

Purdue University

The effect of cumulative stresses on corn yield

Trial ID: 05-ACRE-CORN-SIKKEMA
Location: West Lafayette, IN

Study Dir.: Todd Cowan
Investigator: Dr. William G. Johnson

GENERAL TRIAL INFORMATION

Study Director: Vince Davis **Title:** Research Associate
Affiliation: Purdue University
Postal Code: 47907
Investigator: Dr. William G. Johnson **Title:** Associate Professor
Affiliation: Purdue University
Postal Code: 47907

TRIAL LOCATION

City: West Lafayette
State/Prov.: Indiana
Postal Code: 47906
Country: USA
Directions: Agronomy Center for Research and Education (ACRE) - Field 102

COOPERATOR/LANDOWNER

Cooperator: Agronomy Center for Res. & Educ. **Country:** USA
Phone No: 765-463-2632
Address 1: 4540 U.S. 52 West
City: West Lafayette
State/Prov: IN
Postal Code: 47906

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

Objective: The objective of this experiment is to evaluate varying responses of conventional corn to postemergence herbicides applied 3-4 days after simulated glyphosate drift.

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	NA		

Crop 1: ZEAMX CORN, FIELD **Variety:** Pioneer 34A16 LL
Planting Date: 2/May/2005 **Planting Method:** DIRECT DRILLED
Rate: 31000 S/A **Depth:** 2 IN
Row Spacing: 30 IN
Soil Moisture: NORMAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 30 FT **Reps:** 4
Site Type: FIELD
Tillage Type: NO-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

MAINTENANCE

Field Prep./Maintenance: JUNE 3, 2005:

Maintenance Spray:
Liberty (1qt) 190 mL
AMS (dry) 227mL
Atrazine (1qt0 190mL

SOIL DESCRIPTION

% Sand: 35 **% OM:** 3 **Texture:** FINE SILTY LOAM
% Silt: 65 **pH:** 6.3 **Soil Name:** Raub / mixed, mesic, Aquic Argiudoll
% Clay: 80 **CEC:** 19 **Fert. Level:** GOOD

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit
Phosphorus	44	LBS/ACRE
Potassium	193	LBS/ACRE
Calcium	4343	LBS/ACRE
LBS/ACRE	1079	LBS/ACRE

APPLICATION DESCRIPTION

	A	B
Application Date:	3/Jun/2005	6/Jun/2005
Time of Day:	7:30AM	9:00AM
Application Method:	SPRAY	SPRAY
Application Timing:	4LF CORN	3DYAFTRWM
Applic. Placement:	BROFOL	BROFOL
Air Temp., Unit:	68 F	80 F
% Relative Humidity:	90.5	46
Wind Velocity, Unit:	2 MPH	6.5 MPH
Soil Temp., Unit:	62 F	72 F
Soil Moisture:	MOIST	DRY
% Cloud Cover:	100	0

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMX ZEAMX	ZEAMX ZEAMX
Stage Scale:	V4	V4-V5
Height, Unit:	7 IN	7 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	NA	NA

APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	BACKPACK	BACKPACK
Operating Pressure:	25 psi	25 psi
Nozzle Type:	XR11002VS	XR11002VS
Nozzle Size:	XR11002VS	XR11002VS
Nozzle Spacing, Unit:	20 IN	20 IN
Boom Length, Unit:	10 FT	10 FT
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	water	water
Spray Volume, Unit:	15 gpa	15 gpa
Propellant:	CO2	CO2

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Trial ID: 05-ACRE-CORN-SIKKEMA
 Location: West Lafayette, IN

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.									ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
									5/Jul/2005 Bleachin	5/Jul/2005 Injury	# plants 5/Jul/2005 2.5m	# plants 5/Jul/2005 2.5m	Height IN 5/Jul/2005	Height IN 5/Jul/2005
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	1	2	3	4	5	6
1	Weed free check							101	0	0	15	16	74	71
								304	0	0	13	16	57	58
								603	0	0	16	16	60	65
								702	0	0	17	13	60	65
								Mean =	0	0	15	15	63	65
2	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	102	0	20	16	12	54	58
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A	307	0	10	16	14	53	58
								604	0	5	15	16	55	56
								707	0	0	14	15	56	58
								Mean =	0	9	15	14	55	58
3	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	103	5	35	15	15	56	58
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A	305	5	15	16	16	57	47
								607	5	25	16	13	50	54
								706	5	15	15	15	46	55
								Mean =	5	23	16	15	52	54
4	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	104	15	60	15	16	35	49
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A	404	20	40	16	15	31	39
								606	20	60	16	15	40	36
								701	10	40	15	14	50	44
								Mean =	16	50	16	15	39	42
5	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	105	70	90	17	14	16	28
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A	408	80	95	12	14	14	12
								506	80	90	11	15	11	12
								802	85	95	12	15	9	11
								Mean =	79	93	13	15	13	16
6	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	106	0	10	16	14	63	66
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	405	0	0	15	15	65	56
	NIS	0.250	% v/v	0.25	% v/v	POST	B	504	0	0	11	15	62	65
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B	801	0	0	13	17	56	61
								Mean =	0	3	14	15	62	62
7	Option	35	g ai/ha	1.43	oz/a	POST	B	107	0	15	15	16	67	65
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	306	0	0	15	15	54	58
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B	503	0	0	15	17	60	60
	Rivet	1.75	l/ha	1.25	% v/v	POST	B	705	0	0	15	16	55	60
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B							
								Mean =	0	4	15	16	59	61
8	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	108	0	15	17	16	58	67
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A	301	0	10	16	13	56	48
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	502	0	0	17	18	63	69
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	804	0	0	15	13	48	60
	NIS	0.250	% v/v	0.25	% v/v	POST	B							
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B							
								Mean =	0	6	16	15	56	61

