



Comparing Concise Application Methods for Height Control of *Rudbeckia* ‘Goldsturm’

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Rudbeckia ‘Goldsturm’ is still a major summer flowering perennial for most growers but I get questions on how to manage the height of these plants, especially in quart production. With late spring plugs, these plants begin to stretch as soon as flowers are initiated.

This e-Gro Alert will show *Rudbeckia* ‘Goldsturm’ response to Concise (uniconazole, Fine Americas, Inc.) applied by different methods.

Warning: *these Concise (uniconazole) concentrations are considered Southern application rates, so adjust your application rates down for more northern areas.*

All of the experiments presented in this Alert were performed using plugs from the same lot and shipment date (Week 17).

Liner dips provide early control in a relatively safe application method. So we tested liner dips of Concise on some of these *Rudbeckia* ‘Goldsturm’ plugs. The rootballs of the plugs were dipped into a Concise solution of 0, 1, 2, 3, 4, or 5 ppm for 30 seconds. The plugs were potted the following day into quart (1.1 liter) pots filled with Fafard 3B medium. Plants were fertigated with 200 ppm N (Peter’s 20-10-20). As you can see in Figure 1, the plants grew rapidly, especially between 4 and 6 weeks after potting. And the liner dips were very effective at controlling stem elongation.



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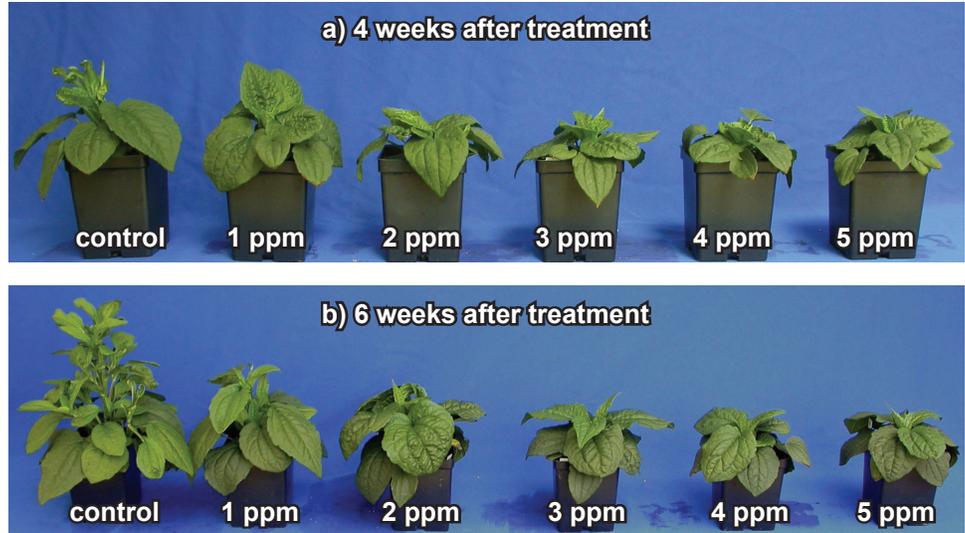


Figure 1. *Rudbeckia* ‘Goldsturm’ treated with 30-second liner dips of Concise at 0, 1, 2, 3, 4, or 5 ppm (left to right) the day before potting. A) Photo taken at 4 weeks after treatment. B) Photo taken at 6 weeks after treatment.

What about the effects on flowering? Although all plants set flower buds about the same time, the higher concentrations the liner dips delayed flower opening of *Rudbeckia* ‘Goldsturm.’ Furthermore, when those flowers opened, the flower stalks did not extend above the foliage (Figure 2). So, while liner dips offer a rapid and early application method for the soil-active growth regulators, you must select appropriate concentrations. In the South, 1 ppm Concise gave moderate control throughout the production period, did not delay flowering, and maintained reasonable plant balance with the quart pot.

