

TITLE:

Virginia Peanut Tolerance to Herbicides Applied Preemergence at AG-CARES, Lamesa, TX, 2011.

AUTHORS:

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MATERIALS AND METHODS:

Plot Size: 4 rows by 30 feet, 3 replications
Soil Type: Amarillo fine sandy loam
Planting Date: April 26
Variety: Brantley
Application Date: Preemergence, April 26
Rainfall (Apr to Sept): 1.49 inches
Irrigation (Apr to Sept): 17.71 inches

RESULTS AND DISCUSSION:

Previous research has shown that differential varietal tolerance was apparent in several crops. We have observed that peanut market types and varieties within a market type may have differential tolerance to herbicides applied preemergence (PRE) and postemergence. The objective of this research was to examine peanut response in a Virginia variety (Brantley) to Dual Magnum (*S*-metolachlor) and Warrant (acetochlor) applied PRE. Warrant, an encapsulated herbicide for weed control in soybean and cotton, is not currently labeled for use in peanut. Dual Magnum rates used in this study were 10.7, 21.3, and 42.7 oz/A (0.5X, 1X, and 2X the recommended labeled rate in peanut), whereas Warrant rates were 24, 48, and 96 oz/A (also 0.5X, 1X, and 2X the recommended labeled rate in cotton or soybean). ‘Brantley’ was planted Apr 26 and herbicide treatments were made within a few hours. Herbicides were “activated” with 0.5 inches of overhead irrigation within 24 hours (Apr 27). Plots were evaluated May 24 (4 weeks after treatment (WAT), Jun 21, Jul 19, and Sep 29 for herbicide-induced visible injury. No peanut injury (chlorosis, necrosis, or stunt) was noted at any evaluation time (Table 1). Due to the very challenging conditions experienced in 2011 (excessive heat, drought, wind), very poor kernel development was observed after digging; therefore, no yield or grade data was collected. This study suggests that Brantley is tolerant to Dual Magnum and Warrant to rates up to 2X, but additional studies including yield data will be performed in 2012.

Table 1. Virginia peanut injury from preemergence herbicides at AG-CARES, Lamesa, TX, 2011^a.

Treatment	Timing	Prod.	Rate	Peanut Injury			
				May 24	Jun 21	Jul 19	Sep 29
		oz/A	lb ai/A	-----%-----			
Non-treated	---	---	---	0	0	0	0
Warrant	PRE	24	0.56	0	0	0	0
Warrant	PRE	48	1.13	0	0	0	0
Warrant	PRE	96	2.25	0	0	0	0
Dual Magnum	PRE	10.7	0.635	0	0	0	0
Dual Magnum	PRE	21.3	1.27	0	0	0	0
Dual Magnum	PRE	42.7	2.54	0	0	0	0
LSD _(0.10)				NS	NS	NS	NS

^aAbbreviation: PRE, preemergence