth-regulating effect on bedding plants with moderate vigor, such as celosia and red salvia. For more aggressive crops, such as petunia and marigold, higher spray rates (4 to 6 ppm) may be required for an adequate response. Even higher rates (10 to 15 ppm) may be necessary for aggressive herbaceous perennials such as echinacea, gaura, liatris and phlox. These rates are based on mid-spring growing conditions in Michigan; higher rates may be needed in locations with higher temperatures and light levels. The effects of a uniconazole spray on stem elongation may persist for three to five weeks or even longer, depending on the rate, the plant treated and its growing conditions.

For crops with long production cycles, try using a uniconazole drench approximately 10 days after transplant. A single early drench at 0.5 ppm was effective in MSU trials on bedding plants such as calibrachoa, celosia, petunia, red salvia and scaevola (Figure 1). Higher rates (1 to 2 ppm) may be required for vigorous varieties. Late-season drenches of uniconazole should not be used if plants are to be planted into the landscape; the persistent effect may prevent plants from growing out in the garden. In addition, uniconazole should generally not be applied as a drench during plug and liner production. In contrast, the persistence of Sumagic and Concise drenches can be desirable for plants finished in hanging baskets and large containers.

As with other PGRs, application timing has a major impact on results. A typical recommendation is to apply uniconazole soon after roots have reached the edge of the pot, which is often about seven to 10 days after transplant of plugs and cuttings. Sumagic and Concise begin controlling stem elongation soon after application, and the magnitude of response is evident within about seven days. Uniconazole is absorbed primarily by stems, so good stem coverage is critical for effective control of elongation. Uniform spray volume is also important because roots readily absorb the products, and excess solution that drips into the media will be taken up by plants.

As with all PGRs, growers should perform their own trials to determine the best rates for their growing conditions and specific crops. The product labels for Sumagic and Concise contain a lot of useful information, so give them a thorough read before use. To view photos showing how a variety of annuals and perennials responded to uniconazole and other PGRs in MSU trials, visit www.hrt.msu.edu/floraoe/pgrinfo. g

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