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.									ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
									5/Jul/2005 Bleachin	5/Jul/2005 Injury	# plants 5/Jul/2005 2.5m	# plants 5/Jul/2005 2.5m	Height IN 5/Jul/2005	Height IN 5/Jul/2005
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	1	2	3	4	5	6
9	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	201	0	20	14	13	60	58
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A	303	10	30	16	17	50	45
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	501	5	10	14	16	52	61
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	803	5	10	15	15	56	57
	NIS	0.250	% v/v	0.25	% v/v	POST	B							
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B							
								Mean =	5	18	15	15	55	55
10	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	202	30	60	15	15	29	37
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A	401	20	40	14	16	36	40
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	508	15	50	14	16	45	39
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	703	15	30	16	16	48	48
	NIS	0.250	% v/v	0.25	% v/v	POST	B							
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B							
								Mean =	20	45	15	16	40	41
11	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	203	65	85	13	15	12	3
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A	308	90	97	8	14	4	8
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	602	75	90	14	15	8	22
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	708	75	95	7	13	8	30
	NIS	0.250	% v/v	0.25	% v/v	POST	B							
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B							
								Mean =	76	92	11	14	8	16
12	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	204	0	0	16	15	58	58
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A	403	0	0	15	16	60	54
	Option	35	g ai/ha	1.43	oz/a	POST	B	608	0	0	15	14	56	54
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	806	0	15	14	14	59	62
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B							
	Rivet	1.75	l/ha	1.25	% v/v	POST	B							
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B							
								Mean =	0	4	15	15	58	57
13	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	205	10	20	16	16	55	54
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A	406	10	10	18	16	56	52
	Option	35	g ai/ha	1.43	oz/a	POST	B	507	15	20	14	16	62	49
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	808	10	30	16	11	49	39
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B							
	Rivet	1.75	l/ha	1.25	% v/v	POST	B							
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B							
								Mean =	11	20	16	15	56	49
14	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	206	10	30	14	12	53	50
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A	302	40	75	16	18	21	21
	Option	35	g ai/ha	1.43	oz/a	POST	B	505	35	85	16	14	10	42
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	704	15	40	16	16	39	56
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B							
	Rivet	1.75	l/ha	1.25	% v/v	POST	B							
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B							
								Mean =	25	58	16	15	31	42
15	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	207	85	95	15	15	12	20
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A	402	80	90	16	16	12	9
	Option	35	g ai/ha	1.43	oz/a	POST	B	605	65	85	16	16	38	20
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	805	60	85	15	16	7	10
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B							
	Rivet	1.75	l/ha	1.25	% v/v	POST	B							
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B							
								Mean =	73	89	16	16	17	15

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Crop Code										ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	
Part Rated																
Rating Data Type												# plants	# plants	Height	Height	
Rating Unit												5/Jul/2005	5/Jul/2005	IN	IN	
Rating Date										5/Jul/2005	5/Jul/2005	5/Jul/2005	5/Jul/2005	5/Jul/2005	5/Jul/2005	
Crop Stage Scale										Bleachin	Injury	2.5m	2.5m			
ARM Action Codes																
# Subsamples, Dec.																
Trt	Treatment	Rate	Unit	Product	Product	Grow	Appl	Plot								
No.	Name			Rate	Rate Unit	Stg	Code		1	2	3	4	5	6		
16	Weed Free Check							208	0	0	16	17	54	64		
								407	0	0	14	15	57	44		
								601	0	0	14	16	65	67		
								807	0	0	14	16	63	60		
								Mean =	0	0	15	16	60	59		

