

Comparison of Season Long Herbicide Programs in Peanut (*Arachis hypogea*)

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Mississippi is an important producer of peanuts for the United States. In 2017 there were 17,400 hectares harvested in Mississippi (USDA NASS, 2018). Weed control in peanuts is crucial to maximize yield, by preventing interference and competition for nutrients, water, and light. Peanuts are a slow growing crop that relies on both pre-emergent (PRE) and post-emergent (POST) herbicides to reduce the effect of weeds. The objective of this study is to determine the most effective PRE and POST combination for weed control in peanut. A field study was conducted at Mississippi State University and Oklahoma State University using 5 PRE and 3 POST herbicide programs. The treatments were compared to a non-treated and weed free treatment to determine the effect of a season-long herbicide program on weed control and peanut yield. Weed control ratings were collected at 7, 14, 28, 42, and 56 days after POST. At harvest, yield data was collected to determine most effective combination for season long weed control. The data indicates that there is no statistical difference between PRE and POST combinations in terms of weed control or yield at the Mississippi location. However, at the Oklahoma location, there is difference among PRE and POST treatments in terms of weed control and yield. This can be due to differences of environmental factors among locations.