

(01-ACC-2)

Evaluation of various postemergence applied herbicide combinations for weed control in corn, Ames, Iowa, 2001. Owen, Micheal D.K., James F. Lux, and Damian D. Franzenburg. The purpose of this study was to evaluate several ALS inhibitor herbicides applied postemergence for weed efficacy and corn phytotoxicity. The soil was a Canisteo, Nicollet, Clarion Webster clay loam with a pH 6.8 and 3.4% organic matter. The experimental design was a randomized complete block with three replications and plots were 10 by 25 ft. The 2000 crop was soybean. Tillage included a spring field cultivation. Fertilization included 124 lb/A actual N applied as urea. Crop residue on the soil surface was 23% at planting. "Garst hybrid 8550" corn was planted 1.5 inches deep on May 18, at 30,200 seeds/A in 30-inch rows. May rainfall included: 0.18, 0.39, 0.83, 0.12, 0.15, 0.22, 0.07, 0.98, 0.26, 1.58, 0.05, 0.15, 0.03, 0.27, 0.20, 0.02, 0.13 and 0.64 inches on May 1, 2, 3, 4, 5, 6, 9, 10, 13, 20, 21, 23, 24, 25, 26, 27, 28 and 31, respectively. Total rainfall for May was 6.27 inches. June rainfall included: 0.07, 0.02, 0.30, 0.14, 0.59, 0.38, 0.16 and 0.01 inches on June 1, 4, 5, 10, 12, 14, 16 and 20, respectively. Total rainfall for June was 1.67 inches. July rainfall included: 0.44 inches and 1.24 inches from July 1 through 15 and 16 through 31, respectively. Rainfall total for August was 2.50 inches. Application information is listed below:

Date	May 18	June 21
Treatment	PRE	POST
Sprayer		
gpa	20	20
psi	30	30
nozzle	11002	11002
Temperature (C)		
air	25	24
soil (4 inch)	22	20
Soil moisture	dry	dry
Wind (mph)	calm	5-10 NW
Sky	cloudy	pt. cloudy
Relative humidity (%)	63%	64%
Corn growth		
leaf no.	-	V4-V5
height (inch)	-	7-9
Giant foxtail		
leaf no.	-	2-4
height (inch)	-	1-4
infestation (ft ²)	-	0-10
Common lambsquarters		
leaf no.	-	numerous
height (inch)	-	0.5-3
infestation (ft ²)	-	0-2
Common waterhemp		
leaf no.	-	numerous
height (inch)	-	0.5-4
infestation (ft ²)	-	0-8
Velvetleaf		
leaf no.	-	2-4
height (inch)	-	1-4
infestation (ft ²)	-	0-2

Corn stands were consistent across herbicide treatments with no significant differences between them. No PRE applied herbicide caused corn injury when observed on June 9, prior to POST applied treatments. Significant corn injury resulted from all POST applied treatments on June 29, eight days after treatment. All treatments continued to demonstrate corn injury when noted on July 11. Good to excellent giant foxtail, velvetleaf, common waterhemp, and common lambsquarters control was achieved with all treatments when observed on July 11. Treatments continued to provide acceptable control of these species when observed on August 1, except POST applied Hornet plus Steadfast plus COC and 28%N at various rates. These treatments failed to adequately control common waterhemp and common lambsquarters. (Dept. of Agronomy, Iowa State University, Ames)

DATA MEAN

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CREATED: 06/04/2001 REVISED: 11/30/2001

