

(01-ACC-10)

Evaluation of crop phytotoxicity and weed control in corn with various preemergence applied herbicides, Ames, Iowa, 2001. Owen, Micheal D.K., James F. Lux, and Damian D. Franzenburg. The purpose of this study was to evaluate chloracetamide herbicides for weed efficacy and corn phytotoxicity. 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 5% at planting. "Garst hybrid 8550" corn was planted 1.5 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 17
Treatment	PRE
Sprayer	
gpa	20
psi	30
nozzle	11002
Temperature (C)	
air	31
soil (4 inch)	25
Soil moisture	dry
Wind (mph)	12-14 N
Sky	clear
Relative humidity (%)	18%

No significant differences in corn stand between treatments were observed. All PRE applied treatments demonstrated excellent crop safety as noted on June 4 and 22. All of the various chloracetamide herbicides applied alone achieved excellent giant foxtail and common waterhemp control when observed on June 22 and July 18. Velvetleaf control was not acceptable with these herbicides and common lambsquarters control ranged from 82 to 96% on July 18. Giant foxtail, common waterhemp, and common lambsquarters control with the various prepackaged mixtures was excellent. Velvetleaf control was variable with these treatments and ranged from 75 to 93% on July 18. No significant differences were noted, however, between the treatments. (Dept. of Agronomy, Iowa State University, Ames)

DATA MEAN

TITLE: Evaluation of crop phytotoxicity and weed control in corn with various preemergence applied herbicides.

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

COMPLETED: N

PROJECT TYPE: HERBICIDE

LOCATION: AMES, IA

RESEARCHED BY: IA State Univeristy

DESIGN: RANDOMIZED COMPLETE BLOCK DESIGN

PLOT SIZE: 10.00 FT **WIDE X** 25.00 FT **LONG**

REPS: 03

TRT NUM	TREATMENT COMPONENT	DOSAGE			ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH
		RATE	UNIT	TM	17.5 FT 07/05/01	PHY % 06/04/01	PHY % 06/22/01	CON % 06/22/01	CON % 06/22/01
1A	UNTREATED CHECK	0.00	NA	0	28	0	0	0	0
2A	HARNESS (7EC)	2.40	LAA	1	28	0	0	99	38
3A»	DEGREE 3.8 (CS)	2.38	LAA	1	28	0	0	99	43
4A»	OUTLOOK (6EC)	0.98	LAA	1	28	0	0	99	42
5A	SURPASS (6.4EC)	2.40	LAA	1	27	0	0	99	33
6A»	DUAL II MAGNUM (7.64EC)	1.91	LAA	1	27	0	0	99	37
7A»	HARNESS XTRA (5.6L)	4.20	LAA	1	27	0	0	99	90
8A	HARNESS XTRA (6SC)	3.45	LAA	1	28	0	0	99	82
9A»	DEGREE XTRA (4.04CS)	3.50	LAA	1	26	0	0	99	87
10A»	GUARDSMAN MAX (5SE)	2.88	LAA	1	28	0	0	99	77
11A»	LEADOFF (5SL)	3.13	LAA	1	29	0	0	99	93
12A»	FULTIME (4SC)	3.90	LAA	1	28	0	0	99	90
13A»	BICEP II LITE MAGNUM (6SC)	3.30	LAA	1	29	0	0	99	73
14A»	BICEP II MAGNUM (5.5L)	3.60	LAA	1	28	0	0	99	87
LSD (0.05)					3.34	0.00	0.00	0.00	23.34

DATA MEAN

TITLE: Evaluation of crop phytotoxicity and weed control in corn with various preemergence applied herbicides.

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

COMPLETED: N

PROJECT TYPE: HERBICIDE

LOCATION: AMES, IA

RESEARCHED BY: IA State Univeristy

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	SETFA	ABUTH	AMATA
		RATE	UNIT	TM	CON % 06/22/01	CON % 06/22/01	CON % 07/18/01	CON % 07/18/01	CON % 07/18/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	HARNESS (7EC)	2.40	LAA	1	99	98	99	25	98
3A»	DEGREE 3.8 (CS)	2.38	LAA	1	99	95	99	33	99
4A»	OUTLOOK (6EC)	0.98	LAA	1	99	83	96	42	98
5A	SURPASS (6.4EC)	2.40	LAA	1	99	95	96	33	99
6A»	DUAL II MAGNUM (7.64EC)	1.91	LAA	1	99	85	98	27	96
7A»	HARNESS XTRA (5.6L)	4.20	LAA	1	99	98	98	88	99
8A	HARNESS XTRA (6SC)	3.45	LAA	1	99	99	96	80	99
9A»	DEGREE XTRA (4.04CS)	3.50	LAA	1	99	99	99	87	99
10A»	GUARDSMAN MAX (5SE)	2.88	LAA	1	99	99	99	78	99
11A»	LEADOFF (5SL)	3.13	LAA	1	99	99	98	93	99
12A»	FULTIME (4SC)	3.90	LAA	1	99	99	99	90	99
13A»	BICEP II LITE MAGNUM (6SC)	3.30	LAA	1	99	99	98	75	99
14A»	BICEP II MAGNUM (5.5L)	3.60	LAA	1	99	99	98	87	99
LSD (0.05)					0.00	7.07	2.86	26.29	1.84

DATA MEAN

TITLE: Evaluation of crop phytotoxicity and weed control in corn with various preemergence applied herbicides.

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

COMPLETED: N

PROJECT TYPE: HERBICIDE

LOCATION: AMES, IA

RESEARCHED BY: IA State Univeristy

DESIGN: RANDOMIZED COMPLETE BLOCK DESIGN

PLOT SIZE: 10.00 FT **WIDE X** 25.00 FT **LONG**

REPS: 03

TRT NUM	TREATMENT COMPONENT	DOSAGE		TM	CHEAL CON %
		RATE	UNIT		07/18/01
1A	UNTREATED CHECK	0.00	NA	0	0
2A	HARNESS (7EC)	2.40	LAA	1	96
3A»	DEGREE 3.8 (CS)	2.38	LAA	1	95
4A»	OUTLOOK (6EC)	0.98	LAA	1	83
5A	SURPASS (6.4EC)	2.40	LAA	1	93
6A»	DUAL II MAGNUM (7.64EC)	1.91	LAA	1	82
7A»	HARNESS XTRA (5.6L)	4.20	LAA	1	98
8A	HARNESS XTRA (6SC)	3.45	LAA	1	99
9A»	DEGREE XTRA (4.04CS)	3.50	LAA	1	99
10A»	GUARDSMAN MAX (5SE)	2.88	LAA	1	99
11A»	LEADOFF (5SL)	3.13	LAA	1	99
12A»	FULTIME (4SC)	3.90	LAA	1	99
13A»	BICEP II LITE MAGNUM (6SC)	3.30	LAA	1	99
14A»	BICEP II MAGNUM (5.5L)	3.60	LAA	1	99
LSD (0.05)					6.93

» = SUPPLEMENTAL CHEMICAL

* TIMING CODES

00 = UNTRCHK / UNTREATED TIMING (FP)

01 = PREPRE / PRE 05/17/2001(1)