TITLE:

Peanut Tolerance to Strongarm applied Postemergence

AUTHORS:

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MATERIALS AND METHODS:

Plot Size:	4 rows X 30 feet, 3 replications
Soil Type:	Brownfield loamy sand
Planting Date:	May 11, 2001
Variety:	Flavorunner 458
Irrigation:	4.8 inches preplant, 25.58 inches during growing season
Application dates:	Early postemergence - June 8
	Mid postemergence - June 20
Carrier Volume:	10 gallons per acre
Digging Date:	October 20
Harvest Date:	October 29

RESULTS AND DISCUSSION:

Strongarm was labeled in March 2000 for preplant incorporated and preemergence control of broadleaf weeds and sedges in peanut. The registration of Strongarm was a good fit for the Texas South Plains due to its favorable rotation interval to cotton. Unfortunately, growers observed serious peanut injury across the South Plains in 2000, and subsequent label restrictions have effectively removed Strongarm use from this area. The cause of the injury is still not completely understood, and it is unlikely that the label will ever allow preplant incorporated or preemergence application on soils of pH 7.2 or greater. Experiments were established at the Western Peanut Growers Farm in 2001 to investigate the peanut tolerance to Strongarm when applied early or mid postemergence.

Strongarm was applied at four rates: 0.15, 0.30, 0.60, and 0.90 ounces product per acre (0.45 oz product/A is the current labeled rate for preemergence application) for both early and mid postemergence timings. Cadre at 1.44 oz product/A was included as a check at each application timing as well as a non-treated control plot. A non-ionic surfactant was included in each treatment at 0.25% volume per volume. All plots were kept weed-free so that injury and yield differences could be attributed to the herbicide treatment and not weed competition.

Peanut injury was visually estimated July 11, August 9, and September 28 (Table 1). No treatment injured peanut plants greater than 5.0%. Yields averaged 3882 pounds per acre, and there were no differences in yield due to herbicide treatment. These results suggest that peanuts may have a greater ability to tolerant Strongarm if applications are made postemergence rather than preplant or preemergence. Weed control studies were also evaluated in 2001 from postemergence applications and will continue in the 2002 growing season.

Table 1. Peanut injury and yield as affected by Strongarm applied postemergence.

Treatment Name	Rate (oz product/A)	Application Method	Peanut Injury (%)						Yield (lb/A)	
			July 11		August 9		Sept 28			
Strongarm 84 WG	0.15	Early POST	0	b	0	b	0	b	3775	a
Strongarm 84 WG	0.30	Early POST	0	b	0	b	0	b	4090	a
Strongarm 84 WG	0.60	Early POST	1.3	b	0	b	1.0	ab	3727	a
Strongarm 84 WG	0.90	Early POST	1.3	b	4.7	a	0	b	3888	a
Cadre 70 DG	1.44	Early POST	0	b	4.3	a	4.0	a	3993	a
Strongarm 84 WG	0.15	Mid POST	0	b	0	b	0	b	4001	a
Strongarm 84 WG	0.30	Mid POST	0	b	0	b	0	b	4122	a
Strongarm 84 WG	0.60	Mid POST	0.7	b	0	b	0	b	3799	a
Strongarm 84 WG	0.90	Mid POST	3.0	a	1.7	ab	3.3	ab	3872	a
Cadre 70 DG	1.44	Mid POST	1.3	b	1.7	ab	1.7	ab	3775	a
Weed-Free Check	–	–	0	b	0	b	0	b	3662	a

Means within a column followed by the same letter are not different at the 5% probability level.