

TITLE:

Broadleaf Weed Control in Peanut When Using Different Surfactants at Halfway, TX, 2011.

AUTHORS:

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MATERIALS AND METHODS:

Plot Size:	2 rows by 30 feet, 3 replications
Soil Type:	Olton Clay loam
Planting Date:	April 27
Variety:	Olin (Spanish market type)
Application Date:	Postemergence, June 30
Rainfall (Apr to Sep.):	1.9 inches
Irrigation (Apr to Sep.):	16.99 inches

RESULTS AND DISCUSSION:

Producers are continually looking for ways to better manage production costs. Choosing the correct herbicide and herbicide rate for the target weed(s) and the timeliness of the application are all critical steps to obtain effective weed control while managing cost. In addition, knowing the importance of using an adjuvant, and which adjuvant to use could be the difference between success and failure, or simply good to excellent postemergence weed control. The objective of this research was to evaluate Palmer amaranth control and peanut injury following several postemergence (POST) broadleaf herbicides when applied at different use rates in tank mix combination with crop oil concentrate (COC), non-ionic surfactant (NIS), or no adjuvant. A Spanish market type (Olin) was planted April 27. Postemergence applications were made on Jun 30 to Palmer amaranth plants that were 4 to 14 inches in height.

On July 27, 27 days after the postemergence application, no peanut injury was observed from any herbicide, regardless of rate or addition of surfactant (data not shown). A herbicide by adjuvant interaction was observed; therefore all data are listed without pooling over herbicide or pooling over adjuvant. Palmer amaranth control was variable and ranged from 7 to 80% (Table 1). Cadre or Pursuit at 2 oz/A was most effective when NIS was used; however, Cadre or Pursuit at 4 oz/A was most effective when COC was used. Cobra or Ultra at the low rates was more effective with either adjuvant when compared to no adjuvant; however, Cobra at the normal use rate was most effective when COC was used. Palmer amaranth control following UltraBlazer at the normal use rate was similar across adjuvants, although a trend seems apparent when COC or NIS was used over no adjuvant. 2,4-DB at the low rate was more effective when NIS was used when compared to no adjuvant. When 2,4-DB was used at the normal use rate, no differences in Palmer amaranth control were observed, although a trend towards better weed control when COC or NIS was used apparent.

When pooled over rate, mean Palmer amaranth control was greater following the higher rate (data not shown). When pooled over adjuvant, Palmer amaranth control using COC or NIS was 48-49% when compared to control without surfactant (32%). The selection of adjuvant appears to be important for the broadleaf herbicides used in this study. This experiment will be repeated in 2012 under more “normal” growing conditions and small weeds (4 to 6 inches) will be targeted.

Table 1 . Palmer amaranth control as affected by broadleaf herbicide applications when using different surfactants at Halfway, TX, 2011^a.

Treatment	Rate	Prod.	Timing	Palmer amaranth Control July 27
	lb ai/A	oz/A		%
Cadre	0.0313	2	POST	33
Cadre + NIS	0.0313 + 0.25%	2 + 3.2	POST	53
Cadre + COC	0.0313 + 1%	2 + 12.8	POST	22
Cadre	0.0625	4	POST	58
Cadre + NIS	0.0625 + 0.25%	4 + 3.2	POST	58
Cadre + COC	0.0625 + 1%	4 + 12.8	POST	80
Pursuit	0.0313	2	POST	27
Pursuit + NIS	0.0313 + 0.25%	2 + 3.2	POST	50
Pursuit + COC	0.0313 + 1%	2 + 12.8	POST	27
Pursuit	0.0625	4	POST	42
Pursuit + NIS	0.0625 + 0.25%	4 + 3.2	POST	27
Pursuit + COC	0.0625 + 1%	4 + 12.8	POST	65
Cobra	0.098	6.25	POST	8
Cobra + NIS	0.098 + 0.25%	6.25 + 3.2	POST	33
Cobra + COC	0.098 + 1%	6.25 + 12.8	POST	18
Cobra	0.195	12.5	POST	40
Cobra+ NIS	0.195 + 0.25%	12.5 + 3.2	POST	38
Cobra + COC	0.195 + 1%	12.5 + 12.8	POST	73
UltraBlazer	0.188	12	POST	7
UltraBlazer + NIS	0.188 + 0.25%	12 + 3.2	POST	30
UltraBlazer + COC	0.188 + 1%	12 + 12.8	POST	30
UltraBlazer	0.375	24	POST	27
UltraBlazer + NIS	0.375 + 0.25%	24 + 3.2	POST	43
UltraBlazer + COC	0.375 + 1%	24 + 12.8	POST	43
2,4-DB	0.203	13	POST	12
2,4-DB + NIS	0.203 + 0.25%	13 + 3.2	POST	65
2,4-DB + COC	0.203 + 1%	13 + 12.8	POST	52
2,4-DB	0.406	26	POST	68
2,4-DB + NIS	0.406 + 0.25%	26 + 3.2	POST	78
2,4-DB + COC	0.406 + 1%	26 + 12.8	POST	77
pValue				0.0004
LSD _(0.10)				18

^aAbbreviations: COC, crop oil concentrate; NIS, non-ionic surfactant; POST, post emergence topical