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.								ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	
								Height IN 5/Jul/2005	Height IN 5/Jul/2005	Height IN 5/Jul/2005	Height IN 5/Jul/2005	Height IN 5/Jul/2005	Height IN 5/Jul/2005	
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	7	8	9	10	11	12
1	Weed free check							101	66	72	68	67	64	60
								304	59	62	65	59	57	53
								603	64	70	55	61	61	60
								702	56	61	60	59	58	63
								Mean =	61	66	62	62	60	59
2	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	102	56	57	58	61	68	68
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A	307	53	64	44	56	44	62
								604	51	55	48	58	44	44
								707	60	50	62	58	54	59
								Mean =	55	57	53	58	53	58
3	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	103	58	60	61	56	53	49
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A	305	54	55	58	52	58	50
								607	53	52	63	55	49	37
								706	48	57	52	58	56	53
								Mean =	53	56	59	55	54	47
4	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	104	28	37	27	44	33	45
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A	404	42	47	47	32	44	48
								606	20	27	42	42	28	36
								701	49	44	32	41	30	40
								Mean =	35	39	37	40	34	42
5	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	105	18	15	17	28	12	13
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A	408	8	17	16	12	8	7
								506	12	11	27	10	12	23
								802	11	25	16	11	35	10
								Mean =	12	17	19	15	17	13
6	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	106	65	71	66	67	67	66
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	405	57	62	64	65	65	68
	NIS	0.250	% v/v	0.25	% v/v	POST	B	504	61	65	57	66	64	72
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B	801	61	56	54	57	52	62
								Mean =	61	64	60	64	62	67
7	Option	35	g ai/ha	1.43	oz/a	POST	B	107	69	63	61	67	67	63
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	306	60	57	56	57	48	12
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B	503	59	66	65	61	60	64
	Rivet	1.75	l/ha	1.25	% v/v	POST	B	705	59	63	57	60	56	63
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B							
								Mean =	62	62	60	61	58	51
8	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	108	61	63	57	58	65	63
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A	301	60	63	65	62	61	58
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	502	64	70	65	64	64	60
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	804	60	60	53	58	55	56
	NIS	0.250	% v/v	0.25	% v/v	POST	B							
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B							
								Mean =	61	64	60	61	61	59
9	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	201	53	58	59	61	59	54
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A	303	54	56	50	49	41	45
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	501	64	63	60	65	61	64
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	803	57	54	56	48	61	46
	NIS	0.250	% v/v	0.25	% v/v	POST	B							
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B							
								Mean =	57	58	56	56	56	52

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.									ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
									Height IN 5/Jul/2005	Height IN 5/Jul/2005	Height IN 5/Jul/2005	Height IN 5/Jul/2005	Height IN 5/Jul/2005	Height IN 5/Jul/2005
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	7	8	9	10	11	12
10	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	202	40	32	39	36	34	39
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A	401	40	44	24	38	37	36
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	508	41	31	19	28	32	23
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	703	45	40	51	48	54	55
	NIS	0.250	% v/v	0.25	% v/v	POST	B							
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B							
								Mean =	42	37	33	38	39	38
11	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	203	12	16	9	8	12	12
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A	308	12	16	6	8	8	13
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	602	14	28	11	18	6	18
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	708	30	30	16	27	10	13
	NIS	0.250	% v/v	0.25	% v/v	POST	B							
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B							
								Mean =	17	23	11	15	9	14
12	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	204	61	61	65	63	64	63
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A	403	52	54	57	61	61	65
	Option	35	g ai/ha	1.43	oz/a	POST	B	608	63	60	59	50	66	56
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	806	62	57	51	59	58	60
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B							
	Rivet	1.75	l/ha	1.25	% v/v	POST	B							
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B							
								Mean =	60	58	58	58	62	61
13	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	205	52	46	58	59	59	56
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A	406	42	53	52	49	56	58
	Option	35	g ai/ha	1.43	oz/a	POST	B	507	54	32	46	49	50	32
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	808	39	37	45	43	45	49
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B							
	Rivet	1.75	l/ha	1.25	% v/v	POST	B							
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B							
								Mean =	47	42	50	50	53	49
14	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	206	36	42	46	39	53	44
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A	302	30	16	20	32	12	12
	Option	35	g ai/ha	1.43	oz/a	POST	B	505	10	11	16	10	17	16
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	704	56	45	47	49	45	41
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B							
	Rivet	1.75	l/ha	1.25	% v/v	POST	B							
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B							
								Mean =	33	29	32	33	32	28
15	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	207	15	10	9	12	13	11
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A	402	12	8	16	18	16	12
	Option	35	g ai/ha	1.43	oz/a	POST	B	605	22	21	14	24	16	16
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	805	10	29	18	18	12	18
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B							
	Rivet	1.75	l/ha	1.25	% v/v	POST	B							
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B							
								Mean =	15	17	14	18	14	14
16	Weed Free Check							208	62	60	63	66	65	55
								407	53	46	59	53	56	69
								601	61	53	59	58	61	60
								807	60	56	58	61	57	60
								Mean =	59	54	60	60	60	61

