Herbicide performance in corn at Waseca, MN common ragweed site in 2002. Hoverstad, Thomas R. and Jeffrey L. Gunsolus. The objective of this trial was to evaluate weed management systems available to corn producers in southern Minnesota on several annual weed species. This site had an especially high population of common ragweed. The research site was a Webster clay loam soil containing 6.7% organic matter, pH = 7.0 and soil test P and K levels of 26 and 165 ppm, respectively. The previous crop was oats that had been moldboard plowed in the fall. The area was fertilized in the spring with 150 lb N/A as anhydrous ammonia and field cultivated once to a depth of 3 inches to prior to planting to prepare a seedbed. Novartis 'NK 42B7' (imidazolinone and glufosinate tolerant) corn seed was planted on May 10, 2002 in 30-inch rows. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at 40 psi using 8002 flat-fan nozzle tips. Visual estimates of weed control were taken on September 9, 2002. Application dates, environmental conditions, crop and weed stages are listed below.

Date	May 10	June 5	June 13
Treatment	Pre	3-collar	4-collar
air temp °F	87	74	68
soil temp (4-inch) °F	65	68	62
Relative humidity (%)	25	30	53
Wind	S12	S 5	W 6
Soil moisture	moist	Wet	moist
Corn			
stage	--	V3	V4
height (inch)	--	4	7
Giant foxtail			
leaf no.	--	1-2	2-4
height (inch)	--	1-2	3-5
Common ragweed			
leaf no.	--	2-4	2-4
height (inch)	--	1-2	2-4
Common lamsquarters			
leaf no.	--	2-4	6-10
height (inch)	--	1-2	3-4
Rainfall after application (inch)			
Week 1	0.41	1.15	0.36
Week 2	0.00	0.36	3.15
Week 3	0.74	3.15	0.00

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2002 Corn Herbicide Evaluation - Waseca

Common Ragweed

Herbicide	Rate	Giant Foxtail	Common Ragweed	Common Velvetleaf	Common Lambsquarters	H2O	Yield	Weed Control Cost	Returns
Preemergence	(pt/A)			(% control)		(%)	(bu/A)	($/A)	($/A)
Surpass + Hornet WDG	2.75 + 4 oz	93	86	77	87	20.7	181	41.31	257
Balance Pro+Define+Atrazine	2.25 oz +10 oz +1.1 lb	93	97	76	99	20.8	214		
Pre / Postemergence (3-4 inch weeds)									
Surpass / Hornet WDG + atrazine + COC + AMS	2.75 / 3 oz + 0.83 lb + 1% + 2.5 lb	79	98	99	99	20.9	173	46.66	238
Surpass / Hornet WDG + Clarity + NIS + AMS	2.75 / 3 oz + 4 oz + 0.25% + 2.5 lb	88	99	99	99	20.7	186	47.60	260
Outlook / Hornet WDG + Aim + NIS + AMS	20 oz / 3 oz + 0.5 oz + 0.25% + 2.5 lb	71	99	98	99	20.6	180	45.65	252
Outlook / Aim + atrazine + COC	20 oz / 0.5 oz 1.1 lb + 1%	86	98	98	99	20.1	184	37.51	269
Outlook / Distinct + NIS + AMS	20 oz / 4 oz + 0.25% + 2.5 lb	92	99	99	99	20.0	204	42.69	299
Axiom / Option + MSO + 28%N	15 oz / 1.5 oz + 1.5 + 3	97	66	91	99	21.0	174	44.40	241
Dual II Magnum / Callisto + atrazine + COC + 28%N	2 / 3 oz + 0.28 lb + 1% + 2.5%	80	99	99	99	20.4	182	51.62	251
Dual II Magnum / Northstar + COC + 28%N	2 / 5 oz + 1% + 2.5%	85	99	99	99	20.4	191	48.98	268
Dual II Magnum / Callisto + Steadfast + atrazine + COC + 28%N	1 / 3 oz + 0.5 oz + 0.28 lb + 1% + 2.5%	98	99	99	99	20.6	188	45.78	265
Dual II Magnum / Callisto + Liberty + AMS	1 / 3 oz + 14 oz + 3 lb	96	99	99	99	20.3	188	46.17	267
Define / Option + Distinct + MSO + 28%N	1 / 4 oz + 0.55 lb + 1% + 2.5%	97	99	99	99	19.8	191	49.23	270
Dual II Magnum / Accent Gold WDG + atrazine + COC + 28%N	0.75 / 3.5 oz + 0.83 lb + 1% + 4	97	99	99	99	20.2	189	51.13	262
Define / Liberty + atrazine + AMS	10 oz / 24 oz + 0.55 lb + 3 lb	99	99	99	99	20.1	178	42.23	255
Harness / Yukon + NIS	2.5 / 4 oz + 0.25%	87	99	99	99	20.1	187	44.60	268
Postemergence (3 collar corn)									
Lightning + Marksman + NIS + AMS	1.28 oz + 2 oz + 0.25% + 2.5 lb	94	99	99	99	19.5	193	24.51	302
Postemergence (4 collar corn)									
Steadfast + Callisto + atrazine + COC + AMS	0.75 oz + 2 oz + 0.28 lb + 1% + 2 lb	95	97	99	99	20.0	196	30.10	297
Steadfast + Hornet WDG + atrazine + COC + AMS	0.75 oz + 3 oz + 0.55 lb + 1% + 2 lb	95	99	99	99	20.1	178	32.82	265
Steadfast + Aim + atrazine + COC	0.75 oz + 0.5 oz + 0.55 lb + 1% + 2 lb	96	68	99	99	20.9	167	25.56	250
Accent Gold WDG + Clarity + atrazine + COC + AMS	3.5 oz + 4 oz + 0.55 lb + 1% + 2 lb	83	99	99	99	20.3	175	37.42	253
Accent Gold WDG + Callisto + atrazine + COC + AMS	3.5 oz + 1 oz + 0.28 lb + 1% + 2 lb	93	99	99	99	20.4	167	37.99	240
Checks									
Weedy Check	-	0	0	0	0	23.4	66	0.00	104
Weed-Free	-	100	100	100	100	20.1	192	0.00	
	LSD(0.10)	12	9	7	6	1.0	28		48

Corn Price = $1.82

Drying Cost $0.025/pt to 15.5%

Shrink = 1.35%/ pt to 15.5 %