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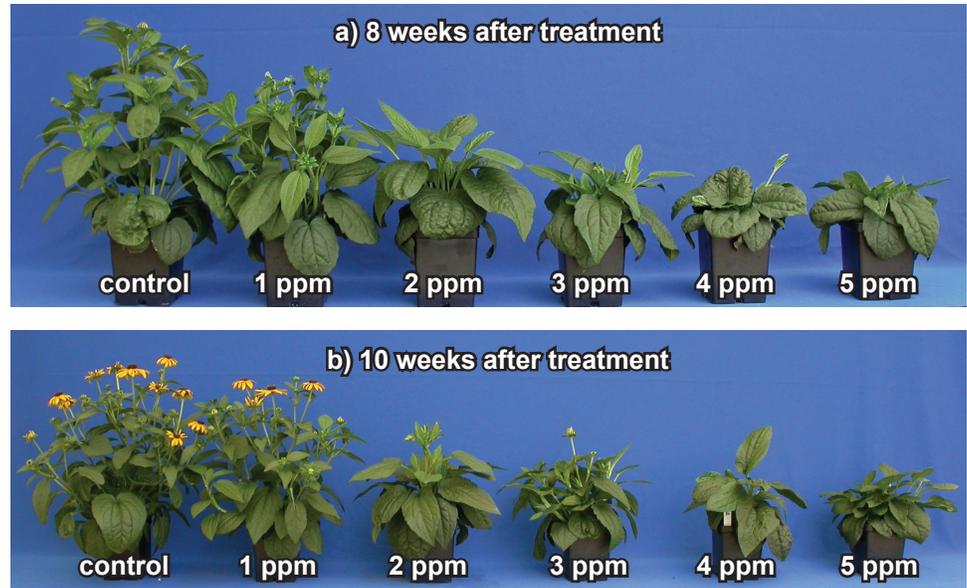
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Figure 2. *Rudbeckia* 'Goldsturm' treated with 30-second liner dips of Concise at 0, 1, 2, 3, 4, or 5 ppm (left to right) the day before potting. A) Photo taken at 8 weeks after treatment. B) Photo taken at 10 weeks after treatment.



Spray applications were also compared to drench applications using plugs from this same lot and shipment date. Plugs were potted at the same time as those treated with liner dips but the treatments were applied one week later. For spray applications Concise was applied one time at the label recommended volume (1 gallon per 200 square feet) at 0, 15, 30, 45, or 60 ppm. Drench applications were applied at 2 fluid ounces per quart pot at concentrations of 0, 0.5, 1.0, 1.5, or 2.0 ppm Concise.

The higher spray concentrations of Concise, 30 to 45 ppm, were required to give adequate control of *Rudbeckia* 'Goldsturm' after flower initiation (Figure 3A). Flower opening was slightly delayed by 45 ppm but for a quart program, this rate provided better balance (Figure 3B). For trade gallon or larger programs, use rates closer to 30 ppm Concise for spray applications.