COMPLETED: N

PROJECT TYPE: HERBICIDE

LOCATION: AMES, IA

RESEARCHED BY: IA State University

DESIGN: RANDOMIZED COMPLETE BLOCK DESIGN

PLOT SIZE: 10.00 FT WIDE X 25.00 FT LONG

REPS: 03

TRT	TREATMENT NUM COMPONENT	DOSAGE		TM	ZEAMD	ZEAMD	ZEAMD	ZEAMD	SETFA
		RATE	UNIT		17.5 FT 07/05/01	PHY % 06/09/01	PHY % 06/29/01	PHY % 07/11/01	CON % 07/11/01
1A	UNTREATED CHECK	0.00	NA	0	26	0	0	0	0
2A	SURPASS (6.4EC)	2.00	LAA	1	27	0	25	15	99
	B»HORNET WDG (68.5WG)	0.128	LAA	2					
	C»STEADFAST (75WDG)	0.035	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMV	2					
	E»28%N	2.50	PMV	2					
3A»	HORNET WDG (68.5WG)	0.128	LAA	2	28	0	27	18	95
	B»STEADFAST (75WDG)	0.035	LAA	2					
	C»CROP OIL CONCENTRATE	1.00	PMV	2					
	D»28%N	2.50	PMV	2					
4A	SURPASS (6.4EC)	2.00	LAA	1	27	0	25	10	99
	B»HORNET WDG (68.5WG)	0.128	LAA	2					
	C»STEADFAST (75WDG)	0.018	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMV	2					
	E»28%N	2.50	PMV	2					
5A»	HORNET WDG (68.5WG)	0.128	LAA	2	27	0	25	15	90
	B»STEADFAST (75WDG)	0.018	LAA	2					
	C»CROP OIL CONCENTRATE	1.00	PMV	2					
	D»28%N	2.50	PMV	2					
6A	SURPASS (6.4EC)	2.00	LAA	1	27	0	17	2	99
	B»HORNET WDG (68.5WG)	0.128	LAA	2					
	C ATRAZINE 90DF (WG)	0.90	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMV	2					
	E»28%N	2.50	PMV	2					
7A	SURPASS (6.4EC)	2.00	LAA	1	27	0	20	12	96
	B»ACCENT GOLD (83.8DF)	0.152	LAA	2					
	C»CROP OIL CONCENTRATE	1.00	PMV	2					
	D»28%N	2.50	PMV	2					
8A	SURPASS (6.4EC)	2.00	LAA	1	26	0	12	12	98
	B»CELEBRITY PLUS (70WG)	0.206	LAA	2					
	C»NIS	0.25	PMV	2					
	D»28%N	2.50	PMV	2					
9A»	BALANCE PRO (4SC)	0.047	LAA	1	27	0	25	15	98
	B»STEADFAST (75WDG)	0.035	LAA	2					
	C CLARITY (4SL)	0.125	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMV	2					
	E»28%N	2.00	QMA	2					
10A»	BALANCE PRO (4SC)	0.047	LAA	1	27	0	25	15	95
	B»STEADFAST (75WDG)	0.035	LAA	2					
	C»CALLISTO (4SC)	0.063	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMV	2					
	E»28%N	2.00	QMA	2					
11A»	BALANCE PRO (4SC)	0.047	LAA	1	26	0	23	13	92
	B»BASIS GOLD (89.5DF)	0.783	LAA	2					
	C»CROP OIL CONCENTRATE	1.00	PMV	2					
	D»28%N	2.00	QMA	2					
12A»	BALANCE PRO (4SC)	0.047	LAA	1	25	0	22	13	93
	B»ACCENT GOLD (83.8DF)	0.152	LAA	2					
	C»CROP OIL CONCENTRATE	1.00	PMV	2					
	D»28%N	2.00	QMA	2					
LSD (0.05)					2.78	0.00	3.68	5.37	2.80

DATA MEAN

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CREATED: 06/04/2001 **REVISED:** 11/30/2001

COMPLETED: N

PROJECT TYPE: HERBICIDE

LOCATION: AMES, IA

RESEARCHED BY: IA State University

DESIGN: RANDOMIZED COMPLETE BLOCK DESIGN

PLOT SIZE: 10.00 FT WIDE X 25.00 FT LONG

REPS: 03

TRT NUM	TREATMENT COMPONENT	DOSAGE			ABUTH	AMATA	CHEAL	SETFA	ABUTH
		RATE	UNIT	TM	CON % 07/11/01	CON % 07/11/01	CON % 07/11/01	CON % 08/01/01	CON % 08/01/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	SURPASS (6.4EC)	2.00	LAA	1	99	99	99	99	99
	B»HORNET WDG (68.5WG)	0.128	LAA	2					
	C»STEADFAST (75WDG)	0.035	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMV	2					
	E»28%N	2.50	PMV	2					
3A»	HORNET WDG (68.5WG)	0.128	LAA	2	99	88	83	95	99
	B»STEADFAST (75WDG)	0.035	LAA	2					
	C»CROP OIL CONCENTRATE	1.00	PMV	2					
	D»28%N	2.50	PMV	2					
4A	SURPASS (6.4EC)	2.00	LAA	1	99	99	99	98	99
	B»HORNET WDG (68.5WG)	0.128	LAA	2					
	C»STEADFAST (75WDG)	0.018	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMV	2					
	E»28%N	2.50	PMV	2					
5A»	HORNET WDG (68.5WG)	0.128	LAA	2	99	85	82	88	99
	B»STEADFAST (75WDG)	0.018	LAA	2					
	C»CROP OIL CONCENTRATE	1.00	PMV	2					
	D»28%N	2.50	PMV	2					
6A	SURPASS (6.4EC)	2.00	LAA	1	95	99	99	99	96
	B»HORNET WDG (68.5WG)	0.128	LAA	2					
	C ATRAZINE 90DF (WG)	0.90	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMV	2					
	E»28%N	2.50	PMV	2					
7A	SURPASS (6.4EC)	2.00	LAA	1	99	99	96	95	99
	B»ACCENT GOLD (83.8DF)	0.152	LAA	2					
	C»CROP OIL CONCENTRATE	1.00	PMV	2					
	D»28%N	2.50	PMV	2					
8A	SURPASS (6.4EC)	2.00	LAA	1	98	99	99	98	98
	B»CELEBRITY PLUS (70WG)	0.206	LAA	2					
	C»NIS	0.25	PMV	2					
	D»28%N	2.50	PMV	2					
9A»	BALANCE PRO (4SC)	0.047	LAA	1	99	99	98	93	99
	B»STEADFAST (75WDG)	0.035	LAA	2					
	C CLARITY (4SL)	0.125	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMV	2					
	E»28%N	2.00	QMA	2					
10A»	BALANCE PRO (4SC)	0.047	LAA	1	99	99	99	90	99
	B»STEADFAST (75WDG)	0.035	LAA	2					
	C»CALLISTO (4SC)	0.063	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMV	2					
	E»28%N	2.00	QMA	2					
11A»	BALANCE PRO (4SC)	0.047	LAA	1	99	99	99	85	99
	B»BASIS GOLD (89.5DF)	0.783	LAA	2					
	C»CROP OIL CONCENTRATE	1.00	PMV	2					
	D»28%N	2.00	QMA	2					
12A»	BALANCE PRO (4SC)	0.047	LAA	1	99	99	99	85	99
	B»ACCENT GOLD (83.8DF)	0.152	LAA	2					
	C»CROP OIL CONCENTRATE	1.00	PMV	2					
	D»28%N	2.00	QMA	2					
LSD (0.05)					1.13	5.40	2.41	3.66	1.56

