

(01-ACS-8)

Preemergence applied Outlook and Guardsman Max followed by postemergence herbicides for weed control in IT corn, Ames, Iowa, 2001. Owen, Micheal D.K., James F. Lux, and Damian D. Franzenburg. The purpose of this study was to evaluate dimethenamid formulations for weed efficacy and crop phytotoxicity in a imidazolinone tolerant corn hybrid. The soil was a Canisteo, Nicollet, Clarion Webster clay loam with a pH 6.8 and 4.3% 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 7% at planting. "Garst hybrid 8590 IT" corn was planted 1.25 inches deep on May 15, 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 16	June 16	June 19
Treatment	PRE	EPOST	POST
Sprayer			
gpa	20	20	20
psi	30	30	30
nozzle	11003	11002	11003
Temperature (C)			
air	30	28	23
soil (4 inch)	25	22	19
Soil moisture	dry	damp	dry
Wind (mph)	4-6 NE	5-10 NW	0-4 SE
Sky	clear	clear	cloudy
Relative humidity (%)	37%	58%	65%
Corn growth			
leaf no.	-	V3	V6-V7
height (inch)	-	6-7	7-10
Giant foxtail			
leaf no.	-	2-4, 0-3 tillers	1-4
height (inch)	-	2-4	2-5
infestation (ft <sup>2</sup> )	-	0-3	0-5
Common lambsquarters			
leaf no.	-	numerous	cotyl-numerous
height (inch)	-	1-3	0.25-5
infestation (ft <sup>2</sup> )	-	0-5	0-15
Common waterhemp			
leaf no.	-	numerous	cotyl-2
height (inch)	-	0.25-3	0.25-3
infestation (ft <sup>2</sup> )	-	0-1	0-3
Velvetleaf			
leaf no.	-	cotyl-5	cotyl-4
height (inch)	-	0.5-3	0.25-4
infestation (ft <sup>2</sup> )	-	0-1	0-5

Significant differences in corn stand between treatments were not attributable to the herbicides. On June 4, prior to any postemergence application, excellent crop safety was demonstrated with the PRE treatments. PRE applied Guardsman Max, Bicep II Magnum, and Outlook plus Marksman provided good to excellent control of giant foxtail, common waterhemp, and common lambsquarters on July 10 and August 20. These treatments did not adequately control velvetleaf. Significant corn injury was observed on June 27 and July 10, and resulted from EPOST and POST treatments including Marksman, Clarity, Distinct, Accent Gold plus Clarity, Celebrity Plus and Lightning. All EPOST and POST treatments achieved good to excellent control of giant foxtail, velvetleaf, common waterhemp, and common lambsquarters when observed on July 10 and August 20. (Dept. of Agronomy, Iowa State University, Ames)

DATA MEAN

TITLE: Preeemergence applied Outlook and Guardsman Max followed by postemergence herbicides for weed control in IT corn.

