

(01-ASC-6)

Evaluation of postemergence applied Phoenix and Select for crop phytotoxicity and weed control in soybean, Ames, Iowa, 2001. Owen, Micheal D.K., James F. Lux, and Damian D. Franzenburg. The purpose of this study was to evaluate lactofen and clethodim for weed efficacy and crop phytotoxicity in a glyphosate resistant soybean variety. 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 corn. Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 12% at planting. "Asgrow variety AG 2401 RR" soybeans were planted 1.25 inches deep on May 30, at 154,000 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 30	June 28
Treatment	PRE	POST
Sprayer		
gpa	20	20
psi	30	30
nozzle	11002	11002
Temperature (C)		
air	18	29
soil (4 inch)	15	27
Soil moisture	damp	dry
Wind (mph)	5-7 NE	0-2 S
Sky	cloudy	pt. cloudy
Relative humidity (%)	68%	63%
Soybean growth		
leaf no.	-	V3
height (inch)	-	4-6
Giant foxtail		
leaf no.	-	3-5
height (inch)	-	2-5
infestation (ft <sup>2</sup> )	-	0-5
Common cocklebur		
leaf no.	-	2-6
height (inch)	-	2-6
infestation (ft <sup>2</sup> )	-	0-3
Common lambsquarters		
leaf no.	-	numerous
height (inch)	-	2-4
infestation (ft <sup>2</sup> )	-	0-1
Common ragweed		
leaf no.	-	numerous
height (inch)	-	2-4
infestation (ft <sup>2</sup> )	-	0-1

Common waterhemp		
leaf no.	-	numerous
height (inch)	-	1-4
infestation (ft <sup>2</sup> )	-	0-3
Velvetleaf		
leaf no.	-	3-5
height (inch)	-	2-3
infestation (ft <sup>2</sup> )	-	0-1

POST Cobra demonstrated significantly higher injury than all Phoenix treatments on July 1. There were no differences among Phoenix treatments. On July 5, Phoenix plus the high rate of Select plus Pro-X had significantly lower injury than all other treatments. On July 12, treatments with Phoenix plus either Select rate plus Ammonium Sulfate and the Cobra treatment demonstrated 15 to 18% injury, while the remaining treatments had 10 to 12% injury. On July 20, the same injury trend continued at lower levels, but without significant differences between treatments. Common cocklebur control on July 5 ranged from 75 to 80% for Phoenix plus NIS and the Cobra treatment. The remaining treatments provided 60 to 68% common cocklebur control. This trend in cocklebur control continued through July 12 and 20 ratings. There were generally no significant differences in control between treatments for other weeds, regardless of evaluation date. (Dept. of Agronomy, Iowa State University, Ames)

DATA MEAN

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**CREATED:** 06/05/2001 **REVISED:** 12/14/2001

**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 30.00 FT LONG

**REPS:** 03

TRT NUM	TREATMENT COMPONENT	DOSAGE			GLXMA	GLXMA	SETFA	ABUTH	AMATA
		RATE	UNIT	TM	PHY % 07/01/01	PHY % 07/05/01	CON % 07/05/01	CON % 07/05/01	CON % 07/05/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	»PYTHON (80WDG)	0.05	LAA	1	15	17	82	99	99
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»AMMONIUM SULFATE	2.50	LMA	2					
3A	»PYTHON (80WDG)	0.05	LAA	1	13	17	80	99	98
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»AMMONIUM SULFATE	2.50	LMA	2					
4A	»PYTHON (80WDG)	0.05	LAA	1	12	15	82	99	96
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»PRO-X	1.00	PMA	2					
5A	»PYTHON (80WDG)	0.05	LAA	1	12	13	82	99	98
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»PRO-X	1.00	PMA	2					
6A	»PYTHON (80WDG)	0.05	LAA	1	15	15	82	99	99
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»NIS	0.125	PMV	2					
7A	»PYTHON (80WDG)	0.05	LAA	1	15	15	83	99	98
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»NIS	0.125	PMV	2					
8A	»PYTHON (80WDG)	0.05	LAA	1	22	18	83	99	99
	B COBRA (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMA	2					
	E»AMMONIUM SULFATE	2.50	LMA	2					
LSD (0.05)					3.38	3.24	4.48	0.00	3.81

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TRT NUM	TREATMENT COMPONENT	DOSAGE			AMBEL	CHEAL	XANST	GLXMA	SETFA
		RATE	UNIT	TM	CON % 07/05/01	CON % 07/05/01	CON % 07/05/01	PHY % 07/12/01	CON % 07/12/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	»PYTHON (80WDG)	0.05	LAA	1	90	96	68	18	87
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»AMMONIUM SULFATE	2.50	LMA	2					
3A	»PYTHON (80WDG)	0.05	LAA	1	88	99	68	15	93
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»AMMONIUM SULFATE	2.50	LMA	2					
4A	»PYTHON (80WDG)	0.05	LAA	1	88	99	60	10	90
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»PRO-X	1.00	PMA	2					
5A	»PYTHON (80WDG)	0.05	LAA	1	87	99	68	12	92
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»PRO-X	1.00	PMA	2					
6A	»PYTHON (80WDG)	0.05	LAA	1	87	99	80	10	88
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»NIS	0.125	PMV	2					
7A	»PYTHON (80WDG)	0.05	LAA	1	92	99	75	12	92
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»NIS	0.125	PMV	2					
8A	»PYTHON (80WDG)	0.05	LAA	1	90	99	78	18	92
	B COBRA (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMA	2					
	E»AMMONIUM SULFATE	2.50	LMA	2					
LSD (0.05)					7.00	3.22	10.49	4.92	5.19

