

Herbicide Evaluation for Weed Control in Chili Peppers: 2004

Final Report

Objective: To determine the efficacy of selected preemergence (PRE) and postemergence (POST) herbicides on crop injury, weed control and yield of peppers grown on the High Plains.

Materials & Methods: The trial was conducted at the Texas A & M University Research & Extension Center in Lubbock during the 2004 growing season. Chili peppers (Var. "Sonora") were seeded in the greenhouse on April 6 with PRE herbicide treatments applied prior to transplanting on May 21 into plots measuring 6.5' x 20'. Postemergence treatments were applied on June 9 (2-Week POST) or June 18 (4-Week POST) to corresponding plots. All plots were treated equally in regards to pest and fertility management. All treatments were applied using a CO₂-charged backpack sprayer equipped with four hollow cone nozzles that delivered 20 GPA at 35 psi. The trial was conducted as an RCB design and treatments were replicated 4 times.

Results and Discussion: Weed pressure was extremely heavy due to excessive and timely rainfalls that occurred during the season. Early season crop injury was significant ($\alpha = 0.05$) only with PRE-applied Spartan 75WDG (Table 1), however, this injury decreased to 11.3% five weeks after transplanting. Control of Palmer amaranth (*Amaranthus palmeri*) was generally good to fair, early in the season though following the July 23 rating weed size and pressure increased causing excessive competition and poor crop growth. As a result, no peppers were harvested from this trial.

Table 1. Effect of Herbicide Treatments on Chili Pepper Injury and Control of Palmer amaranth

Trt #	Chemical	Rate / A	Timing	% Crop Injury 6/11	% Palmer Amaranth Control 6/11	% Crop Injury 6/30	% Palmer Amaranth Control 6/30	% Palmer Amaranth Control 7/23
1	<i>Untreated</i>			0	0	0	0	0
2	<i>Handweed</i>			0	99.0	0	99.0	99.0
3	<i>Spartan 75WDG</i>	0.18 lb ai	PRE	21.3	94.5	11.3	93.8	78.8
4	<i>Spartan 75WDG + NIS</i>	0.18 lb ai 0.25% v/v	4 WEEKS POST-DIRECT	0	70.0	0	80.0	53.8
5	<i>Define 4SC</i>	0.06 lb ai	PRE	0	68.8	0	63.8	12.5
6	<i>Sandea 75WDG +NIS</i>	0.5 oz 0.25% v/v	2 WEEKS POST	0	66.3	3.8	71.3	17.5
7	<i>Sandea 75WDG +NIS</i>	1.0 oz 0.25% v/v	2 WEEKS POST	0	70.0	0	87.5	62.5
8	<i>Prefar 4E + Sandea 75WDG + NIS</i>	5 quarts 0.5 oz 0.25% v/v	PRE 2 WEEKS POST	0	73.5	2.5	80.0	50.0
9	<i>Command 3ME + Basagran 4L + NIS</i>	2 pints 2 pints 0.25% v/v	PRE 4 WEEKS POST	0	88.8	0	58.8	12.5
			LSD (0.05)	5.4	42.7	8.0	14.9	32.9