CREATED: 06/05/2001 REVISED: 12/10/2001

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		TM	ZEAMD	ZEAMD	ZEAMD	ZEAMD	SETFA
		RATE	UNIT		17.5 FT 07/27/01	PHY % 06/04/01	PHY % 06/27/01	PHY % 07/10/01	CON % 07/10/01
1A	UNTREATED CHECK	0.00	NA	0	26	0	0	0	0
2A	»OUTLOOK (6EC)	0.98	LAA	1	27	0	15	12	99
	B »MARKSMAN (3.2SC)	1.40	LAA	2					
	C »AMMONIUM SULFATE	2.50	LMA	2					
3A	»OUTLOOK (6EC)	0.98	LAA	1	27	0	12	10	99
	B CLARITY (4SL)	0.50	LAA	2					
	C »AMMONIUM SULFATE	2.50	LMA	2					
4A	»OUTLOOK (6EC)	0.98	LAA	1	24	0	12	15	99
	B »DISTINCT (70WG)	0.263	LAA	3					
	C »NIS	0.25	PMV	3					
	D »AMMONIUM SULFATE	5.00	PMG	3					
5A	»DUAL II MAGNUM (7.64EC)	1.91	LAA	1	27	0	7	5	99
	B »NORTHSTAR (47.4WG)	0.148	LAA	3					
	C »NIS	0.25	PMV	3					
	D »AMMONIUM SULFATE	5.00	PMG	3					
6A	SURPASS (6.4EC)	2.40	LAA	1	28	0	5	2	99
	B »HORNET WDG (68.5WG)	0.128	LAA	3					
	C »NIS	0.25	PMV	3					
	D »AMMONIUM SULFATE	5.00	PMG	3					
7A	»GUARDSMAN MAX (5SE)	2.88	LAA	1	27	0	0	0	99
8A	»BICEP II MAGNUM (5.5L)	3.58	LAA	1	25	0	0	0	99
9A	»GUARDSMAN MAX (5SE)	2.19	LAA	1	26	0	18	15	99
	B CLARITY (4SL)	0.50	LAA	2					
	C »AMMONIUM SULFATE	5.00	PMG	2					
10A	»OUTLOOK (6EC)	0.75	LAA	1	27	0	0	0	96
	B MARKSMAN (3.2SC)	1.40	LAA	1					
11A	»GUARDSMAN MAX (5SE)	2.50	LAA	1	27	0	10	10	99
	B »DISTINCT (70WG)	0.175	LAA	3					
	C »NIS	0.25	PMV	3					
	D »AMMONIUM SULFATE	5.00	PMG	3					
12A	»LEADOFF (5SL)	0.94	LAA	1	27	0	22	13	96
	B »ACCENT GOLD (83.8DF)	0.152	LAA	3					
	C CLARITY (4SL)	0.125	LAA	3					
	D »CROP OIL CONCENTRATE	1.00	PMV	3					
	E »28%N	2.00	QMA	3					
13A	»OUTLOOK (6EC)	0.47	LAA	1	28	0	12	12	99
	B »CELEBRITY PLUS (70WG)	0.206	LAA	3					
	C »NEWTONE	1.00	PMV	3					
	D »AMMONIUM SULFATE	1.00	LMA	3					
14A	»OUTLOOK (6EC)	0.47	LAA	1	29	0	3	7	98
	B »LIGHTNING (70DG)	0.056	LAA	3					
	C »DISTINCT (70WG)	0.175	LAA	3					
	D »NEWTONE	1.00	PMV	3					
	E »AMMONIUM SULFATE	1.00	LMA	3					
15A	»LIGHTNING (70DG)	0.056	LAA	2	26	0	12	13	95
	B »DISTINCT (70WG)	0.175	LAA	2					
	C »NEWTONE	1.00	PMV	2					
	D »AMMONIUM SULFATE	1.00	LMA	2					
16A	»LIGHTNING (70DG)	0.056	LAA	2	26	0	8	18	93
	B MARKSMAN (3.2SC)	1.00	LAA	2					
	C »NEWTONE	1.00	PMV	2					
	D »AMMONIUM SULFATE	1.00	LMA	2					

DATA MEAN

**TITLE:** Preeemergence applied Outlook and Guardsman Max followed by postemergence herbicides for weed control in IT corn.

TRT TREATMENT NUM COMPONENT	DOSAGE		TM	ZEAMD	ZEAMD	ZEAMD	ZEAMD	SETFA
	RATE	UNIT		17.5 FT 07/27/01	PHY % 06/04/01	PHY % 06/27/01	PHY % 07/10/01	CON % 07/10/01
17A»OUTLOOK (6EC)	0.98	LAA	1	29	0	0	0	99
18A»DUAL II MAGNUM (7.64EC)	1.91	LAA	1	28	0	0	0	99
	LSD (0.05)			3.86	0.00	4.14	5.33	2.94

DATA MEAN

TITLE: Preeemergence applied Outlook and Guardsman Max followed by postemergence herbicides for weed control in IT corn.

