

EARLY CONTROL OF SEEDLING GROWTH BY TREATING SEEDS WITH GROWTH REGULATORS

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Control of seedling growth is a challenge in plug production. The goal of the research was to evaluate applicability of seed treatments with triazole growth regulators for early height control of ornamental and agronomic crops, as well as determine growth regulator distribution in treated seeds. Verbena, salvia, pansy, dill, and cucumber seeds soaked in $50 \text{ mg}\cdot\text{L}^{-1}$ paclobutrazol solutions during 5 min produced seedlings that were up to 43, 18, 30, 22, and 44% shorter than controls, respectively. For most crops, increasing triazole concentrations during seed soaking were associated with progressive decreases in seedling emergence. Preliminary results indicate that this was associated with reduced seed metabolic heat and respiration rates. Preliminary mass spectrometry data demonstrate undetectable levels of triazole in cucumber fruits grown from seeds soaked in $50\text{-}1000 \text{ mg}\cdot\text{L}^{-1}$ paclobutrazol. Mass spectrometry might be a prospective method to characterize location of triazoles in seed tissues.