

TITLE: Effects of Strongarm Herbicide on peanut growth and yield.

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METHODS AND MATERIALS:

Variety: Flavor Runner 458
Plot size: 4 rows by 50', 3 replications
Soil type: Amarillo fine sandy loam
O.M.: 0.7%
Sand: 73%
Silt : 10%
Clay : 17%
pH : 7.6
CEC: 10.1
Planting date: May 2, 2000
Digging date: October 23, 2000
Harvest date: November 15, 2000
Irrigation: LEPA – season total 23.25 inches
Application dates: Springtooth harrow – prior to listing March 29
Preemergence May 2
Postemergence May 24

RESULTS AND DISCUSSION:

Strongarm is a new herbicide that was registered in peanut in 2000. Previous research has shown that Strongarm controls pigweed, devil's-claw, and morningglory species.

Peanut growth and yield response to Strongarm was evaluated at Ag Cares in Lamesa, TX in 2000. Strongarm was applied preplant incorporated (PPI) and preemergence (PRE) at 0.30 (2/3X), 0.45 (1X), and 0.90 (2X) oz/A. Cadre, Valor, and an untreated check were used for comparison. All plots were kept weed-free season long. At 14 days after planting (DAP), Strongarm at 1X applied PPI or PRE injured peanut 28%, Strongarm at 2/3X PPI or PRE injured peanut 10-12%, and Strongarm at 2X applied PPI or PRE injured peanut 50%. No peanut injury was observed from Valor PRE at 3 oz/A. Strongarm at 1X injured peanut 11% PRE and 22% PPI at 85 DAP. Strongarm at 2/3X rate applied PRE and PPI injured peanut 3% and 12%, respectively at 85 DAP. Strongarm at 2X injured peanut 35% PRE and 45% PPI and Cadre injured peanut 7% 85 DAP. At the end of the season, 8 to 10% peanut injury was observed from Strongarm at the 2X rate. All other Strongarm treatments had <3% injury at the end of season. Strongarm applied PPI decreased yield 680 to 1350 lb/A compared to the non-treated plot. Less injury was observed from Strongarm PRE at 1X and 2X. Because of the injury concern, the Strongarm label has been changed for 2001. Strongarm cannot be applied any earlier than 5 days after planting, and cannot be used on soils with a pH of 7.2 or greater.

Table 1. Peanut growth and yield as affected by Strongarm treatments.

Treatment Name	Rate oz/A	Application Method	Peanut		Injury (%)		Peanut Yield (lb/A) 2000
			May 16	June 21	July 26	Sept. 8	
Strongarm	0.30	PPI	13 c	33 c	12 d	0 c	2410 b
Strongarm	0.45	PPI	28 b	40 b	22 c	3 b	2370 b
Strongarm	0.90	PPI	48 a	53 a	44 a	11a	1740 c
Strongarm	0.30	PE	10 c	22 d	3 ef	2 bc	2150 bc
Strongarm	0.45	PE	27 b	27 d	11 d	2 bc	2640 ab
Strongarm	0.90	PE	50 a	45 b	35 b	8 a	2260 bc
Cadre	1.44	PT	0 d	12 e	8 de	4 b	2430 b

COC	% v/v	PT					
Valor	3.00	PE	0 d	0 f	0 f	0 c	3070 a
Untreated			0 d	0 f	0 f	0 c	3090 a

(Means followed by same letter do not significantly differ P=0.10)