

(01-ASC-14)

Glyfos Custom and Glyfos Gold applied postemergence 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 generic formulations of glyphosate 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	June 28	July 21
Treatment	POST	SPOST
Sprayer		
gpa	20	20
psi	30	30
nozzle	11002	11002
Temperature (C)		
air	29	31
soil (4 inch)	27	27
Soil moisture	dry	dry
Wind (mph)	0-2 S	5-7 S
Sky	pt. cloudy	pt. cloudy
Relative humidity (%)	63%	89%
Soybean growth		
leaf no.	V3	R2
height (inch)	4-6	15-20
Giant foxtail		
leaf no.	3-5	-
height (inch)	2-5	-
infestation (ft <sup>2</sup> )	1-20	-
Common cocklebur		
leaf no.	2-6	4-6
height (inch)	2-6	2-6
infestation (ft <sup>2</sup> )	0-1	0-1
Common lambsquarters		
leaf no.	numerous	-
height (inch)	4	-
infestation (ft <sup>2</sup> )	0-1	-
Common waterhemp		
leaf no.	numerous	numerous
height (inch)	2-5	2-5
infestation (ft <sup>2</sup> )	0-2	0-1

Velvetleaf

leaf no.	2-5	-
height (inch)	2-4	-
infestation (ft <sup>2</sup> )	0-2	-

Light injury was apparent on July 5. More serious injury was observed on July 11, with treatments containing POST Glyphos Custom plus Activator 90, Glyphos Custom plus Surf King Plus, and Roundup UltraMAX. Injury was not consistent with herbicide additives and herbicide rates. Injury was also noted on July 30, following SPOST treatments. High rates (3.0 lb/A) of Glyphos Custom plus Activator 90, Glyphos Custom plus HM 9121-A, and Gyphos Gold at 1.5 and 3.0 lb/A demonstrated injury from 10 to 20%. All treatments demonstrated excellent weed control. POST Glyphos Custom (0.75 lb/A) plus Activator 90 and POST Glyphos Custom (0.75 lb/A) plus Surf King Plus provided significantly less control of common waterhemp on August 6 and October 1. Glyphos Gold (0.75 lb/A) without an additive demonstrated less control of common lambsquarters on the same dates. Soybean yields ranged from 23 to 38 bu/A, excluding the untreated control. Differences between treatment yields were not significant. (Dept. of Agronomy, Iowa State University, Ames)

DATA MEAN

TITLE: Glyphos Custom and Glyphos Gold applied postemergence for crop pytoxicity and weed control in soybean.

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 25.00 FT LONG

REPS: 03

TRT NUM	TREATMENT COMPONENT	DOSAGE			GLXMA	GLXMA	GLXMA	SETFA	ABUTH
		RATE	UNIT	TM	PHY % 07/05/01	PHY % 07/11/01	PHY % 07/19/01	CON % 07/19/01	CON % 07/19/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	3	17	5	99	90
	B»ACTIVATOR 90	0.25	PMV	1					
3A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	5	15	3	99	95
	B»ACTIVATOR 90	0.25	PMV	1					
	C»GLYFOS CUSTOM (4SL)	1.50	LAA	2					
	D»ACTIVATOR 90	0.25	PMV	2					
4A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	5	17	3	99	99
	B»ACTIVATOR 90	0.25	PMV	1					
	C»GLYFOS CUSTOM (4SL)	3.00	LAA	2					
	D»ACTIVATOR 90	0.25	PMV	2					
5A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	5	10	2	99	99
	B»SURF KING PLUS	1.00	PMV	1					
6A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	5	2	0	99	99
	B»SURF KING PLUS	1.00	PMV	1					
7A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	5	17	8	99	99
	B»SURF KING PLUS	1.00	PMV	1					
8A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	3	2	2	99	98
	B»HM 9121-A	0.50	PMV	1					
9A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	5	10	2	99	99
	B»HM 9121-A	0.50	PMV	1					
	C»GLYFOS CUSTOM (4SL)	1.50	LAA	2					
	D»HM 9121-A	0.50	PMV	2					
10A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	3	5	2	99	99
	B»HM 9121-A	0.50	PMV	1					
	C»GLYFOS CUSTOM (4SL)	3.00	LAA	2					
	D»HM 9121-A	0.50	PMV	2					
11A	»GLYFOS GOLD (3SL)	0.75	LAA	1	2	5	2	99	96
12A	»GLYFOS GOLD (3SL)	0.75	LAA	1	3	8	2	99	98
	B»GLYFOS GOLD (3SL)	1.50	LAA	2					
13A	»GLYFOS GOLD (3SL)	1.50	LAA	1	3	3	0	99	99
	B»GLYFOS GOLD (3SL)	3.00	LAA	2					
14A	»ROUNDUP ULTRAMAX (3.7SL)	0.75	LAA	1	2	12	2	99	98
15A	»ROUNDUP ULTRAMAX (3.7SL)	0.75	LAA	1	0	8	3	99	98
	B»ROUNDUP ULTRAMAX (3.7SL)	1.50	LAA	2					
LSD (0.05)					3.36	11.08	5.19	0.00	3.81