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.								ZEAMX Height IN 5/Jul/2005	ZEAMX Height IN 5/Jul/2005	ZEAMX PLAQUA C Crop injury % 29/Jul/2005	ZEAMX WEIDRY G 16/Aug/2005	ZEAMX # of plants 16/Aug/2005	
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	13	14	15	16	17
1	Weed free check							101	71	66	0	834	7
								304	62	52	0	767	6
								603	69	60	0	752	7
								702	63	59	0	641	6
								Mean =	66	59	0	749	7
2	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	102	68	63	10	827	7
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A	307	56	52	0	493	5
								604	64	60	0	487	6
								707	57	56	0	710	7
								Mean =	61	58	3	629	6
3	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	103	56	56	20	632	7
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A	305	64	50	0	491	6
								607	52	53	15	372	6
								706	55	52	7	387	6
								Mean =	57	53	11	470	6
4	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	104	30	39	30	380	5
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A	404	36	42	25	320	5
								606	64	20	40	176	5
								701	32	30	25	240	6
								Mean =	41	33	30	279	5
5	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	105	15	17	60	10	3
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A	408	15	8	80	5	4
								506	8	13	75	12	5
								802	20	16	80	17	3
								Mean =	15	14	74	11	4
6	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	106	64	65	0	454	5
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	405	58	60	0	734	7
	NIS	0.250	% v/v	0.25	% v/v	POST	B	504	65	60	0	687	7
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B	801	62	54	0	556	7
								Mean =	62	60	0	608	7
7	Option	35	g ai/ha	1.43	oz/a	POST	B	107	61	58	5	644	8
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	306	60	56	0	647	7
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B	503	62	64	0	639	5
	Rivet	1.75	l/ha	1.25	% v/v	POST	B	705	63	61	0	732	6
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
								Mean =	62	60	1	666	7
8	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	108	66	64	5	738	6
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A	301	60	59	0	502	5
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	502	60	58	0	599	6
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	804	56	52	0	348	5
	NIS	0.250	% v/v	0.25	% v/v	POST	B						
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B						
								Mean =	61	58	1	547	6
9	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	201	53	59	5	431	6
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A	303	56	54	10	411	5
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	501	64	62	0	413	7
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	803	54	58	0	443	7
	NIS	0.250	% v/v	0.25	% v/v	POST	B						
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B						
								Mean =	57	58	4	425	6

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.								ZEAMX lbs Yield 2rw*23ft 11/Oct/2005	ZEAMX Moisture % 11/Oct/2005	ZEAMX Yield bu/ac 11/Oct/2005 TY2 1	
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	18	19	20
1	Weed free check							101 304 603 702	17 16 18 17	15 16 16 20	116.2 106.1 123.3 110.1
								Mean =	17	17	113.9
2	glyphosate (Weathermax) AMS	10 0.0322	g ai/ha kg ai/ha	0.253 0.02875	fl oz/a lb ai/a	POST POST	A A	102 307 604 707	16 13 24 14	17 15 15 16	104.2 86.2 158.9 91.0
								Mean =	16	16	110.1
3	glyphosate (Weathermax) AMS	50 0.162	g ai/ha kg ai/ha	1.27 0.1443	fl oz/a lb ai/a	POST POST	A A	103 305 607 706	19 14 8 14	17 15 16 16	123.3 92.9 52.3 91.6
								Mean =	13	16	90.0
4	glyphosate (Weathermax) AMS	100 0.322	g ai/ha kg ai/ha	2.53 0.2875	fl oz/a lb ai/a	POST POST	A A	104 404 606 701	5 11 4 5	16 16 18 18	34.6 72.7 23.6 31.2
								Mean =	6	17	40.5
5	glyphosate (Weathermax) AMS	200 0.646	g ai/ha kg ai/ha	5.07 0.5761	fl oz/a lb ai/a	POST POST	A A	105 408 506 802	3 0 2 2	14 0 2 3	19.2 1.6 11.7 15.4
								Mean =	2	5	12.0
6	DPX 79406 Distinct NIS UAN 28 %	25 200 0.250 1.250	g ai/ha g ai/ha % v/v % v/v	0.476 4.08 0.25 1.25	oz/a oz/a % v/v % v/v	POST POST POST POST	B B B B	106 405 504 801	19 18 20 18	16 16 16 17	123.4 122.4 132.0 118.0
								Mean =	19	16	123.9
7	Option Buctril atrazine Rivet UAN 28 %	35 280 1000 1.75 2.500	g ai/ha g ai/ha g ai/ha l/ha l/ha	1.43 0.855 1.78 1.25 1.78	oz/a pt/a pt/a % v/v % v/v	POST POST POST POST POST	B B B B B	107 306 503 705	16 18 20 16	18 15 16 16	105.2 123.2 132.3 103.9
								Mean =	17	16	116.1
8	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	10 0.0322 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	0.253 0.02875 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	108 301 502 804	18 16 15 14	16 15 17 16	120.6 110.1 101.2 90.6
								Mean =	16	16	105.6
9	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	50 0.162 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	1.27 0.1443 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	201 303 501 803	14 11 14 17	16 16 16 16	91.5 72.6 95.1 112.2
								Mean =	14	16	92.8