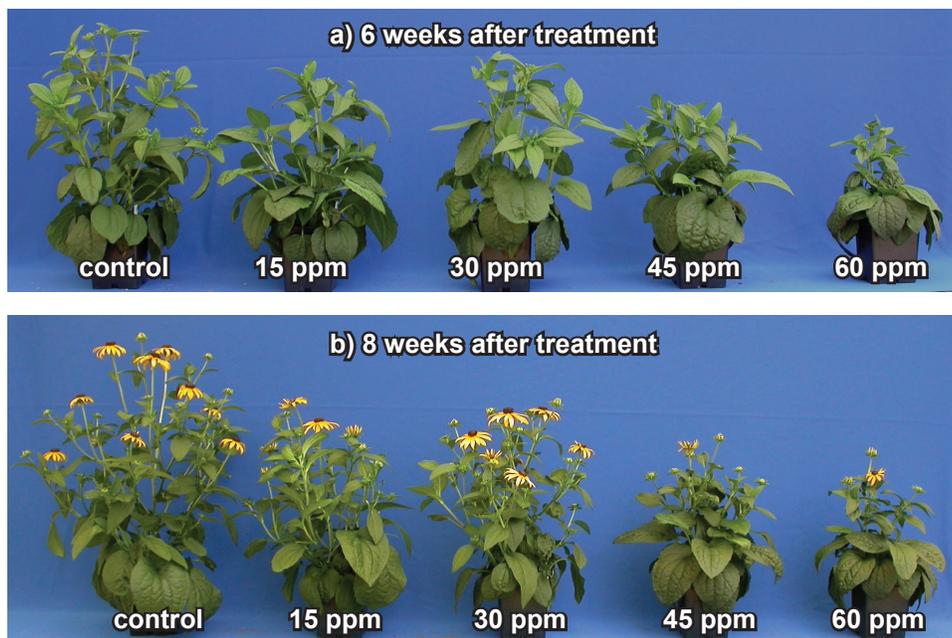


Figure 3. *Rudbeckia* 'Goldsturm' treated with spray applications of 0, 15, 30, 45 or 60 ppm Concise (left to right) one week after potting. Photos taken at A) 6 weeks after treatment which was 7 weeks after potting or B) 8 weeks after treatment which was 9 weeks after potting.

The drench applications provided very little control of flower stalk elongation (Figure 4A) except that the highest rate, 2.0 ppm Concise, improved plant appearance at flowering (Figure 4B). Concise concentrations greater than 2.0 ppm would be necessary for good growth regulation of *Rudbeckia* 'Goldsturm'.

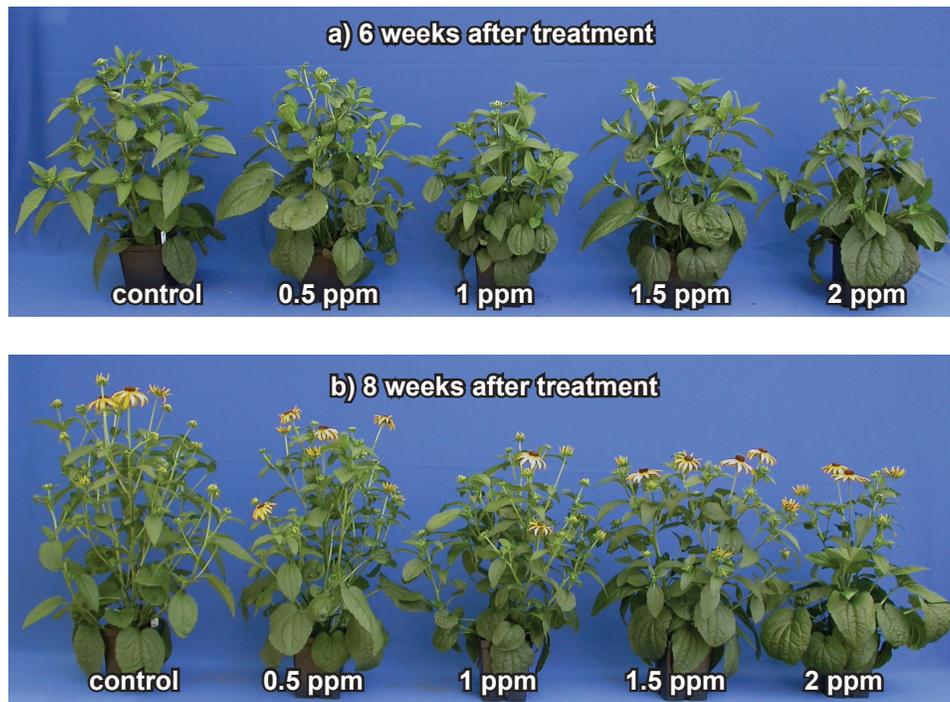


Figure 4. *Rudbeckia* 'Goldsturm' treated with drench applications of 0, 0.5, 1.0 1.5 or 2.0 ppm Concise (left to right) one week after potting. Photos taken at A) 6 weeks after treatment which was 7 weeks after potting or B) 8 weeks after treatment which was 9 weeks after potting.

In summary, *Rudbeckia* 'Goldsturm' is very responsive to Concise (uniconazole). Early application as liner dips improved plant form and flower display in the quart pot program. Liner dip solution concentrations should not exceed 1 ppm. Spray applications of Concise required rates of 30 to 45 ppm to maintain control throughout the production period and provide a reasonable plant balance at flowering. Drench rates greater than 2 ppm would be recommended. While the 2 ppm drench did not provide height control during production, it concentrated the vegetative growth in the pot to provide a more attractive flower display.

As always, test these products and rates on a small number of plants in your own operation before treating large numbers of plants. Refine the treatments to suit your application and growing conditions.