

# Bulb dipping controls Easter lily growth

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In a recent issue of *HortTechnology*, Purdue University researchers Christopher J. Currey and Roberto G. Lopez reported on a study of the effects of a technique called "bulb dipping" on Easter lily. While plant growth retardants (PGRs) are commonly applied as sprays or media drenches, bulb crops can be submerged, or "dipped" in PGR solutions before planting. The experiments were designed to determine if dipping Easter lily bulbs in paclobutrazol solutions would produce a commercially acceptable product. Study results were encouraging; the researchers found that paclobutrazol was effective as a bulb dip.

To achieve optimal aesthetic value and to accommodate packing and shipping requirements, the height of Easter lily and other bulbs must be controlled during production. Bulb height can be controlled by manipulating the difference between the day and night [air temperatures](#) during production or with overhead irrigation systems using cold water from shoot emergence to flowering. While these techniques may be effective, they may be difficult to employ in greenhouses with multiple crops or limited infrastructure. Alternately, chemical plant growth retardant applications may be used to produce compact potted Easter lilies.

Currey and Lopez's study evaluated the influence of pre-plant bulb dips in paclobutrazol solutions on final plant height, days to flower, and flower bud number for Easter lily (*Lilium longiflorum*). 'Nellie White' Easter lily bulbs were placed in solutions of paclobutrazol for 15 minutes preceding planting. The results showed that days to flower and flower bud number were unaffected by paclobutrazol, while plant height at flowering for bulbs dipped in paclobutrazol solutions was 15-26%

shorter compared with untreated bulbs.

"Additionally, dipping bulbs in 120 mg/L paclobutrazol resulted in plants that met target height specifications for commercially grown Easter lily. Based on these results, dipping Easter lily bulbs in paclobutrazol solutions can be an effective strategy for reducing stem elongation without negatively impacting days to flower or flower bud number for commercially grown Easter lily," the researchers said.

While the experiments found paclobutrazol to be effective for a bulb dip used for Easter lily, Currey and Lopez recommended that producers conduct onsite trials, as a former study found that several factors can affect the bulb height, days to flower, and flower number.

**More information:** [horttech.ashspublications.org/ ...nt/abstract/20/2/357](http://horttech.ashspublications.org/...nt/abstract/20/2/357)

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