

TITLE:

Varietal Tolerance to Strongarm and Valor

AUTHORS:

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MATERIALS AND METHODS:

Plot Size:	2 rows by 30 feet, 3 replications
Soil Type:	Brownfield sand
Planting Date:	April 30, 2002
Irrigation:	30.48 inches during the growing season
Application dates:	Preemergence – April 30 Postemergence – May 28
Harvest Date:	November 8

RESULTS AND DISCUSSION:

Diclosulam (Strongarm) and flumioxazin (Valor) are new peanut herbicides registered since 2000. They have good activity on broadleaf weeds and nutsedge. During the 2000 growing season, it was reported that Strongarm caused stunting, stand loss and chlorosis to the peanut canopy when applied preplant incorporated (PPI) and preemergence (PRE). Therefore a supplemental label was issued in 2001 for Texas, Oklahoma, and New Mexico, which restricted applications to soils with a pH of 7.2 or greater. Valor was registered in 2001. During its first year, injury was reported in Oklahoma, Georgia, North Carolina and West Texas. Therefore, a peanut variety trial was conducted in Gaines County to observe peanut varietal tolerance to Strongarm and Valor. In addition, Strongarm application timing was also investigated. Four high oleic peanut varieties: Flavor Runner 458, Sunoleic 97R, Tamrun OL/01, Georgia Hi O/L and one conventional variety, Tamrun 96, were used in this study.

In 2002, Strongarm applied PRE at 0.016 and 0.024 lb ai/A injured peanut less than 8% in all varieties early season. At 42 DAP, Strongarm PRE at 0.016 lb ai/A injured peanut 10 to 17% in all varieties except Tamrun 96. At 42 DAP, Strongarm PRE at 0.024 lb ai/A injured all varieties 13 to 25%. No late season injury was observed in any variety from any Strongarm treatment. No injury was reported throughout the season from any Valor or Strongarm POST application. Yield was not affected by any treatment of Strongarm or Valor.

This study suggests that differential peanut tolerance exists for Strongarm soil applied, but no adverse affects on yield was observed.

Table 1. Peanut injury and yield by variety as affected by herbicide treatments.

Variety	Treatment	Rate (lb ai/A)	Application	Peanut Injury (%)			Yield (lb/A)
				early	mid	late	
Tamrun 96	Strongarm	0.016	PRE	3	3	0	5380
	Strongarm	0.024	PRE	4	17	0	5385
	Valor	0.063	PRE	0	0	0	5160
	Valor	0.094	PRE	0	0	0	5615
	Strongarm	0.016	POST	0	0	0	5688
	Strongarm	0.024	POST	0	0	0	5865
	Untreated	--	--	0	0	0	5380
LSD				NS	5	NS	548
Flv Runner 458	Strongarm	0.016	PRE	7	12	0	6590
	Strongarm	0.024	PRE	7	21	0	6644
	Valor	0.063	PRE	0	0	0	6497
	Valor	0.094	PRE	0	0	0	6585
	Strongarm	0.016	POST	0	0	0	6732
	Strongarm	0.024	POST	0	0	0	6820
	Untreated	--	--	0	0	0	6762
LSD				NS	19	NS	498
Sunoleic 97R	Strongarm	0.016	PRE	0	10	0	5895
	Strongarm	0.024	PRE	0	13	0	6085
	Valor	0.063	PRE	0	0	0	5997
	Valor	0.094	PRE	0	0	0	5894
	Strongarm	0.016	POST	0	0	0	5821
	Strongarm	0.024	POST	0	0	0	7041
	Untreated	--	--	0	0	0	5483
LSD				NS	10	NS	444
Tamrun O/L 01	Strongarm	0.016	PRE	0	13	0	5556
	Strongarm	0.024	PRE	0	16	0	5806
	Valor	0.063	PRE	0	0	0	5176
	Valor	0.094	PRE	0	0	0	4851
	Strongarm	0.016	POST	0	0	0	5409
	Strongarm	0.024	POST	0	0	0	5645
	Untreated	--	--	0	0	0	5248
LSD				NS	8	NS	584
Georgia Hi O/L	Strongarm	0.016	PRE	4	17	0	5556
	Strongarm	0.024	PRE	8	25	0	5483
	Valor	0.063	PRE	0	0	0	5850
	Valor	0.094	PRE	0	0	0	5659
	Strongarm	0.016	POST	0	0	0	5836
	Strongarm	0.024	POST	0	0	0	6335
	Untreated	--	--	0	0	0	5454
LSD				NS	12	NS	521