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.									ZEAMX lbs Yield 2rw*23ft 11/Oct/2005	ZEAMX Moisture % 11/Oct/2005	ZEAMX Yield bu/ac 11/Oct/2005 TY2 1
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	18	19	20
10	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	202	6	19	36.0
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A	401	6	16	42.9
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	508	4	19	23.3
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	703	13	16	89.0
	NIS	0.250	% v/v	0.25	% v/v	POST	B				
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B				
								Mean =	7	17	47.8
11	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	203	4	19	23.8
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A	308	0	0	1.6
	DPX 79406	25	g ai/ha	0.476	oz/a	POST	B	602	2	0	12.7
	Distinct	200	g ai/ha	4.08	oz/a	POST	B	708	1	0	4.8
	NIS	0.250	% v/v	0.25	% v/v	POST	B				
	UAN 28 %	1.250	% v/v	1.25	% v/v	POST	B				
								Mean =	2	5	10.7
12	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	204	16	16	107.1
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A	403	15	16	101.4
	Option	35	g ai/ha	1.43	oz/a	POST	B	608	14	16	92.5
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	806	13	17	87.0
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B				
	Rivet	1.75	l/ha	1.25	% v/v	POST	B				
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B				
								Mean =	15	16	97.0
13	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	205	14	16	94.6
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A	406	13	16	85.8
	Option	35	g ai/ha	1.43	oz/a	POST	B	507	9	14	62.3
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	808	9	17	59.2
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B				
	Rivet	1.75	l/ha	1.25	% v/v	POST	B				
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B				
								Mean =	11	16	75.5
14	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	206	13	16	88.7
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A	302	2	4	16.0
	Option	35	g ai/ha	1.43	oz/a	POST	B	505	1	1	8.7
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	704	6	16	36.6
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B				
	Rivet	1.75	l/ha	1.25	% v/v	POST	B				
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B				
								Mean =	6	9	37.5
15	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	207	1	0	6.4
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A	402	1	0	4.0
	Option	35	g ai/ha	1.43	oz/a	POST	B	605	3	13	18.0
	Buctril	280	g ai/ha	0.855	pt/a	POST	B	805	6	16	40.6
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B				
	Rivet	1.75	l/ha	1.25	% v/v	POST	B				
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B				
								Mean =	3	7	17.2
16	Weed Free Check							208	19	17	127.2
								407	14	15	93.7
								601	13	16	89.5
								807	17	17	110.3
								Mean =	16	16	105.2

Column 20: TY2 = 6.763975*[C18]*(100-[C19])/85

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The effect of cumulative stresses on corn yield

Trial ID: 05-ACRE-CORN-SIKKEMA
 Location: West Lafayette, IN

Study Dir.: Todd Cowan
 Investigator: Dr. William G. Johnson

								ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
								5/Jul/2005 Bleachin	5/Jul/2005 Injury	# plants 5/Jul/2005 2.5m	# plants 5/Jul/2005 2.5m	Height IN 5/Jul/2005	Height IN 5/Jul/2005
Trt No.	Treatment Name	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	1	2	3	4	5	6
1	Weed free check							0	0	15	15	63	65
2	glyphosate (Weathermax) AMS	10 0.0322	g ai/ha kg ai/ha	0.253 0.02875	fl oz/a lb ai/a	POST POST	A A	0 e	9 c-f	15 ab	14 a	55 a	58 ab
3	glyphosate (Weathermax) AMS	50 0.162	g ai/ha kg ai/ha	1.27 0.1443	fl oz/a lb ai/a	POST POST	A A	5 de	23 c	16 ab	15 a	52 a	54 ab
4	glyphosate (Weathermax) AMS	100 0.322	g ai/ha kg ai/ha	2.53 0.2875	fl oz/a lb ai/a	POST POST	A A	16 bc	50 b	16 ab	15 a	39 b	42 c
5	glyphosate (Weathermax) AMS	200 0.646	g ai/ha kg ai/ha	5.07 0.5761	fl oz/a lb ai/a	POST POST	A A	79 a	93 a	13 c	15 a	13 c	16 d
6	DPX 79406 Distinct NIS UAN 28 %	25 200 0.250 1.250	g ai/ha g ai/ha % v/v % v/v	0.476 4.08 0.25 1.25	oz/a oz/a % v/v % v/v	POST POST POST POST	B B B B	0 e	3 f	14 bc	15 a	62 a	62 a
7	Option Buctril atrazine Rivet UAN 28 %	35 280 1000 1.75 2.500	g ai/ha g ai/ha g ai/ha l/ha l/ha	1.43 0.855 1.78 1.25 1.78	oz/a pt/a pt/a % v/v % v/v	POST POST POST POST POST	B B B B B	0 e	4 ef	15 abc	16 a	59 a	61 a
8	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	10 0.0322 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	0.253 0.02875 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	0 e	6 def	16 a	15 a	56 a	61 a
9	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	50 0.162 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	1.27 0.1443 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	5 de	18 cde	15 abc	15 a	55 a	55 ab
10	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	100 0.322 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	2.53 0.2875 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	20 bc	45 b	15 abc	16 a	40 b	41 c
11	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	200 0.646 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	5.07 0.5761 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	76 a	92 a	11 d	14 a	8 c	16 d

