

Kixor for Weed Control in Grain Sorghum at Scottsbluff, Nebraska During the 2008 Growing Season.

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A field study was initiated at Scottsbluff, Nebraska to compare various herbicide treatments for selective weed control in sorghum. The experimental design was a randomized complete block with four replications. Plots were 11 feet wide by 50 feet long and were located on a sandy loam soil with 1.3% organic matter and pH of 7.8. Sorghum, 'Garst 9135', was planted on May 21. The seedbed had been prepared by disking in early May and at the time of planting weeds had already emerged and were actively growing. Therefore when herbicides were applied preemergence on May 27 it was also possible to evaluate the herbicides ability to control weeds that were growing and weeds emerging with sorghum. Herbicides were applied with a tractor-mounted sprayer calibrated to deliver 20 gallons of water per acre at 32-psi pressure with Spraying Systems 11002 VS nozzles. Environmental conditions at the time of spraying are given in Table 1.

Early season sorghum injury was evident in areas treated with BAS78102H, BAS80004H + Guardsman Max Lite, Atrazine, and Cinch ATZ (Table 2). Sorghum injury increased as BAS78102H rate increased from 0.521 to 0.564 lb/acre. Weed density was severe in the plot area and consisted of common lambsquarters, redroot pigweed, kochia, and longspine sandbur at densities of 342, 5, 171, and 6 plants/137 sq ft, respectively. BAS78102H at 0.521 lb/acre provided 83, 15, 90, and 75% control of common lambsquarters, redroot pigweed, kochia, and longspine sandbur. The combination of BAS80004H with Guardsman Max Lite provided average weed control of 92% and moderate sorghum injury. Lumax provided excellent weed control but also injured sorghum.

Table 1. Environmental conditions at the time of herbicide application.

Date	Air temperature (F)	Humidity (%)	Wind speed & direction (mph)	Time of day	Weed heights				
					Colq	Kocz	Rrpw	Hans	Lssb
May 27	52	70	2 E	2:00 pm	1.5	1	0.5	0.5	2

Rainfall and irrigation before herbicide application

Date	Amount - (inches) -	Date	Amount - (inches) -	Date	Amount - (inches) -
May 22	0.21	May 26	0.20	June 4	0.75
May 23	0.31	June 1	0.19		

Table 2. Kixor for Weed Control in Grain Sorghum at Scottsbluff, Nebraska During the 2008 Growing Season.

Treatment	Rate	Sorghum					Percent weed control calculated from weed counts 7/8 ²				
		Visual injury ¹				Stand	Colq	Rrpw	Kocz	Lssb	Avg
		6/11	6/23	6/30	7/15	6/24					
lb/acre	----- (%) -----				(plants/acre)	----- (%) -----					
Nontreated	—	0	0	0	0	28870	0	0	0	0	0
BAS78102H	0.521	9	10	14	0	45380	82	15	90	75	65
BAS80004H (Kixor) + Guardsman Max Lite	0.044 + 1.246	10	14	28	8	44670	90	94	99	83	92
Bicep Lite II Magnum	1.63	5	3	4	0	37780	83	25	92	41	61
Lumax	2.46	12	15	32	13	39920	99	99	99	99	99
BAS78102H	0.564	15	16	37	9	45030	71	50	98	87	77
Atrazine	1.5	2	4	15	0	40510	85	55	99	17	64
Dual II Magnum	0.97	0	1	0	0	29460	31	45	48	74	50
Cinch ATZ	1.65	4	4	11	0	42770	92	94	99	41	82
LSD at 5%	—	5	6	9	4	NS	24	42	27	47	15

¹ Visual sorghum injury was evaluated on a scale from 0 to 100 with 0 equal to no injury and 100 equal to death of the plant.

² Percent weed control calculated from weed counts taken on July 8. Weed abbreviations: common lambsquarters (Colq), redroot pigweed (Rrpw), kochia (Kocz), and longspine sandbur (Lssb).