

Organophosphate Alternatives for Rootworm Management in Peanut

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Field studies were conducted in 2017 and 2018 to evaluate the efficacy of select insecticide active ingredients and application methods against rootworm species (*Diabrotica undecimpunctata* and *D. balteata*) in peanut. The experiments were conducted at the Southwest Georgia Research and Education Center in Plains, GA in both years and at a commercial peanut field in Early Co., GA in 2017. Simulated chemigation treatments were applied at both locations. Pod damage evaluations were conducted at approximately 25 or 36 days after treatment and again at harvest. Admire Pro (imidacloprid) applied in simulated chemigation treatment resulted in significantly less rootworm injury than all other treatments on both evaluation dates at Plains in 2017 but not in 2018. External pod injury was lower in chlorpyrifos treated plots than all other treatments at 26 days after application 2018. Granular chlorpyrifos applied in a band over the row and Bifenture (bifenthrin) applied as an irrigation simulation resulted in significantly less pod injury at harvest than all other treatments. There were no observable treatment effects on pod injury at either sample date at the on-farm location in Early County. No yield data were collected from the on-farm trial. Yield data were collected at Plains, but no significant treatment effects were observed in either year in spite of very heavy mid-season rootworm injury. These data suggest that peanut in Georgia can compensate for early season pod injury caused by rootworm and indicate that insecticides applied as chemigation treatments may significantly reduce pod injury. Additional study is needed to determine the mechanism(s) responsible for the variation in efficacy observed for imidacloprid and Bifenthrin over locations and years.