

GROWERTALKS

Columns

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The Doctor Is In!: Promoting Stem Elongation

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In a previous column, I reviewed some of the techniques to promote shoot elongation on short plants. These included positive DIF, close plant spacing, consistent moisture, high phosphorous fertilization and the use of gibberellins, such as those in Fascination and Fresco. For many growers, use of Fascination/Fresco has become the method of choice to promote shoot elongation on short plants.

The GA4+7 in Fascination/Fresco can be absorbed either through leaves or via the roots. When Fresco is applied as a drench to the

media, plant response generally is uniform, meaning all parts of the plants respond to the application. When Fascination/Fresco is applied as a spray, only the parts of the plant sprayed respond to the applications.

The first floriculture use of Fascination/Fresco was to prevent leaf chlorosis on the lower leaves of Easter lilies. What growers quickly found was that uniform application was needed or the part of the leaf not covered with the spray would develop chlorosis and necrosis (Figure 1). Further, leaves higher on the plant not covered by the Fascination/Fresco spray weren't protected and would become chlorotic (Figure 2) under high plant-density conditions. Both of these observations show foliar applications aren't translocated from site of application.

Figure 3 further confirms that foliar applications of Fascination/Fresco are only effective where the plant is sprayed. It also shows that Fascination/Fresco can reverse the effects of flowering delay caused by growth retardant applications. The plant in Figure 3 had been treated with paclobutrazol and flower development was delayed. This plant was accidentally sprayed with Fascination/Fresco on one side of the plant due to an overspray from an adjacent bay. The part of the plant sprayed exhibited faster flower development simultaneously with addition stem elongation.

The promotion of earlier flowering is also seen in Figure 4, where these New Guinea Impatiens had been sprayed with excess paclobutrazol and flower buds were “locked up.” The plants showing more flower color had been sprayed a week earlier with 10 ppm Fascination and plants were beginning to develop “normally.”

While Fascination/Fresco will speed flower development on plants that have had a growth retardant application, I haven’t observed acceleration of flower development on plants that haven’t received a growth retardant application. It simply promotes stem elongation, so plants flower at the same time as non-treated plants but on taller shoots.

Care must be taken when applying Fresco to plants as a drench to avoid application to non-target plants. This most often occurs when an application is made to an overhead crop of baskets and the solution runs through the basket to the crop below. Note the taller portulaca plants in Figure 5 where Fresco dripped through overhead baskets to the plants below. Also note that the Fresco didn’t promote earlier flowering on this crop that hadn’t received a growth regulator application.



Some plants are very sensitive to Fascination/Fresco, including seed geraniums and begonias, and undesired elongation can easily occur from root absorption. Figure 6 shows a single seed geranium elongating among the rest of the crop. In this case, these geraniums had been planted and placed on a concrete floor where Easter lilies had previously been sprayed with 50 ppm Fascination/Fresco. The plant that was elongating had rooted through the tray and was absorbing the GA4+7 residue from the concrete, while the remaining plants that hadn’t rooted to the concrete

remained compact (Figure 7).

Florel is often used to abort flowers in zonal geraniums to eliminate deadheading of the plants. Compact varieties can become too compact from the Florel applications. One option is to tank mix Fascination/Fresco with the Florel. Figure 8 shows three geranium plants, one not sprayed with Florel and two sprayed with Florel. The Florel aborted the flowers, but the plants remained very compact. The addition of Fascination/Fresco with the Florel (center plant in Figure 8) resulted in flower bud abortion, as well as desirable vegetative growth.

While Fascination/Fresco can be a very valuable tool to promote shoot elongation, it’s critical to know your rates. While 1 ppm may have little impact on some plants, it can cause excessive elongation on others. As with any chemical, trial Fascination or Fresco first on a small plant sample before application to the entire crop.

Most growers find Fascination/Fresco application to promote shoot elongation for about seven to 10 days after which there is little additional promotion of elongation. If adequate height promotion hasn’t been

achieved by 10 days after an application, another application should be considered.

Finally, the addition of a high phosphorous fertilizer such as 20-10-20 to any Fresco drench is a reasonable practice if there's any doubt that stem elongation is being limited by low phosphorous nutrition. **GT**

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