DATA MEAN

TITLE: Glyphos Custom and Glyphos Gold applied postemergence for crop pytoxicity and weed control in soybean.

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 25.00 FT LONG

REPS: 03

TRT NUM	TREATMENT COMPONENT	DOSAGE			AMATA	CHEAL	XANST	GLXMA	GLXMA
		RATE	UNIT	TM	CON % 07/19/01	CON % 07/19/01	CON % 07/19/01	PHY % 07/30/01	PHY % 08/06/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	95	98	99	5	3
	B»ACTIVATOR 90	0.25	PMV	1					
3A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	96	98	98	3	3
	B»ACTIVATOR 90	0.25	PMV	1					
	C»GLYFOS CUSTOM (4SL)	1.50	LAA	2					
	D»ACTIVATOR 90	0.25	PMV	2					
4A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	98	98	99	12	7
	B»ACTIVATOR 90	0.25	PMV	1					
	C»GLYFOS CUSTOM (4SL)	3.00	LAA	2					
	D»ACTIVATOR 90	0.25	PMV	2					
5A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	95	98	98	5	3
	B»SURF KING PLUS	1.00	PMV	1					
6A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	91	99	99	0	0
	B»SURF KING PLUS	1.00	PMV	1					
7A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	95	99	99	12	8
	B»SURF KING PLUS	1.00	PMV	1					
8A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	96	99	99	2	0
	B»HM 9121-A	0.50	PMV	1					
9A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	98	99	99	8	7
	B»HM 9121-A	0.50	PMV	1					
	C»GLYFOS CUSTOM (4SL)	1.50	LAA	2					
	D»HM 9121-A	0.50	PMV	2					
10A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	99	99	99	15	12
	B»HM 9121-A	0.50	PMV	1					
	C»GLYFOS CUSTOM (4SL)	3.00	LAA	2					
	D»HM 9121-A	0.50	PMV	2					
11A	»GLYFOS GOLD (3SL)	0.75	LAA	1	95	93	99	2	2
12A	»GLYFOS GOLD (3SL)	0.75	LAA	1	96	98	99	10	7
	B»GLYFOS GOLD (3SL)	1.50	LAA	2					
13A	»GLYFOS GOLD (3SL)	1.50	LAA	1	99	99	99	20	12
	B»GLYFOS GOLD (3SL)	3.00	LAA	2					
14A	»ROUNDUP ULTRAMAX (3.7SL)	0.75	LAA	1	95	98	99	2	2
15A	»ROUNDUP ULTRAMAX (3.7SL)	0.75	LAA	1	95	98	99	7	5
	B»ROUNDUP ULTRAMAX (3.7SL)	1.50	LAA	2					
LSD (0.05)					4.80	4.15	1.36	5.49	5.50

DATA MEAN

TITLE: Glyphos Custom and Glyphos Gold applied postemergence for crop pytoxicity and weed control in soybean.