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.								ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
								5/Jul/2005 Bleachin	5/Jul/2005 Injury	# plants 5/Jul/2005 2.5m	# plants 5/Jul/2005 2.5m	Height IN 5/Jul/2005	Height IN 5/Jul/2005
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	1	2	3	4	5	6
12	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	0 e	4 ef	15 abc	15 a	58 a	57 ab
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
13	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	11 cd	20 cd	16 a	15 a	56 a	49 bc
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
14	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	25 b	58 b	16 ab	15 a	31 b	42 c
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
15	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	73 a	89 a	16 ab	16 a	17 c	15 d
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
16	Weed Free Check							0 e	0 f	15 abc	16 a	60 a	59 a
LSD (P=.05)								8.8	14.6	2.1	2.1	11.3	9.6
Standard Deviation								6.1	10.2	1.5	1.5	7.9	6.7
CV								29.65	30.12	10.06	9.79	17.98	14.64
Grand Mean								20.67	34.03	14.72	15.08	43.9	45.72
Bartlett's X2								11.832	22.271	26.192	22.464	35.022	23.533
P(Bartlett's X2)								0.106	0.051	0.016*	0.07	0.001*	0.052
Replicate F								1.983	1.090	1.771	0.945	0.728	6.174
Replicate Prob(F)								0.1311	0.3638	0.1674	0.4273	0.5410	0.0014
Treatment F								93.850	45.342	3.727	0.617	21.913	26.286
Treatment Prob(F)								0.0001	0.0001	0.0005	0.8356	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 1 excluded from analysis.

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.								ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
								Height IN	Height IN	Height IN	Height IN	Height IN	Height IN
								5/Jul/2005	5/Jul/2005	5/Jul/2005	5/Jul/2005	5/Jul/2005	5/Jul/2005
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	7	8	9	10	11	12
1	Weed free check							61	66	62	62	60	59
2	glyphosate (Weathermax) AMS	10 0.0322	g ai/ha kg ai/ha	0.253 0.02875	fl oz/a lb ai/a	POST POST	A A	55 ab	57 a	53 a	58 ab	53 a	58 ab
3	glyphosate (Weathermax) AMS	50 0.162	g ai/ha kg ai/ha	1.27 0.1443	fl oz/a lb ai/a	POST POST	A A	53 ab	56 a	59 a	55 ab	54 a	47 bc
4	glyphosate (Weathermax) AMS	100 0.322	g ai/ha kg ai/ha	2.53 0.2875	fl oz/a lb ai/a	POST POST	A A	35 d	39 bc	37 b	40 c	34 b	42 cd
5	glyphosate (Weathermax) AMS	200 0.646	g ai/ha kg ai/ha	5.07 0.5761	fl oz/a lb ai/a	POST POST	A A	12 e	17 e	19 c	15 d	17 c	13 f
6	DPX 79406 Distinct NIS UAN 28 %	25 200 0.250 1.250	g ai/ha g ai/ha % v/v % v/v	0.476 4.08 0.25 1.25	oz/a oz/a % v/v % v/v	POST POST POST POST	B B B B	61 a	64 a	60 a	64 a	62 a	67 a
7	Option Buctril atrazine Rivet UAN 28 %	35 280 1000 1.75 2.500	g ai/ha g ai/ha g ai/ha l/ha l/ha	1.43 0.855 1.78 1.25 1.78	oz/a pt/a pt/a % v/v % v/v	POST POST POST POST POST	B B B B B	62 a	62 a	60 a	61 a	58 a	51 bc
8	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	10 0.0322 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	0.253 0.02875 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	61 a	64 a	60 a	61 a	61 a	59 ab
9	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	50 0.162 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	1.27 0.1443 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	57 ab	58 a	56 a	56 ab	56 a	52 abc
10	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	100 0.322 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	2.53 0.2875 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	42 cd	37 bc	33 b	38 c	39 b	38 cd
11	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	200 0.646 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	5.07 0.5761 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	17 e	23 de	11 c	15 d	9 c	14 ef

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.								ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
								Height IN	Height IN	Height IN	Height IN	Height IN	Height IN
								5/Jul/2005	5/Jul/2005	5/Jul/2005	5/Jul/2005	5/Jul/2005	5/Jul/2005
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	7	8	9	10	11	12
12	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	60 a	58 a	58 a	58 ab	62 a	61 ab
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
13	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	47 bc	42 b	50 a	50 b	53 a	49 bc
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
14	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	33 d	29 cd	32 b	33 c	32 b	28 de
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
15	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	15 e	17 e	14 c	18 d	14 c	14 ef
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
16	Weed Free Check							59 a	54 a	60 a	60 ab	60 a	61 ab
LSD (P=.05)								10.6	11.0	11.2	10.1	12.1	14.9
Standard Deviation								7.4	7.7	7.8	7.1	8.4	10.4
CV								16.63	17.09	17.75	15.55	19.12	23.84
Grand Mean								44.52	44.95	44.13	45.38	44.15	43.7
Bartlett's X2								31.466	18.628	22.104	21.64	27.564	33.746
P(Bartlett's X2)								0.005*	0.18	0.077	0.086	0.016*	0.002*
Replicate F								1.512	0.838	0.735	1.811	2.308	1.181
Replicate Prob(F)								0.2254	0.4806	0.5368	0.1599	0.0903	0.3284
Treatment F								23.738	19.964	21.550	25.236	19.644	12.368
Treatment Prob(F)								0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 1 excluded from analysis.

