

Evaluation of Reduced Rates of Prohexadione Calcium (Plant Growth Regulator) on peanut in Arkansas, Georgia, Mississippi, South Carolina and North Carolina.

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Prohexadione Calcium is commonly used on virginia type peanuts to manage their excessive vine growth and promote improved digging efficiency. However, minimal acres of runner type peanuts have Prohexadione Calcium applied due to their more compact growth habit. Vine growth of some new runner type cultivars in the last five years have a more vigorous growth habit causing a renewed interest in growth regulators. Evaluations of runner and virginia cultivar (growth and yield) response to reduced rates of Prohexadione Calcium were conducted in small plot trials in Arkansas, Georgia, South Carolina, and North Carolina. Large on-farm trials evaluating the same growth regulator treatments were conducted in Georgia and Mississippi on runner cultivars. Application rates of Prohexadione Calcium at 529.8 ml/ha (1X, Labeled), 397.5 ml/ha (0.75X), 265.3 ml/ha (0.5X), and a non-treated check were evaluated. Applications were initiated when 50% of lateral vines from adjacent rows were touching. A second application was applied 14 days after the first. Cultivar and treatment responses were evaluated based on canopy height, yield, and grade. All rates of Prohexadione Calcium reduced canopy growth for most trials compared to the non-treated check. In the small plot trial virginia trials, Apogee at the $\frac{3}{4}$ X and 1X rate significantly reduced height from 26.2 cm to 22.7 cm. Yield response varied by location and rate of Prohexadione Calcium with no significant increase in yield being observed in small plot trials. However, reduced rates of Prohexadione Calcium increased yield in all of the on-farm trials compared to the untreated check. Yield increases ranged from 453 to 731 kg/ha for all apogee treatments compared to the non-treated check across all of the on-farm trials in Mississippi and Georgia. Based on the data from these trials, Apogee effectively reduced vine growth which supports previous work. However, the differences observed in small plot compared to large on-farm trials in regard to yield response needs to be examined more. Since there were a significant increase in yields in all of the on-farm trials and not in small plot trials, it can be assumed that there is not enough data points in small plot trials to accurately examine the yield effects of Apogee.