

Peanut Response to Soil-Applied Liberty® (Glufosinate)

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Liberty® (glufosinate) is registered for preplant burndown and postemergence weed control programs in numerous row crops but not peanut. Additionally, current labels prohibit peanut planting for 180 days after application. Therefore, the objective of this research was to evaluate the response of peanut to soil applications of Liberty. In 2020, small-plot field trials were conducted in Arkansas (Newport), Georgia (Ty Ty), South Carolina (Blackville), and Texas (Yoakum) to evaluate the effects of Liberty 2.34SL applied at 0, 32, and 64 oz/A, either 1 day before planting (DBP) or 1 day after planting (DAP), on peanut growth and yield. In Georgia, treatments were applied either 7 DBP + 1 DAP or 1 DAP. Treatments were arranged in a randomized complete block design with a 2 (timing) X 3 (rate) factorial arrangement with 3-4 replications. All plot areas were maintained weed-free using a combination of labeled herbicides and hand-weeding. Data collected included peanut plant density (21 DAP) and peanut yield. All data were subjected to ANOVA and means separated using Fisher's Protected LSD Test ($P < 0.10$) when appropriate. No significant interactions between Liberty timing and rate were observed for any response variable ($P \geq 0.1209$). Generally, peanut tolerance to soil-applications of Liberty was adequate. In Georgia, peanut density was reduced 6% with 64 oz/A of Liberty (averaged over timing). In South Carolina, peanut density was reduced 3% when Liberty was applied 1 DAP (averaged over rate). At all locations, peanut yield was not reduced by any timing or rate of Liberty. Based upon these results, Liberty can be used for preplant burndown weed control programs in peanut without concern for undesirable crop injury.