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 25.00 FT LONG

REPS: 03

TRT NUM	TREATMENT COMPONENT	DOSAGE			SETFA	ABUTH	AMATA	CHEAL	XANST
		RATE	UNIT	TM	CON % 08/06/01	CON % 08/06/01	CON % 08/06/01	CON % 08/06/01	CON % 08/06/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	99	92	88	95	99
	B»ACTIVATOR 90	0.25	PMV	1					
3A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	99	95	96	98	99
	B»ACTIVATOR 90	0.25	PMV	1					
	C»GLYFOS CUSTOM (4SL)	1.50	LAA	2					
	D»ACTIVATOR 90	0.25	PMV	2					
4A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	98	98	98	98	99
	B»ACTIVATOR 90	0.25	PMV	1					
	C»GLYFOS CUSTOM (4SL)	3.00	LAA	2					
	D»ACTIVATOR 90	0.25	PMV	2					
5A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	98	99	92	93	99
	B»SURF KING PLUS	1.00	PMV	1					
6A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	98	96	90	99	98
	B»SURF KING PLUS	1.00	PMV	1					
7A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	99	93	93	99	96
	B»SURF KING PLUS	1.00	PMV	1					
8A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	99	93	96	99	99
	B»HM 9121-A	0.50	PMV	1					
9A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	99	99	98	99	99
	B»HM 9121-A	0.50	PMV	1					
	C»GLYFOS CUSTOM (4SL)	1.50	LAA	2					
	D»HM 9121-A	0.50	PMV	2					
10A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	99	98	99	99	99
	B»HM 9121-A	0.50	PMV	1					
	C»GLYFOS CUSTOM (4SL)	3.00	LAA	2					
	D»HM 9121-A	0.50	PMV	2					
11A	»GLYFOS GOLD (3SL)	0.75	LAA	1	99	92	95	91	99
12A	»GLYFOS GOLD (3SL)	0.75	LAA	1	99	96	96	98	99
	B»GLYFOS GOLD (3SL)	1.50	LAA	2					
13A	»GLYFOS GOLD (3SL)	1.50	LAA	1	99	98	99	99	99
	B»GLYFOS GOLD (3SL)	3.00	LAA	2					
14A	»ROUNDUP ULTRAMAX (3.7SL)	0.75	LAA	1	98	95	95	96	99
15A	»ROUNDUP ULTRAMAX (3.7SL)	0.75	LAA	1	98	98	95	98	99
	B»ROUNDUP ULTRAMAX (3.7SL)	1.50	LAA	2					
LSD (0.05)					2.29	4.49	5.00	5.55	1.38

DATA MEAN

TITLE: Glyphos Custom and Glyphos Gold applied postemergence for crop pytoxicity and weed control in soybean.

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 25.00 FT LONG

REPS: 03

TRT NUM	TREATMENT COMPONENT	DOSAGE			GLXMA	SETFA	ABUTH	AMATA	CHEAL
		RATE	UNIT	TM	PHY % 10/01/01	CON % 10/01/01	CON % 10/01/01	CON % 10/01/01	CON % 10/01/01
1A	UNTREATED CHECK	0.00	NA	0	0	0	0	0	0
2A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	3	96	92	88	92
	B»ACTIVATOR 90	0.25	PMV	1					
3A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	3	95	95	96	95
	B»ACTIVATOR 90	0.25	PMV	1					
	C»GLYFOS CUSTOM (4SL)	1.50	LAA	2					
	D»ACTIVATOR 90	0.25	PMV	2					
4A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	3	92	92	96	93
	B»ACTIVATOR 90	0.25	PMV	1					
	C»GLYFOS CUSTOM (4SL)	3.00	LAA	2					
	D»ACTIVATOR 90	0.25	PMV	2					
5A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	3	93	90	92	90
	B»SURF KING PLUS	1.00	PMV	1					
6A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	0	98	96	90	93
	B»SURF KING PLUS	1.00	PMV	1					
7A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	7	96	85	92	93
	B»SURF KING PLUS	1.00	PMV	1					
8A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	0	99	90	96	96
	B»HM 9121-A	0.50	PMV	1					
9A	»GLYFOS CUSTOM (4SL)	0.75	LAA	1	7	96	96	98	95
	B»HM 9121-A	0.50	PMV	1					
	C»GLYFOS CUSTOM (4SL)	1.50	LAA	2					
	D»HM 9121-A	0.50	PMV	2					
10A	»GLYFOS CUSTOM (4SL)	1.50	LAA	1	5	96	98	98	98
	B»HM 9121-A	0.50	PMV	1					
	C»GLYFOS CUSTOM (4SL)	3.00	LAA	2					
	D»HM 9121-A	0.50	PMV	2					
11A	»GLYFOS GOLD (3SL)	0.75	LAA	1	2	98	92	95	87
12A	»GLYFOS GOLD (3SL)	0.75	LAA	1	2	96	91	96	98
	B»GLYFOS GOLD (3SL)	1.50	LAA	2					
13A	»GLYFOS GOLD (3SL)	1.50	LAA	1	3	98	93	98	98
	B»GLYFOS GOLD (3SL)	3.00	LAA	2					
14A	»ROUNDUP ULTRAMAX (3.7SL)	0.75	LAA	1	0	98	91	95	95
15A	»ROUNDUP ULTRAMAX (3.7SL)	0.75	LAA	1	3	96	95	95	95
	B»ROUNDUP ULTRAMAX (3.7SL)	1.50	LAA	2					
LSD (0.05)					7.00	5.82	7.83	5.23	8.70