CREATED: 06/05/2001 REVISED: 12/10/2001

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 CON % 07/10/01	AMATA CON % 07/10/01	CHEAL CON % 07/10/01	SETFA CON % 08/31/01	ABUTH CON % 08/31/01
		RATE	UNIT	TM					
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	»OUTLOOK (6EC)	0.98	LAA	1	98	99	99	99	99
	B MARKSMAN (3.2SC)	1.40	LAA	2					
	C»AMMONIUM SULFATE	2.50	LMA	2					
3A	»OUTLOOK (6EC)	0.98	LAA	1	98	99	98	99	99
	B CLARITY (4SL)	0.50	LAA	2					
	C»AMMONIUM SULFATE	2.50	LMA	2					
4A	»OUTLOOK (6EC)	0.98	LAA	1	99	98	99	96	99
	B»DISTINCT (70WG)	0.263	LAA	3					
	C»NIS	0.25	PMV	3					
	D»AMMONIUM SULFATE	5.00	PMG	3					
5A	»DUAL II MAGNUM (7.64EC)	1.91	LAA	1	96	99	93	96	99
	B»NORTHSTAR (47.4WG)	0.148	LAA	3					
	C»NIS	0.25	PMV	3					
	D»AMMONIUM SULFATE	5.00	PMG	3					
6A	SURPASS (6.4EC)	2.40	LAA	1	98	99	96	99	98
	B»HORNET WDG (68.5WG)	0.128	LAA	3					
	C»NIS	0.25	PMV	3					
	D»AMMONIUM SULFATE	5.00	PMG	3					
7A	»GUARDSMAN MAX (5SE)	2.88	LAA	1	80	99	99	98	77
8A	»BICEP II MAGNUM (5.5L)	3.58	LAA	1	63	99	98	98	62
9A	»GUARDSMAN MAX (5SE)	2.19	LAA	1	98	99	99	98	98
	B CLARITY (4SL)	0.50	LAA	2					
	C»AMMONIUM SULFATE	5.00	PMG	2					
10A	»OUTLOOK (6EC)	0.75	LAA	1	75	99	98	93	73
	B MARKSMAN (3.2SC)	1.40	LAA	1					
11A	»GUARDSMAN MAX (5SE)	2.50	LAA	1	98	99	99	95	98
	B»DISTINCT (70WG)	0.175	LAA	3					
	C»NIS	0.25	PMV	3					
	D»AMMONIUM SULFATE	5.00	PMG	3					
12A	»LEADOFF (5SL)	0.94	LAA	1	96	99	98	92	98
	B»ACCENT GOLD (83.8DF)	0.152	LAA	3					
	C CLARITY (4SL)	0.125	LAA	3					
	D»CROP OIL CONCENTRATE	1.00	PMV	3					
	E»28%N	2.00	QMA	3					
13A	»OUTLOOK (6EC)	0.47	LAA	1	99	99	99	96	98
	B»CELEBRITY PLUS (70WG)	0.206	LAA	3					
	C»NEWTONE	1.00	PMV	3					
	D»AMMONIUM SULFATE	1.00	LMA	3					
14A	»OUTLOOK (6EC)	0.47	LAA	1	99	99	99	96	99
	B»LIGHTNING (70DG)	0.056	LAA	3					
	C»DISTINCT (70WG)	0.175	LAA	3					
	D»NEWTONE	1.00	PMV	3					
	E»AMMONIUM SULFATE	1.00	LMA	3					
15A	»LIGHTNING (70DG)	0.056	LAA	2	99	92	98	92	99
	B»DISTINCT (70WG)	0.175	LAA	2					
	C»NEWTONE	1.00	PMV	2					
	D»AMMONIUM SULFATE	1.00	LMA	2					
16A	»LIGHTNING (70DG)	0.056	LAA	2	98	96	99	88	98
	B MARKSMAN (3.2SC)	1.00	LAA	2					
	C»NEWTONE	1.00	PMV	2					
	D»AMMONIUM SULFATE	1.00	LMA	2					

DATA MEAN

**TITLE:** Preeemergence applied Outlook and Guardsman Max followed by postemergence herbicides for weed control in IT corn.

TRT TREATMENT NUM COMPONENT	DOSAGE		TM	ABUTH	AMATA	CHEAL	SETFA	ABUTH
	RATE	UNIT		CON %	CON %	CON %	CON %	CON %
				07/10/01	07/10/01	07/10/01	08/31/01	08/31/01
17A»OUTLOOK (6EC)	0.98	LAA	1	13	99	45	99	13
18A»DUAL II MAGNUM (7.64EC)	1.91	LAA	1	15	99	38	99	15
	LSD (0.05)			12.08	1.73	3.41	4.34	12.69

DATA MEAN

**TITLE:** Preeemergence applied Outlook and Guardsman Max followed by postemergence herbicides for weed control in IT corn.

