



PGR Evaluation on Forced *Hydrangea macrophylla*

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Nature of Work: *Hydrangea macrophylla* forced in the greenhouse usually increases greatly internode length as temperatures inside rise. This results in weak stems that cannot support the flower heads as they develop and increase in size. Flowers and branches flop over resulting in unsalable plants. Plant growth regulators can shorten the internodes resulting in stronger branches. Application rates and frequency of application need to be evaluated to solve this problem under nursery production.

Endless Summer Hydrangea was forced in early spring in a heated quonset house and PGR applications were applied. On February 4, 2005, plants were brought into the greenhouse and cut back to 5" tall. Plants were top dressed with Osmocote Pro 20-4-8 at the medium rate. The night temperature was set at 55°F under the milky poly covering.

B-Nine was applied at the four leaf stage beginning on March 24, and repeated weekly for the required treatments. A 5000 ppm rate was used 0, 1, 2, 3, and 4 times one week apart. A water spray was used for the 0 rate. Bonzi was drenched at 8 ppm in 25 oz water per 3 gallon pot on April 14. Plant growth and marketability would be determined for the treatments.

Results and Discussion: Late winter and early spring was much cooler than normal and we had many cloudy days which resulted in little greenhouse heating during the day. The growth of the forced hydrangeas was greatly delayed. Treatments were delayed until March 24, when adequate new growth had developed. On March 30, an application of liquid chelated iron killed the new developing terminal leaves, resulting in delaying growth until new buds could develop. All treatment and the control plants were effected. Flowering was insignificant by the termination of this study. No other plants were available to initiate a new study.

There was insignificant growth from March 25 through April 28 on all treatments and the control. The 5000 ppm B-Nine applications appear to be excessive for the initial application. The repeat applications seemed no different from a single application. The control did make more growth once the new buds developed. The Bonzi drench did not appear any different from the control. An increased rate would be needed to be effective in the bark substrate used.

Significance to the Industry: There is still a need for effective plant growth regulator evaluations on woody plants under nursery production.