

Field Day 2011: Weed Science Update

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Kochia Control: Pre & Post

- Monsanto sponsored trial of herbicide combinations to determine efficacy on glyphosate resistant kochia
 - PRE conducted in 5 states and POST conducted in 2
 - Post control focus on locations in Western Kansas
 - Garden City trial was initiated on May 10, 2011

Untreated



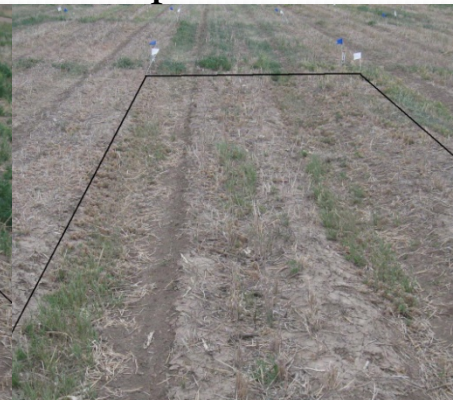
Gramoxone + AAtrex



Round Up



Sharpen + AAtrex



Kochia: Pre Treatment Control (KS)

Treatment by Location	Gorham	Hays	Scott City	Tribune	Hoxie	Scott City^
Days After Application	21	36	27	26	63	61
Verdict (15 fl oz/a)	33	46	33	0	6	0
Balance Flexx (5 fl oz/a)	40	24	25	68	11	6
Harness Xtra (2.3 qt/a)	16	34	25	88	100	99
Spartan (6 fl oz/a)	35	*	65	98	*	*
Clarity, 2,4-D Ester (L,L) [∞]	48	74	45	0	93	100
Clarity, 2,4-D Ester (H,L) [∞]	*	*	*	*	100	100
Clarity, 2,4-D Ester(H,H) [∞]	71	91	58	0	*	*

^ Second Scott City location

* No data

[∞]Low 8, 8.4 fl oz/a and High 16, 16.8 fl oz/a

Kochia: Pre Treatment Control

(remaining locations)

Treatment by Location	Goshen, WY	Huntley, MT	Sctblf, NE [^]	Ft C, CO ^α
Days After Application	14	24	14	*
Verdict (15 fl oz/a)	72	35	*	20
Balance Flexx (5 fl oz/a)	83	73	70	20
Harness Xtra (2.3 qt/a)	94	100	99	10
Warrant (2 qt/a)	33	43	35	0
Valor SX (3 oz/ a)	90	80	70	13
Tripleflex (1 qt/a)	49	53	18	0
Spartan (6 fl oz/a)	90	*	83	84
Clarity, 2,4-D Ester (L, L) ∞	60	60	33	37
Clarity, 2,4-D Ester (H, L) ∞	67	83	25	40

[^] Scottsbluff, NE
^α Fort Collins, CO

* No data

∞ Low 8, 8.4 fl oz/a and High 16, 16.8 fl oz/a

Kochia: Post Treatment Control (KS)

14 DAT				
	Gorham	Hays	Scott^	Garden^
Distinct	40	53	30	60
Distinct + 2,4-D	37	58	35	61
Sharpen + 2,4-D	89	98	93	93
Sharpen + AAtrex	96	99	93	93
Laudis	80	68	85	70
Laudis + AAtrex	97	94	93	78
Callisto + AAtrex	71	94	81	80
Impact + AAtrex	94	93	86	84
Starane NXT	97	90	55	59
Huskie	95	96	76	86
LSD	9	6.6	8.6	16

^ Scott City and Garden City

Kochia: Post Treatment Control (KS)

14 DAT				
	Gorham	Hays	Scott ^	Garden^
Rage D-Tech + 2,4-D	80	90	78	55
➡ Gramoxone Inteon, AAtrex	100	100	90	98
➡ RU PowerMax	19	22	23	13
Linex + AAtrex	97	97	74	86
➡ Gramoxone Inteon + Linex	100	100	97	*
LSD	9	6.6	8.6	16

