

Nozzle Type and Application Pressure Effects on Weed Management in Peanut (*Arachis hypogea*)

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Peanuts are an important cash crop for the United States, and Mississippi produced 33 million dollars of peanuts in 2017 (USDA-NASS, 2018). Peanuts have a prostrate growth pattern, making it easy for weeds to shade the crop canopy, and interfere for nutrients, water, and light. An important part of weed control is nozzle selection, and proper application methods. The purpose of this study is to determine the most effective nozzle type and operating pressure for a season long weed control program. A field study was conducted at Mississippi State University, RR Foil Plant Science Research Center in Starkville, Mississippi. A runner type peanut, Georgia 06G, was used and herbicide applications were made at three different timings: pre-emergent (PRE), early post-emergent (POST) (cracking), and late POST. Weed control ratings were collected 7, 14, 28, 42, and 56 days after the late POST. Yield data was collected at harvest and used to determine the most effective application method for season long weed control. The data indicates that there is not a significant difference in terms of nozzle, pressure, or adjuvant addition effects on peanut yield. However, there is a difference on weed control when looking at pressure by nozzle, and pressure alone. This infers that different techniques, like pressure, affect weed control, but it is more important to have an effective weed management program, based on the nozzles all having similar droplet size and no effect on yield. In 2019, an additional pressure of 60 PSI was added which should help to answer the question across nozzle type of which setting results in the greatest weed control and yield in peanut.