

## Fall vs. spring applications for control of emerged glyphosate-resistant kochia

The objective of this study was to compare kochia control with herbicides applied in the fall vs. spring. Herbicide treatments were applied to 8-12 inch kochia on Oct 8, 2014 and 0.5-4 inch kochia on May 21, 2015. Note that ALL treatments were applied with glyphosate. No crop was planted.

Spring-applied glyphosate provided only 25% control at the July 3 evaluation. There were probably some kochia that emerged after the spring application, but not a lot. Thus, the ratings mostly reflect control of kochia that was emerged at application. Only Fierce + Metribuzin provided greater than 90% kochia control at the July 3 evaluation. Spartan-containing products provided 70-80% control, which is less than observed in previous years. It is possible that spring kochia control with these contact-type herbicides may have been affected by low temperatures prior to application. The treatments were applied soon after a period of 12 days where nighttime temperatures were primarily in the mid to low 30's and daytime temperatures were primarily in the 40's and 50's. Fall-applied metribuzin provided very poor kochia control, while Fierce, Valor, and Spartan provided only fair control.

Treatment <sup>a</sup>	Rate	Timing <sup>b</sup>	Kochia control			
			May-29	Jun-13	Jun-22	Jul-3
			-----%-----			
Untreated			0	0	0	0
Fierce	3 oz	Fall	90	85	85	76
Valor	3 oz	Fall	91	90	89	79
Metribuzin	0.5 lb	Fall	30	40	40	28
Spartan	5 fl oz	Fall	55	69	70	63
Glyphosate	22 fl oz	Spring	50	50	48	25
Gramoxone + Metribuzin + NIS	2 pt + 0.5 lb + 0.25%	Spring	99	97	93	87
Spartan	4 oz	Spring	60	75	76	72
Spartan Charge	5 fl oz	Spring	73	82	86	79
Spartan + Sharpen	4 fl oz+ 1 fl oz	Spring	68	75	78	70
Authority MTZ	12 oz	Spring	68	84	85	80
Fierce	3 oz	Spring	55	75	70	60
Fierce + Metribuzin	3 oz + 0.5 lb	Spring	80	95	95	91
Verdict + Metribuzin	5 fl oz + 0.5 lb	Spring	78	79	76	59
Verdict + Zidua	5 fl oz + 2.5 oz	Spring	81	79	77	59
LSD (0.05)			5.4	11.8	12.0	19.8

<sup>a</sup> All treatments applied with Glyphosate + AMS (22 oz + 2.5 gal/100 gal); Glyphosate = 4.5 lb ae formulation.

<sup>b</sup> Applied Oct 8, 2014 (kochia 8-12 inches) and May 21, 2015 (kochia 0.5-4 inches)