* Treatment combination not used at this site

^ Scott City and Garden City

Kochia: Post Treatment Control

(all locations)

Treatment by Location*	G	SC	SC^	H	M	A	T	GC	HX
Days After Application	22	23	22	28	α	25	28	21	19
Distinct (4 oz/a)	35	28	25	75	67	59	68	69	75
Distinct+2,4-D (4, 4 oz/a)	40	33	71	73	67	61	73	66	50
Sharpen + AAtrex (1, 12 oz/a)	95	81	5	96	86	65	86	89	34
Laudis (3 oz/a)	96	86	26	87	77	58	24	80	33
Laudis + AAtrex (3, 8 oz/a)	100	93	28	97	92	65	60	88	31
Callisto + AAtrex (3, 8 oz/a)	60	76	29	98	86	56	60	90	35
Impact + AAtrex (.77, 8 oz/a)	97	81	5	97	91	53	66	88	29

*Locations: Gorham, KS; Scott City, KS (^ 2nd location); Hays, KS; Meade, CO; Akron, CO; Tribune, KS; Garden City, KS; Hoxie, KS
 α No Data

Kochia: Post Treatment Control

(all locations) Continued

Treatment by Location*	G	SC	SC^	H	M	A	T	GC	HX
Days After Application	22	23	22	28	α	25	28	21	19
Starane NXT (14 oz/a)	98	53	5	70	58	49	86	54	31
Huskie (15 oz/a)	96	70	61	91	91	59	65	89	51
Rage D-Tech (32 oz/a)	66	63	10	80	15	58	69	50	31
Gramoxone Inteon + AAtrex (48, 16 oz/a)	100	86	93	98	98	99	α	97	63
RoundUp PM (32 oz/a)	18	20	50	16	92	43	84	5	0
Linex + AAtrex (24, 16 oz/a)	99	66	5	100	91	35	94	81	30

*Locations: Gorham, KS; Scott City, KS (^ 2nd location); Hays, KS; Meade, CO;
Akron, CO; Tribune, KS; Garden City, KS; Hoxie, KS
α No Data

Kochia Control: Pre & Post

- Conclusions
- Questions?

Paraquat + atrazine:



Kochia control 3-4 WAT averaged across eight experiments in Kansas (4), Colorado (2), Montana (1) and Nebraska (1), 2011.

Herbicide treatment ¹	oz/A + % v/v	Appx. \$/A ²	%
Roundup PowerMax	32	\$ 5.80	48 h
Distinct + NIS	4 + 0.5%	\$15.07	65 fg
Distinct + 2,4-D LV4 + NIS	4 + 8 + 0.5%	\$16.21	67 efg
Sharpen + 2,4-D LV4 + MSO	1 + 8 + 1%	\$10.00	73 def
Sharpen + Atrazine 4L + MSO	1 + 12 + 1%	\$ 9.87	79 a-d
Laudis + MSO	3 + 1%	\$19.17	76 b-e
Laudis + Atrazine 4L + MSO	3 + 8 + 1%	\$20.59	83 abc
Callisto + Atrazine 4L + COC	3 + 8 + 1%	\$17.53	67 efg
Impact + Atrazine 4L + MSO	0.75 + 8 + 1.5 %	\$ 9.73	80 a-d
Starane NXT + NIS	14 + 0.5%	\$ 8.81	60 gh
Huskie + NIS	15 + 0.5%	\$12.67	74 c-f
Rage D-Tech + MSO	32 + 2%	\$12.17	52 h
Linex 4L + Atrazine 4L + COC	24 + 16 + 1%	\$26.69	77 b-e
Gramx. + Atrazine 4L + COC	48 + 16 + 1%	\$14.91	90 a
Gramx. + Linex 4L + COC	48 + 24 + 1%	\$24.42	87 ab

¹Includes AMS. ²Retail cost; does not reflect program discounts/rebates.

POST kochia control 3-4 WAT averaged across eight trials in KS (4), CO (2), MT (1) and NE (1).