DATA MEAN

**TITLE:** Glyphos Custom and Glyphos Gold applied postemergence for crop pytoxicity and weed control in soybean.

**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** 25.00 FT **LONG**

**REPS:** 03

TRT TREATMENT NUM COMPONENT	DOSAGE			XANST CON % 10/01/01	GLXMA BU/A 10/15/01
	RATE	UNIT	TM		
1A UNTREATED CHECK	0.00	NA	0	0	14
2A»GLYFOS CUSTOM (4SL)	0.75	LAA	1	99	33
B»ACTIVATOR 90	0.25	PMV	1		
3A»GLYFOS CUSTOM (4SL)	0.75	LAA	1	99	36
B»ACTIVATOR 90	0.25	PMV	1		
C»GLYFOS CUSTOM (4SL)	1.50	LAA	2		
D»ACTIVATOR 90	0.25	PMV	2		
4A»GLYFOS CUSTOM (4SL)	1.50	LAA	1	98	27
B»ACTIVATOR 90	0.25	PMV	1		
C»GLYFOS CUSTOM (4SL)	3.00	LAA	2		
D»ACTIVATOR 90	0.25	PMV	2		
5A»GLYFOS CUSTOM (4SL)	0.75	LAA	1	99	23
B»SURF KING PLUS	1.00	PMV	1		
6A»GLYFOS CUSTOM (4SL)	0.75	LAA	1	98	38
B»SURF KING PLUS	1.00	PMV	1		
7A»GLYFOS CUSTOM (4SL)	1.50	LAA	1	96	24
B»SURF KING PLUS	1.00	PMV	1		
8A»GLYFOS CUSTOM (4SL)	0.75	LAA	1	98	36
B»HM 9121-A	0.50	PMV	1		
9A»GLYFOS CUSTOM (4SL)	0.75	LAA	1	99	26
B»HM 9121-A	0.50	PMV	1		
C»GLYFOS CUSTOM (4SL)	1.50	LAA	2		
D»HM 9121-A	0.50	PMV	2		
10A»GLYFOS CUSTOM (4SL)	1.50	LAA	1	99	33
B»HM 9121-A	0.50	PMV	1		
C»GLYFOS CUSTOM (4SL)	3.00	LAA	2		
D»HM 9121-A	0.50	PMV	2		
11A»GLYFOS GOLD (3SL)	0.75	LAA	1	99	38
12A»GLYFOS GOLD (3SL)	0.75	LAA	1	99	35
B»GLYFOS GOLD (3SL)	1.50	LAA	2		
13A»GLYFOS GOLD (3SL)	1.50	LAA	1	99	33
B»GLYFOS GOLD (3SL)	3.00	LAA	2		
14A»ROUNDUP ULTRAMAX (3.7SL)	0.75	LAA	1	99	33
15A»ROUNDUP ULTRAMAX (3.7SL)	0.75	LAA	1	99	33
B»ROUNDUP ULTRAMAX (3.7SL)	1.50	LAA	2		
LSD (0.05)				1.94	14.92

» = SUPPLEMENTAL CHEMICAL

\* TIMING CODES

00 = UNTRCHK / UNTREATED TIMING (FP)

01 = POSPOS / POST 06/28/2001(1)

02 = POSPOS / SPOST 07/21/2001(2)