

Peanut Response to Sub-Lethal Rates of Dicamba + Glyphosate

K. EASON*, E. PROSTKO, T. GREY, Department of Crop and Soil Sciences, The University of Georgia, Tifton, GA 31793-0748.

In Georgia, peanut and cotton are grown in close proximity, meaning off-target movement of herbicides is a major concern. Previous research has established peanut tolerance to single exposure occurrences of dicamba or glyphosate; however, there is limited research available for multiple exposure events of dicamba in combination with glyphosate. Therefore, experiments were conducted to evaluate the response of runner-type peanut (*Arachis hypogaea* L.) to multiple sub-lethal rate applications of dicamba + glyphosate tank-mixtures. In 2018, a field experiment was conducted in Ty Ty, GA using the 'Georgia-06G' cultivar. Treatments included herbicide applications at 1/50thX rates of dicamba (Xtendimax® with Vapor Grip) + glyphosate (Roundup PowerMax®) applied at 30 days after planting (DAP), 60 DAP, 90 DAP, and all possible combinations of DAP. Visual stunting injury, dicamba symptomology, yield, grade, seed germination, seed size, and pod abnormalities were evaluated and analyzed. At 39 DAP, all treatments receiving a 30 DAP application had greater stunting (10%) than all other timings (0%). By 69 DAP, there were no differences in stunting between timings. Typical dicamba injury symptoms (stem epinasty, leaf strapping, and leaf roll) were observed from 39 to 108 DAP. Initially, treatments receiving a 30 DAP application showed greater dicamba symptoms than the other timings. By 108 DAP, only peanuts receiving 90 DAP applications exhibited dicamba symptoms. No effects on peanut yield were observed. However, grade (% sound mature kernels) was reduced (2.6-3.0%) from applications at 60 and 60 + 90 DAP. No effects on seed germination, seed size, or pod abnormalities were observed.