

(01-ACC-3)

Evaluation of Define, Dual II Magnum and Balance Pro rate regime for grass 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 flufenacet, metolachlor and isoxaflutole 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 19	June 22
Treatment	PRE	POST
Sprayer		
gpa	20	20
psi	30	30
nozzle	11002	11003
Temperature (C)		
air	26	24
soil (4 inch)	22	20
Soil moisture	dry	dry
Sky	clear	pt. cloudy
Relative humidity (%)	38%	49%
Corn growth		
leaf no.	-	V4-V5
height (inch)	-	10
Giant foxtail		
leaf no.	-	2-4
height (inch)	-	0.75-4
infestation (ft ²)	-	0-50
Common lambsquarters		
leaf no.	-	numerous
height (inch)	-	0.5-3
infestation (ft ²)	-	1-3
Common waterhemp		
leaf no.	-	0-2
height (inch)	-	0.5-3
infestation (ft ²)	-	0-2
Velvetleaf		
leaf no.	-	2-4
height (inch)	-	0.5-3
infestation (ft ²)	-	0-1

Buctril plus Atrazine prepackage mixture was applied POST to the experiment area on June 22 at 0.75 lb/A. This was completed to control broadleaves and to examine residual grass activity for PRE applied herbicides. Significant differences in corn stand observed between treatments were not a result of the herbicides. No corn injury was observed from any herbicide treatment when observed on June 9 and 13. Balance Pro applied PRE at 0.047 and 0.7 lb/A provided 75 and 77% giant foxtail control on June 13, while all other treatments achieved at least 88% control. (Dept. of Agronomy, Iowa State University, Ames)

DATA MEAN

TITLE: Evaluation of Define, Dual II Magnum and Balance Pro rate regime for grass control in corn.

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		TM	ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH
		RATE	UNIT		17.5 FT 07/05/01	PHY % 06/09/01	PHY % 06/13/01	CON % 06/13/01	CON % 06/13/01
1A	UNTREATED CHECK	0.00	NA	0	25	0	0	0	0
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
2A	»DEFINE (60DF)	0.30	LAA	1	26	0	0	90	32
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
3A	»DEFINE (60DF)	0.375	LAA	1	27	0	0	92	37
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
4A	»DUAL II MAGNUM (7.64EC)	0.86	LAA	1	29	0	0	92	35
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
5A	»DEFINE (60DF)	0.45	LAA	1	26	0	0	93	45
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
6A	»DUAL II MAGNUM (7.64EC)	1.05	LAA	1	25	0	0	93	27
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
7A	»DEFINE (60DF)	0.525	LAA	1	27	0	0	96	30
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
8A	»DEFINE (60DF)	0.675	LAA	1	26	0	0	98	35
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
9A	»DUAL II MAGNUM (7.64EC)	1.59	LAA	1	28	0	0	96	28
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
10A	»DEFINE (60DF)	0.788	LAA	1	24	0	0	98	40
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
11A	»DUAL II MAGNUM (7.64EC)	1.91	LAA	1	25	0	0	98	28
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
12A	»BALANCE PRO (4SC)	0.047	LAA	1	27	0	0	75	93
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
13A	»BALANCE PRO (4SC)	0.07	LAA	1	27	0	0	77	98
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
14A	»BALANCE PRO (4SC)	0.094	LAA	1	26	0	0	88	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
LSD (0.05)					4.28	0.00	0.00	10.00	10.46

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TRT NUM	TREATMENT COMPONENT	DOSAGE			AMATA	CHEAL	SETFA	ABUTH	AMATA
		RATE	UNIT	TM	CON % 06/13/01	CON % 06/13/01	CON % 07/06/01	CON % 07/06/01	CON % 07/06/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
2A	»DEFINE (60DF)	0.30	LAA	1	75	42	82	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
3A	»DEFINE (60DF)	0.375	LAA	1	82	50	88	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
4A	»DUAL II MAGNUM (7.64EC)	0.86	LAA	1	95	43	87	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
5A	»DEFINE (60DF)	0.45	LAA	1	92	55	88	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
6A	»DUAL II MAGNUM (7.64EC)	1.05	LAA	1	96	43	92	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
7A	»DEFINE (60DF)	0.525	LAA	1	92	60	93	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
8A	»DEFINE (60DF)	0.675	LAA	1	92	73	95	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
9A	»DUAL II MAGNUM (7.64EC)	1.59	LAA	1	99	73	95	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
10A	»DEFINE (60DF)	0.788	LAA	1	95	85	95	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
11A	»DUAL II MAGNUM (7.64EC)	1.91	LAA	1	99	73	96	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
12A	»BALANCE PRO (4SC)	0.047	LAA	1	99	99	62	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
13A	»BALANCE PRO (4SC)	0.07	LAA	1	99	99	72	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
14A	»BALANCE PRO (4SC)	0.094	LAA	1	99	99	87	99	99
B	BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
LSD (0.05)					5.00	11.43	11.42	0.00	0.00

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TRT TREATMENT NUM COMPONENT	DOSAGE			CHEAL	SETFA	ABUTH	AMATA	CHEAL
	RATE	UNIT	TM	CON % 07/06/01	CON % 07/31/01	CON % 07/31/01	CON % 07/31/01	CON % 07/31/01
1A UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
2A»DEFINE (60DF)	0.30	LAA	1	99	78	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
3A»DEFINE (60DF)	0.375	LAA	1	99	85	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
4A»DUAL II MAGNUM (7.64EC)	0.86	LAA	1	99	85	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
5A»DEFINE (60DF)	0.45	LAA	1	99	87	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
6A»DUAL II MAGNUM (7.64EC)	1.05	LAA	1	99	88	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
7A»DEFINE (60DF)	0.525	LAA	1	99	88	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
8A»DEFINE (60DF)	0.675	LAA	1	99	92	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
9A»DUAL II MAGNUM (7.64EC)	1.59	LAA	1	99	93	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
10A»DEFINE (60DF)	0.788	LAA	1	99	93	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
11A»DUAL II MAGNUM (7.64EC)	1.91	LAA	1	99	95	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
12A»BALANCE PRO (4SC)	0.047	LAA	1	99	43	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
13A»BALANCE PRO (4SC)	0.07	LAA	1	99	65	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
14A»BALANCE PRO (4SC)	0.094	LAA	1	99	82	99	99	99
B BUCTRIL + ATRAZINE (3SC)	0.75	LAA	2					
	LSD (0.05)			0.00	12.17	0.00	0.00	0.00

» = SUPPLEMENTAL CHEMICAL

* TIMING CODES

00 = UNTRCHK / UNTREATED TIMING (FP)

01 = PREPRE / PRE 05/19/2001(1)

02 = POSPOS / POST 06/22/2001(2)