

Expanding Your PGR Toolbox

Part 2 – Bedding Plants



Learn the effects of flurprimidol on different spring bedding plants in the second article of this two-part series.

**By Brian Whipker,
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Brian Krug and
James Gibson**

In the first article of this series, we discussed application considerations and optimal rates of Topflor (flurprimidol) on potted plants. In this article, we focus on spring bedding plants.

Throughout the past five years, we have conducted extensive trials at North Carolina State University and obtained excellent results with spring annuals. Topflor is a new addition to the PGR toolbox and, hopefully, our research trials will provide some insight into how it can work for you.

Ageratum

We trialed Topflor foliar sprays (20, 30, 40, 50 or 60 ppm) and compared those rates with Bonzi (paclobutrazol) at 40 ppm and Sumagic (uniconazole) at 10 ppm on ageratum 'Hawaii Blue' grown in 1203 and 1801 cell packs. Topflor applied at 40 ppm resulted in plants that were 21 percent shorter than the untreated control. It should be noted that there was a slight amount of foliar phytotoxicity with 40-ppm Topflor, but the new leaf growth quickly covered it. Topflor at 60 ppm provided comparable height control as 40-ppm Bonzi, and Topflor at 20 ppm was comparable to 10-ppm Sumagic.

Celosia

Topflor was applied as a foliar spray (10, 20, 30, 40 or 50 ppm) and compared with Bonzi at 35 ppm and Sumagic at 5 ppm on celosia 'Red Glow' grown in 1203 and 1801 cell packs. Topflor applied at 50 ppm resulted in plants that were 17 percent shorter than the untreated control. Topflor at 20 ppm provided comparable height control as 35-ppm Bonzi, and Topflor at 50 ppm was equivalent to 5-ppm Sumagic.

Seed Coleus

Topflor was applied as a foliar spray (10, 20, 30, 40 or 50 ppm) and compared with Bonzi at 35 ppm and Sumagic at 10 ppm on coleus



Ageratum 'Hawaii Blue' grown in 1801s with Topflor foliar sprays (left to right: untreated control, 40 and 50 ppm).



Celosia 'Red Glow' grown in 1203s with Topflor foliar sprays (left to right: untreated control, 40 and 50 ppm).



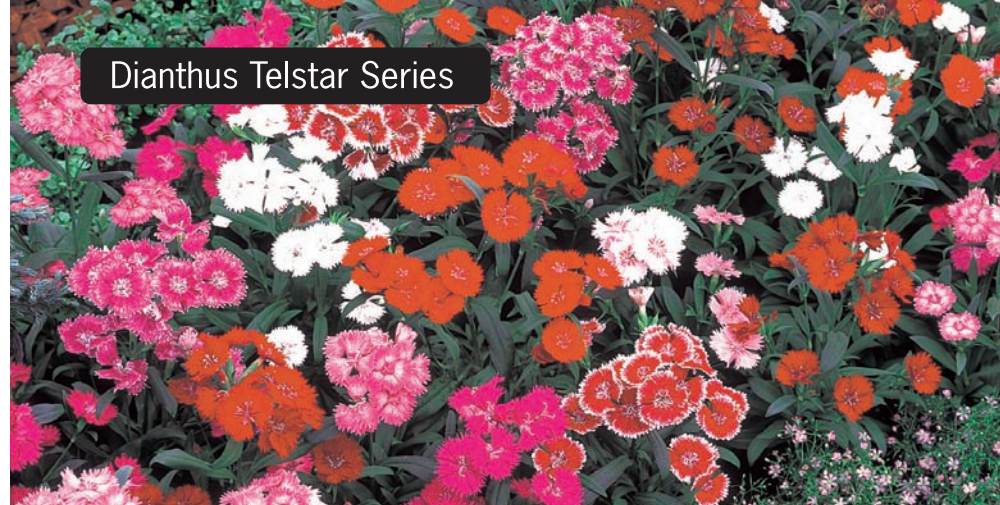
Coleus 'Wizard Golden' grown in 1203s with Topflor foliar sprays (left to right: untreated control, 20 and 30 ppm).



flurprimidol
paclobutrazol
uniconazole
daminozide
ethephon



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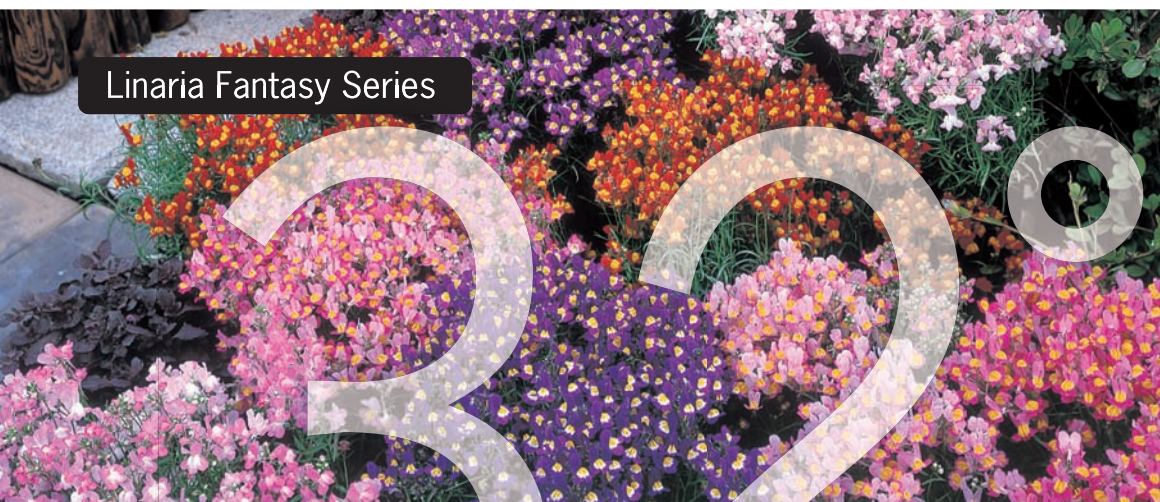
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'Wizard Golden' grown in 1203 and 1801 cell packs. Topflor applied at 20 ppm resulted in plants that were 16 percent shorter than the untreated control. Topflor at 10 ppm provided comparable height control as 35-ppm Bonzi, and Topflor at 20 ppm was equivalent to 10-ppm Sumagic. 'Wizard Golden' is not a vigorous grower, and lower rates may be appropriate.