**CREATED:** 06/05/2001 **REVISED:** 12/10/2001

**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			AMATA	CHEAL
		RATE	UNIT	TM	CON % 08/31/01	CON % 08/31/01
1A	UNTREATED CHECK	0.00	NA	0	0	0
2A	»OUTLOOK (6EC)	0.98	LAA	1	99	99
	B »MARKSMAN (3.2SC)	1.40	LAA	2		
	C »AMMONIUM SULFATE	2.50	LMA	2		
3A	»OUTLOOK (6EC)	0.98	LAA	1	99	99
	B CLARITY (4SL)	0.50	LAA	2		
	C »AMMONIUM SULFATE	2.50	LMA	2		
4A	»OUTLOOK (6EC)	0.98	LAA	1	99	98
	B »DISTINCT (70WG)	0.263	LAA	3		
	C »NIS	0.25	PMV	3		
	D »AMMONIUM SULFATE	5.00	PMG	3		
5A	»DUAL II MAGNUM (7.64EC)	1.91	LAA	1	99	99
	B »NORTHSTAR (47.4WG)	0.148	LAA	3		
	C »NIS	0.25	PMV	3		
	D »AMMONIUM SULFATE	5.00	PMG	3		
6A	SURPASS (6.4EC)	2.40	LAA	1	99	98
	B »HORNET WDG (68.5WG)	0.128	LAA	3		
	C »NIS	0.25	PMV	3		
	D »AMMONIUM SULFATE	5.00	PMG	3		
7A	»GUARDSMAN MAX (5SE)	2.88	LAA	1	99	99
8A	»BICEP II MAGNUM (5.5L)	3.58	LAA	1	98	98
9A	»GUARDSMAN MAX (5SE)	2.19	LAA	1	98	99
	B CLARITY (4SL)	0.50	LAA	2		
	C »AMMONIUM SULFATE	5.00	PMG	2		
10A	»OUTLOOK (6EC)	0.75	LAA	1	98	96
	B MARKSMAN (3.2SC)	1.40	LAA	1		
11A	»GUARDSMAN MAX (5SE)	2.50	LAA	1	99	99
	B »DISTINCT (70WG)	0.175	LAA	3		
	C »NIS	0.25	PMV	3		
	D »AMMONIUM SULFATE	5.00	PMG	3		
12A	»LEADOFF (5SL)	0.94	LAA	1	98	98
	B »ACCENT GOLD (83.8DF)	0.152	LAA	3		
	C CLARITY (4SL)	0.125	LAA	3		
	D »CROP OIL CONCENTRATE	1.00	PMV	3		
	E »28%N	2.00	QMA	3		
13A	»OUTLOOK (6EC)	0.47	LAA	1	99	99
	B »CELEBRITY PLUS (70WG)	0.206	LAA	3		
	C »NEWTONE	1.00	PMV	3		
	D »AMMONIUM SULFATE	1.00	LMA	3		
14A	»OUTLOOK (6EC)	0.47	LAA	1	99	99
	B »LIGHTNING (70DG)	0.056	LAA	3		
	C »DISTINCT (70WG)	0.175	LAA	3		
	D »NEWTONE	1.00	PMV	3		
	E »AMMONIUM SULFATE	1.00	LMA	3		
15A	»LIGHTNING (70DG)	0.056	LAA	2	93	94
	B »DISTINCT (70WG)	0.175	LAA	2		
	C »NEWTONE	1.00	PMV	2		
	D »AMMONIUM SULFATE	1.00	LMA	2		
16A	»LIGHTNING (70DG)	0.056	LAA	2	96	99
	B MARKSMAN (3.2SC)	1.00	LAA	2		
	C »NEWTONE	1.00	PMV	2		
	D »AMMONIUM SULFATE	1.00	LMA	2		

TRIAL # US 023/01/01 000 A1 : ACS 8

DATA MEAN

**TITLE:** Preeemergence applied Outlook and Guardsman Max followed by postemergence herbicides for weed control in IT corn.

TRT TREATMENT NUM COMPONENT	DOSAGE		AMATA CON %	CHEAL CON %
	RATE	UNIT	TM 08/31/01	08/31/01
17A»OUTLOOK (6EC)	0.98	LAA	1	99 37
18A»DUAL II MAGNUM (7.64EC)	1.91	LAA	1	99 33
	LSD (0.05)			2.32 5.00

» = SUPPLEMENTAL CHEMICAL

\* TIMING CODES

00 = UNTRCHK / UNTREATED TIMING (FP)  
 01 = PREPRE / PRE 05/16/2001(1)  
 02 = EAPOWE / EPOST 06/16/2001(2)  
 03 = POSPOS / POST 06/19/2001(3)