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.								ZEAMX Height IN 5/Jul/2005	ZEAMX Height IN 5/Jul/2005	ZEAMX PLAQUA C Crop injury % 29/Jul/2005	ZEAMX WEIDRY G 16/Aug/2005	ZEAMX # of plants 16/Aug/2005	ZEAMX lbs Yield 2rw*23ft 11/Oct/2005
Trt No.	Treatment Name	Rate Rate	Unit Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	13	14	15	16	17	18
1	Weed free check							66	59	0	749	7	17
2	glyphosate (Weathermax) AMS	10 0.0322	g ai/ha kg ai/ha	0.253 0.02875	fl oz/a lb ai/a	POST POST	A A	61 a	58 abc	3 c	629 ab	6 abc	16 ab
3	glyphosate (Weathermax) AMS	50 0.162	g ai/ha kg ai/ha	1.27 0.1443	fl oz/a lb ai/a	POST POST	A A	57 a	53 bc	11 c	470 bc	6 abc	13 bc
4	glyphosate (Weathermax) AMS	100 0.322	g ai/ha kg ai/ha	2.53 0.2875	fl oz/a lb ai/a	POST POST	A A	41 c	33 ef	30 b	279 de	5 bcd	6 ef
5	glyphosate (Weathermax) AMS	200 0.646	g ai/ha kg ai/ha	5.07 0.5761	fl oz/a lb ai/a	POST POST	A A	15 d	14 g	74 a	11 g	4 de	2 g
6	DPX 79406 Distinct NIS UAN 28 %	25 200 0.250 1.250	g ai/ha g ai/ha % v/v % v/v	0.476 4.08 0.25 1.25	oz/a oz/a % v/v % v/v	POST POST POST POST	B B B B	62 a	60 abc	0 c	608 ab	7 abc	19 a
7	Option Buctril atrazine Rivet UAN 28 %	35 280 1000 1.75 2.500	g ai/ha g ai/ha g ai/ha l/ha l/ha	1.43 0.855 1.78 1.25 1.78	oz/a pt/a pt/a % v/v % v/v	POST POST POST POST POST	B B B B B	62 a	60 abc	1 c	666 a	7 abc	17 ab
8	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	10 0.0322 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	0.253 0.02875 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	61 a	58 abc	1 c	547 abc	6 bc	16 ab
9	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	50 0.162 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	1.27 0.1443 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	57 a	58 abc	4 c	425 cd	6 abc	14 bc
10	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	100 0.322 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	2.53 0.2875 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	37 c	41 de	25 b	191 ef	7 ab	7 de
11	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	200 0.646 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	5.07 0.5761 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	15 d	26 f	69 a	16 g	3 e	2 g

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.								ZEAMX Height IN 5/Jul/2005	ZEAMX Height IN 5/Jul/2005	ZEAMX PLAQUA C Crop injury % 29/Jul/2005	ZEAMX WEIDRY G 16/Aug/2005	ZEAMX # of plants 16/Aug/2005	ZEAMX lbs Yield 2rw*23ft 11/Oct/2005
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	13	14	15	16	17	18
12	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	58 a	61 ab	1 c	510 abc	6 abc	15 abc
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
13	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	52 ab	51 cd	9 c	496 bc	7 a	11 cd
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
14	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	42 bc	40 e	31 b	192 ef	5 bcd	6 efg
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
15	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	19 d	15 g	75 a	30 fg	5 cd	3 fg
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A						
	Option	35	g ai/ha	1.43	oz/a	POST	B						
	Buctril	280	g ai/ha	0.855	pt/a	POST	B						
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B						
	Rivet	1.75	l/ha	1.25	% v/v	POST	B						
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B						
16	Weed Free Check							56 a	64 a	0 c	528 abc	6 abc	16 ab
LSD (P=.05)								10.7	9.7	11.1	166.4	1.5	4.4
Standard Deviation								7.5	6.8	7.8	116.4	1.1	3.0
CV								16.27	14.76	35.14	31.2	18.67	28.24
Grand Mean								46.17	45.97	22.2	373.14	5.73	10.78
Bartlett's X2								20.481	21.595	22.48	56.327	13.08	20.459
P(Bartlett's X2)								0.116	0.087	0.032*	0.001*	0.52	0.116
Replicate F								0.907	2.381	0.562	3.058	0.116	1.437
Replicate Prob(F)								0.4459	0.0830	0.6433	0.0385	0.9500	0.2456
Treatment F								21.537	25.220	52.177	15.979	4.193	15.978
Treatment Prob(F)								0.0001	0.0001	0.0001	0.0001	0.0002	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 1 excluded from analysis.