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REPS: 03

TRT NUM	TREATMENT COMPONENT	DOSAGE			AMATA	CHEAL
		RATE	UNIT	TM	CON % 08/01/01	CON % 08/01/01
1A	UNTREATED CHECK	0.00	NA	0	0	0
2A	SURPASS (6.4EC)	2.00	LAA	1	99	99
	B»HORNET WDG (68.5WG)	0.128	LAA	2		
	C»STEADFAST (75WDG)	0.035	LAA	2		
	D»CROP OIL CONCENTRATE	1.00	PMV	2		
	E»28%N	2.50	PMV	2		
3A»	HORNET WDG (68.5WG)	0.128	LAA	2	73	78
	B»STEADFAST (75WDG)	0.035	LAA	2		
	C»CROP OIL CONCENTRATE	1.00	PMV	2		
	D»28%N	2.50	PMV	2		
4A	SURPASS (6.4EC)	2.00	LAA	1	99	99
	B»HORNET WDG (68.5WG)	0.128	LAA	2		
	C»STEADFAST (75WDG)	0.018	LAA	2		
	D»CROP OIL CONCENTRATE	1.00	PMV	2		
	E»28%N	2.50	PMV	2		
5A»	HORNET WDG (68.5WG)	0.128	LAA	2	75	70
	B»STEADFAST (75WDG)	0.018	LAA	2		
	C»CROP OIL CONCENTRATE	1.00	PMV	2		
	D»28%N	2.50	PMV	2		
6A	SURPASS (6.4EC)	2.00	LAA	1	99	99
	B»HORNET WDG (68.5WG)	0.128	LAA	2		
	C ATRAZINE 90DF (WG)	0.90	LAA	2		
	D»CROP OIL CONCENTRATE	1.00	PMV	2		
	E»28%N	2.50	PMV	2		
7A	SURPASS (6.4EC)	2.00	LAA	1	99	98
	B»ACCENT GOLD (83.8DF)	0.152	LAA	2		
	C»CROP OIL CONCENTRATE	1.00	PMV	2		
	D»28%N	2.50	PMV	2		
8A	SURPASS (6.4EC)	2.00	LAA	1	99	99
	B»CELEBRITY PLUS (70WG)	0.206	LAA	2		
	C»NIS	0.25	PMV	2		
	D»28%N	2.50	PMV	2		
9A»	BALANCE PRO (4SC)	0.047	LAA	1	99	99
	B»STEADFAST (75WDG)	0.035	LAA	2		
	C CLARITY (4SL)	0.125	LAA	2		
	D»CROP OIL CONCENTRATE	1.00	PMV	2		
	E»28%N	2.00	QMA	2		
10A»	BALANCE PRO (4SC)	0.047	LAA	1	99	99
	B»STEADFAST (75WDG)	0.035	LAA	2		
	C»CALLISTO (4SC)	0.063	LAA	2		
	D»CROP OIL CONCENTRATE	1.00	PMV	2		
	E»28%N	2.00	QMA	2		
11A»	BALANCE PRO (4SC)	0.047	LAA	1	99	99
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12A»	BALANCE PRO (4SC)	0.047	LAA	1	98	99
	B»ACCENT GOLD (83.8DF)	0.152	LAA	2		
	C»CROP OIL CONCENTRATE	1.00	PMV	2		
	D»28%N	2.00	QMA	2		
		LSD (0.05)			14.20	3.92

» = SUPPLEMENTAL CHEMICAL

* TIMING CODES

*** CONTINUE ON NEXT PAGE

TRIAL # US 005/01/01 000 A1 : ACC 2

DATA MEAN

00 = UNTRCHK / UNTREATED TIMING (FP)
00 = UNTRCHK / UNTREATED TIMING (FP)
01 = PREPRE / PRE 05/18/2001 (1)
02 = POSPOS / POST 06/21/2001 (2)