

## Pre-publication version

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# Enhancing perennial stock plant production through the use of plant growth regulators

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## **Abstract**

**Our research group is working with two perennial plants, *Heuchera sanguinea* 'Snow Angel' and *Zauschneria garrettii* 'Orange Carpet', due to production problems with these plants in greenhouses and nurseries throughout the Mountain West region. Growers had identified these two and a few other Plant Select® brand plants for propagation research. Four variables (growing medium, container size, fertilizer, and plant growth regulators) are being studied for stock plant production. The PGRs [Fascination (gibberellic acid), Verve (ethephon), and Configure (cytokinin)] are being studied at a high and low rate based on label rates, grower recommendations, and prior research. Six PGR treatments and a control are being used. The first repetition of this experiment was conducted at the Horticulture Center greenhouses at Colorado State from December 2016 to March 2017. PGR applications were made once a month with data collected at 2-week intervals. Data was collected on the number, fresh weight, and dry weight of cuttings taken, and height, width, and number of breaks (branches) on the stock plants prior to cuttings being taken. The second repetition of the experiment is under way and two rounds of data collection have been done starting in August 2017, with the remaining two rounds of data collections to be completed in November 2017. The data collected in the first repetition have been statistically analyzed with results showing increases in some treatment groups in comparison to the control and other treatments. The increase in vegetative production for the two perennials in this study lead to the belief that using PGR treatments on stock plant production will lead to an increase in vegetative growth and more overall success for the propagator trying to produce these varieties of perennials.**

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