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.								ZEAMX Moisture % 11/Oct/2005	ZEAMX Yield bu/ac 11/Oct/2005 TY2 1
Trt No.	Treatment Name	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	19	20
1	Weed free check							17	113.9
2	glyphosate (Weathermax) AMS	10 0.0322	g ai/ha kg ai/ha	0.253 0.02875	fl oz/a lb ai/a	POST POST	A A	16 a	110.1 ab
3	glyphosate (Weathermax) AMS	50 0.162	g ai/ha kg ai/ha	1.27 0.1443	fl oz/a lb ai/a	POST POST	A A	16 a	90.0 bc
4	glyphosate (Weathermax) AMS	100 0.322	g ai/ha kg ai/ha	2.53 0.2875	fl oz/a lb ai/a	POST POST	A A	17 a	40.5 ef
5	glyphosate (Weathermax) AMS	200 0.646	g ai/ha kg ai/ha	5.07 0.5761	fl oz/a lb ai/a	POST POST	A A	5 b	12.0 fg
6	DPX 79406 Distinct NIS UAN 28 %	25 200 0.250 1.250	g ai/ha g ai/ha % v/v % v/v	0.476 4.08 0.25 1.25	oz/a oz/a % v/v % v/v	POST POST POST POST	B B B B	16 a	123.9 a
7	Option Buctril atrazine Rivet UAN 28 %	35 280 1000 1.75 2.500	g ai/ha g ai/ha g ai/ha l/ha l/ha	1.43 0.855 1.78 1.25 1.78	oz/a pt/a pt/a % v/v % v/v	POST POST POST POST POST	B B B B B	16 a	116.1 ab
8	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	10 0.0322 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	0.253 0.02875 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	16 a	105.6 ab
9	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	50 0.162 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	1.27 0.1443 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	16 a	92.8 bc
10	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	100 0.322 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	2.53 0.2875 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	17 a	47.8 de
11	glyphosate (Weathermax) AMS DPX 79406 Distinct NIS UAN 28 %	200 0.646 25 200 0.250 1.250	g ai/ha kg ai/ha g ai/ha g ai/ha % v/v % v/v	5.07 0.5761 0.476 4.08 0.25 1.25	fl oz/a lb ai/a oz/a oz/a % v/v % v/v	POST POST POST POST POST POST	A A B B B B	5 b	10.7 g

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Crop Stage Scale ARM Action Codes # Subsamples, Dec.								ZEAMX Moisture % 11/Oct/2005	ZEAMX Yield bu/ac 11/Oct/2005 TY2 1
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	19	20
12	glyphosate (Weathermax)	10	g ai/ha	0.253	fl oz/a	POST	A	16 a	97.0 abc
	AMS	0.0322	kg ai/ha	0.02875	lb ai/a	POST	A		
	Option	35	g ai/ha	1.43	oz/a	POST	B		
	Buctril	280	g ai/ha	0.855	pt/a	POST	B		
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B		
	Rivet	1.75	l/ha	1.25	% v/v	POST	B		
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B		
13	glyphosate (Weathermax)	50	g ai/ha	1.27	fl oz/a	POST	A	16 a	75.5 cd
	AMS	0.162	kg ai/ha	0.1443	lb ai/a	POST	A		
	Option	35	g ai/ha	1.43	oz/a	POST	B		
	Buctril	280	g ai/ha	0.855	pt/a	POST	B		
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B		
	Rivet	1.75	l/ha	1.25	% v/v	POST	B		
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B		
14	glyphosate (Weathermax)	100	g ai/ha	2.53	fl oz/a	POST	A	9 b	37.5 efg
	AMS	0.322	kg ai/ha	0.2875	lb ai/a	POST	A		
	Option	35	g ai/ha	1.43	oz/a	POST	B		
	Buctril	280	g ai/ha	0.855	pt/a	POST	B		
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B		
	Rivet	1.75	l/ha	1.25	% v/v	POST	B		
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B		
15	glyphosate (Weathermax)	200	g ai/ha	5.07	fl oz/a	POST	A	7 b	17.2 fg
	AMS	0.646	kg ai/ha	0.5761	lb ai/a	POST	A		
	Option	35	g ai/ha	1.43	oz/a	POST	B		
	Buctril	280	g ai/ha	0.855	pt/a	POST	B		
	atrazine	1000	g ai/ha	1.78	pt/a	POST	B		
	Rivet	1.75	l/ha	1.25	% v/v	POST	B		
	UAN 28 %	2.500	l/ha	1.78	% v/v	POST	B		
16	Weed Free Check							16 a	105.2 ab
LSD (P=.05)								5.9	29.17
Standard Deviation								4.1	20.41
CV								30.25	28.3
Grand Mean								13.71	72.13
Bartlett's X2								97.342	19.852
P(Bartlett's X2)								0.001*	0.135
Replicate F								2.482	1.223
Replicate Prob(F)								0.0741	0.3132
Treatment F								4.904	15.669
Treatment Prob(F)								0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Untreated treatment(s) 1 excluded from analysis.

Column 20: TY2 = 6.763975*[C18]*(100-[C19])/85