Dusty miller 'Silverdust' grown in 1203s with Topflor foliar sprays (left to right: untreated control, 10 and 20 ppm).

Dusty Miller

Topflor was applied as a foliar spray (10, 20, 30, 40 or 50 ppm) and compared with Bonzi at 35 ppm and Sumagic at 10 ppm on dusty miller 'Silverdust' grown in 1203 and 1801 cell packs. Topflor applied at 10 ppm resulted in plants that were 28 percent shorter than the untreated control. Bonzi applied at 35 ppm resulted in plants that were 13 percent shorter than the untreated control. Topflor at 10 ppm provided comparable height control as 10-ppm Sumagic. Retail growers may want to conduct trials with rates lower than 10 ppm.



Impatiens 'Accent Carmine' grown in 1203s with Topflor foliar sprays (left to right: untreated control, 50 and 60 ppm).

Seed Impatiens

Topflor was applied as a foliar spray (20, 30, 40, 50 or 60 ppm) and compared with Bonzi at 35 ppm and Sumagic at 10 ppm on impatiens 'Accent Carmine' grown in 1203 and 1801 cell packs. Topflor applied at 60 ppm resulted in plants that were 22 percent shorter than the untreated control. Bonzi applied at 35 ppm resulted in plants that were 30 percent shorter, and Sumagic at 10 ppm resulted in 33 percent shorter plants than the untreated control. Topflor at 60 ppm provided less control than Bonzi at 35 ppm or Sumagic at 10 ppm; therefore, consider trialing multiple Topflor applications as a way of obtaining a greater degree of control.



Marigold 'Antigua Orange African' grown in 1801s with Topflor foliar sprays (left to right: untreated control, 50 and 60 ppm).

Marigold

Topflor was applied as a foliar spray (10, 20, 30, 40 or 50 ppm) and compared with Bonzi at 35 ppm and Sumagic at 10 ppm on marigold 'Antigua Orange African' grown in 1203 and 1801 cell packs. Topflor applied at 40 ppm resulted in plants that were 12 percent shorter than the untreated control. Topflor at 30 ppm provided comparable height control as 35-ppm Bonzi and 10-ppm Sumagic.

Seed Petunia

Topflor was applied as a foliar spray (20, 30, 40, 50 or 60 ppm) and compared with Bonzi at 40 ppm and Sumagic at 20 ppm on petunia 'Madness Plum Crazy' grown in 1203 and 1801 cell packs. Topflor applied at 50 ppm resulted in plants that were 12 percent shorter than the untreated control. Topflor at 40 ppm provided comparable height control as 40-ppm Bonzi and 20-ppm Sumagic.

crop cultivation



Petunia 'Madness Plum Crazy' grown in 1801s with Topflor foliar sprays (left to right: untreated control, 50 and 60 ppm).



Salvia 'Splendens Red Hot Sally Deep Red' grown in 1801s with Topflor foliar sprays (left to right: untreated control, 40 and 50 ppm).



Vinca 'Pacifica White' grown in 1203s with Topflor foliar sprays (left to right: untreated control, 2½ and 5 ppm).

Salvia

Topflor was applied as a foliar spray (20, 30, 40, 50 or 60 ppm) and compared with Bonzi at 40 ppm and Sumagic at 10 ppm on salvia 'Splendens Red Hot Sally Deep Red' grown in 1203 and 1801 cell packs. Topflor applied at 50 ppm resulted in plants that were 15 percent shorter than the untreated control. Topflor at 20 ppm provided comparable height control as 40-ppm Bonzi and 10-ppm Sumagic.

Vinca

Topflor was applied as a foliar spray (2½, 5, 7½, 10 or 20 ppm) and compared with Bonzi at 30 ppm and Sumagic at 5 ppm on vinca 'Pacifica White' grown in 1203 and 1801 cell packs. Topflor applied at 2½ ppm resulted in plants that were 43 percent shorter than the untreated control. Topflor rates lower than 2½ ppm may be more appropriate for retail growers. Topflor at 5 ppm provided comparable height control as 30-ppm Bonzi and 5-ppm Sumagic. Vinca has a strong response to Topflor, Bonzi and Sumagic; therefore, growers should be careful to apply correct spray rates to avoid overdoses. Note that Bonzi is not registered for use on vinca, and the rate range for Sumagic is 1-3 ppm.

Summary

Topflor is a new tool for preventing unwanted plant stretch. The rates discussed in this article are a starting point for conducting your own trials. Keep in mind that all results are based on North Carolina growing conditions and will need to be adjusted for other locations, cultivars and times of the year. Typically, growers in more northern areas should start trialing with rates 50 percent less than those listed, and growers in more southern areas should trial rates up to 50 percent higher.

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