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TRT NUM	TREATMENT COMPONENT	DOSAGE			ABUTH	AMATA	AMBEL	CHEAL	XANST
		RATE	UNIT	TM	CON % 07/12/01	CON % 07/12/01	CON % 07/12/01	CON % 07/12/01	CON % 07/12/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	»PYTHON (80WDG)	0.05	LAA	1	98	98	85	93	60
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»AMMONIUM SULFATE	2.50	LMA	2					
3A	»PYTHON (80WDG)	0.05	LAA	1	99	98	88	96	57
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»AMMONIUM SULFATE	2.50	LMA	2					
4A	»PYTHON (80WDG)	0.05	LAA	1	98	95	78	98	57
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»PRO-X	1.00	PMA	2					
5A	»PYTHON (80WDG)	0.05	LAA	1	99	96	82	98	60
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»PRO-X	1.00	PMA	2					
6A	»PYTHON (80WDG)	0.05	LAA	1	99	99	88	99	67
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»NIS	0.125	PMV	2					
7A	»PYTHON (80WDG)	0.05	LAA	1	96	98	88	99	65
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»NIS	0.125	PMV	2					
8A	»PYTHON (80WDG)	0.05	LAA	1	96	99	85	98	68
	B COBRA (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMA	2					
	E»AMMONIUM SULFATE	2.50	LMA	2					
LSD (0.05)					5.00	3.73	11.24	5.30	11.24

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**REPS:** 03

TRT NUM	TREATMENT COMPONENT	DOSAGE			GLXMA	SETFA	ABUTH	AMATA	AMBEL
		RATE	UNIT	TM	PHY % 07/20/01	CON % 07/20/01	CON % 07/20/01	CON % 07/20/01	CON % 07/20/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	»PYTHON (80WDG)	0.05	LAA	1	10	93	98	96	92
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»AMMONIUM SULFATE	2.50	LMA	2					
3A	»PYTHON (80WDG)	0.05	LAA	1	5	93	99	95	90
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»AMMONIUM SULFATE	2.50	LMA	2					
4A	»PYTHON (80WDG)	0.05	LAA	1	3	95	96	90	78
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»PRO-X	1.00	PMA	2					
5A	»PYTHON (80WDG)	0.05	LAA	1	5	93	99	92	77
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»PRO-X	1.00	PMA	2					
6A	»PYTHON (80WDG)	0.05	LAA	1	3	95	99	98	93
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.094	LAA	2					
	D»NIS	0.125	PMV	2					
7A	»PYTHON (80WDG)	0.05	LAA	1	7	95	96	95	80
	B»PHOENIX (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»NIS	0.125	PMV	2					
8A	»PYTHON (80WDG)	0.05	LAA	1	8	95	96	96	85
	B COBRA (2EC)	0.15	LAA	2					
	C SELECT (2EC)	0.125	LAA	2					
	D»CROP OIL CONCENTRATE	1.00	PMA	2					
	E»AMMONIUM SULFATE	2.50	LMA	2					
LSD (0.05)					7.25	3.94	5.75	6.89	20.00

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TRT NUM	TREATMENT COMPONENT	DOSAGE		TM	CHEAL	XANST
		RATE	UNIT		CON % 07/20/01	CON % 07/20/01
1A	UNTREATED CHECK	0.00	NA	0	0	0
2A	PYTHON (80WDG)	0.05	LAA	1	96	48
	B»PHOENIX (2EC)	0.15	LAA	2		
	C SELECT (2EC)	0.094	LAA	2		
	D»AMMONIUM SULFATE	2.50	LMA	2		
3A	PYTHON (80WDG)	0.05	LAA	1	99	45
	B»PHOENIX (2EC)	0.15	LAA	2		
	C SELECT (2EC)	0.125	LAA	2		
	D»AMMONIUM SULFATE	2.50	LMA	2		
4A	PYTHON (80WDG)	0.05	LAA	1	99	53
	B»PHOENIX (2EC)	0.15	LAA	2		
	C SELECT (2EC)	0.094	LAA	2		
	D»PRO-X	1.00	PMA	2		
5A	PYTHON (80WDG)	0.05	LAA	1	98	50
	B»PHOENIX (2EC)	0.15	LAA	2		
	C SELECT (2EC)	0.125	LAA	2		
	D»PRO-X	1.00	PMA	2		
6A	PYTHON (80WDG)	0.05	LAA	1	99	63
	B»PHOENIX (2EC)	0.15	LAA	2		
	C SELECT (2EC)	0.094	LAA	2		
	D»NIS	0.125	PMV	2		
7A	PYTHON (80WDG)	0.05	LAA	1	99	58
	B»PHOENIX (2EC)	0.15	LAA	2		
	C SELECT (2EC)	0.125	LAA	2		
	D»NIS	0.125	PMV	2		
8A	PYTHON (80WDG)	0.05	LAA	1	96	60
	B COBRA (2EC)	0.15	LAA	2		
	C SELECT (2EC)	0.125	LAA	2		
	D»CROP OIL CONCENTRATE	1.00	PMA	2		
	E»AMMONIUM SULFATE	2.50	LMA	2		
LSD (0.05)					4.86	20.28

» = SUPPLEMENTAL CHEMICAL

## \* TIMING CODES

00 = UNTRCHK / UNTREATED TIMING (FP)

01 = PREPRE / PRE 05/30/2001(1)

02 = POSPOS / POST 06/28/2001(2)