Georgia Commodity Commission for Peanut Update
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Assessment of Prohexadione Calcium and Postemergence Herbicide Tank-Mixtures in Peanuts Year 2

The study evaluating prohexadione calcium tank-mixtures with postemergence (POST) herbicides in peanut production has progressed significantly. Field and greenhouse trials have been conducted to determine the compatibility of these mixtures regarding peanut injury and weed control. Field experiments were conducted over two consecutive years at the USDA-ARS Jones Farm and ABAC Data Farm in Tifton, GA, using Georgia-16HO and GA-06G peanut cultivars. These trials included applications of prohexadione calcium (Kudos®) at 0.6X and 1.0X field rates, combined with the POST herbicides chlorimuron-ethyl (Classic®), clethodim (Poast Plus®), sethoxydim (Select Max®), and 2,4-DB (2,4-DB 200). Treatments applications were applied at 50% lateral vine coverage, followed by a sequential application 14–21 days later. Data collection encompassed visual injury ratings (chlorosis/necrosis), measurements of peanut height and width, mainstem-to-lateral vine ratio measurements, and pod yield assessments. Preliminary results indicated that while some tank mixtures caused noted injury, peanut growth and yield were not significantly affected. Additionally, environmental factors influencing crop response are being analyzed to establish correlations between injury, growth, and yield.

Greenhouse studies focused on the efficacy of prohexadione calcium when combined with POST herbicides for weed control. Trials included Palmer amaranth (*Amaranthus palmeri*), Benghal dayflower (*Commelina benghalensis*), sicklepod (*Senna obtusifolia*), common cocklebur (*Xanthium strumarium*), Texas millet (*Urochloa texana*), Florida beggarweed (*Desmodium tortuosum*), and large crabgrass (*Digitaria sanguinalis*.) Treatments were applied when weeds reached 5–20 cm in height using a spray chamber at a rate of 140 L ha^{-1}. Visual

ratings were recorded at 3, 7, and 14 days after treatment, with biomass collected, dried, and analyzed for fresh and dry weight. Initial findings suggest that tank mixtures did not adversely affect weed control, though efficacy varied among weed species. Further analysis will determine whether any antagonistic or synergistic effects exist between prohexadione calcium and the selected herbicides. The study remains ongoing, with additional replications and environmental assessments planned to refine recommendations for peanut growers.