

Ohio State University
Horticulture and Crop Science

POST GLYPHOSATE TIMING IN ROUNDUP READY CORN

Trial ID: 08RRCTIME1 Study Dir.: Anthony F. Dobbels
Location: WESTERN BRANCH F-7 Investigator: Dr. Mark M. Loux

GENERAL TRIAL INFORMATION

Study Director: Anthony F. Dobbels
Affiliation: OSU
Investigator: Dr. Mark M. Loux
Affiliation: OSU

TRIAL LOCATION

State/Prov.: Ohio **Trial Status:** yield
Country: USA **Initiation Date:** Apr/01/2007
Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. SETFA	Giant foxtail	Setaria faberi
2. IPOHE	Ivyleaf morningglory	Ipomoea hederacea
3. ABUTH	Velvetleaf	Abutilon theophrasti
4. POLPY	Pennsylvania smartweed	Polygonum pensylvanicum
5. AMBTR	Giant ragweed	Ambrosia trifida
6. CHEAL	Common lambsquarters	Chenopodium album
7. AMBEL	Common ragweed	Ambrosia elatior
8. AMARE	Redroot pigweed	Amaranthus retroflexus

Crop 1: ZEAMX CORN, FIELD **Variety:** PIONEER 32B83
Planting Date: Apr/24/2008 **Planting Method:** JOHN DEERE 7200
Rate: 32097 SEED/A **Depth:** 1.5 IN
Row Spacing: 30 IN **Seed Bed:** CONVENTIONAL

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 40 FT **Reps:** 4
Tillage Type: CONVENTIONAL **Study Design:** RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% OM: 3 **Texture:** SILTY CLAY LOAM
pH: 6.7 **Soil Name:** KOKOMO
CEC: 24.6 **Fert. Level:** GOOD

Overall Moisture Conditions: POOR

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	Apr/24/2008	Jun/02/2008	Jun/08/2008	Jun/17/2008
Time of Day:	11:00 A.M.	9:30 A.M.	7:30 P.M.	9:00 A.M.
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPO	POST	LPO
Applic. Placement:	BROADCAST	BROADCAST	BROADCAST	BROADCAST
Air Temp., Unit:	62 F	73 F	73 F	60 F
% Relative Humidity:	39	67	81	50
Wind Velocity, Unit:	8 E	5 SE	7 SW	8 WNW
Soil Temp., Unit:	54 F	65 F	69 F	60 F
Soil Moisture:	DRY/MOIST	DRY/MOIST	MOIST/WET	DRY/MOIST
% Cloud Cover:	2	2	7	35

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ZEAMX	ZEAMX V4	ZEAMX V6	ZEAMX V8
Stage Scale:	DESC	DESC	DESC	DESC
Height, Unit:	10 IN	23 IN	40 IN	IN

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WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	SETFA	SETFA	SETFA 1-6"	SETFA
Stage Scale:			1-6 LVS	
Weed 2 Code, Stage:	IPOHE	IPOHE	IPOHE 1-6"	IPOHE
Stage Scale:			2-6 LVS	
Weed 3 Code, Stage:	ABUTH	ABUTH	ABUTH 1-6"	ABUTH
Stage Scale:			2-4 LVS	
Weed 4 Code, Stage:	POLPY	POLPY	POLPY 1-6"	POLPY
Stage Scale:			2-4 LVS	
Weed 5 Code, Stage:	AMBTR	AMBTR	AMBTR 1-24"	AMBTR
Stage Scale:			2->12 LVS	
Weed 6 Code, Stage:	CHEAL	CHEAL	CHEAL 1-6"	CHEAL
Stage Scale:			2-10 LVS	
Weed 7 Code, Stage:	AMBEL	AMBEL	AMBEL 1-6"	AMBEL
Stage Scale:			2-4 LVS	
Weed 8 Code, Stage:	AMARE	AMARE	AMARE 1-6"	AMARE
Stage Scale:			2-4 LVS	

APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	BACKPACK	BACKPACK	BACKPACK	BACKPACK
Operating Pressure:	53	53	53	53
Nozzle Type:	DG	DG	DG	DG
Nozzle Size:	11002	11002	11002	11002
Nozzle Spacing, Unit:	18 IN	18 IN	18 IN	18 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER	WATER
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA
Propellant:	CO2	CO2	CO2	CO2

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POST GLYPHOSATE TIMING IN ROUNDUP READY CORN

Trial ID: 08RRCTIME1 Study Dir.: Anthony F. Dobbels
Location: WESTERN BRANCH F-7 Investigator: Dr. Mark M. Loux

Weed Code						SETFA	AMBTR	AMBEL	CHEAL	AMARE	ABUTH	SETFA
Rating Data Type						CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit						PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date						Jul/07/2008						
Trt-Eval Interval						AT APPL	AT APPL	AT APPL	AT APPL	AT APPL	AT APPL	20 DA-D
# Subsamples, Dec.						0	0	0	0	0	0	0
Trt No.	Treatment Name	Product Rate	Product Rate Unit	Grow Stg	Appl Code	1	2	3	4	5	6	7
1	ROUNDUP ORIGINAL MAX	22 oz/a		EPO	B	0 d	0 c	0 b	0 b	0 c	0 b	72 e
1	NIS	6.4 oz/a		EPO								
1	AMS	4 qt/a		EPO								
2	ATRAZINE	1 qt/a		PRE	A	54 c	62 ab	99 a	98 a	100 a	95 a	70 e
2	ROUNDUP ORIGINAL MAX	22 oz/a		EPO	B							
2	NIS	6.4 oz/a		EPO								
2	AMS	4 qt/a		EPO								
3	BICEP II MAGNUM	1.2 qt/a		PRE	A	92 a	65 ab	83 a	98 a	100 a	100 a	75 de
3	ROUNDUP ORIGINAL MAX	22 oz/a		EPO	B							
3	NIS	6.4 oz/a		EPO								
3	AMS	4 qt/a		EPO								
4	LEXAR	3 qt/a		PRE	A	95 a	94 a	100 a	100 a	100 a	100 a	82 cd
4	ROUNDUP ORIGINAL MAX	22 oz/a		EPO	B							
4	NIS	6.4 oz/a		EPO								
4	AMS	4 qt/a		EPO								
5	ROUNDUP ORIGINAL MAX	21.3 oz/a		MPO	C	0 d	0 c	0 b	0 b	0 c	0 b	84 cd
5	NIS	6.4 oz/a		MPO								
5	AMS	4 qt/a		MPO								
6	ATRAZINE	1 qt/a		PRE	A	50 c	43 b	70 a	94 a	100 a	100 a	80 cd
6	ROUNDUP ORIGINAL MAX	21.3 oz/a		MPO	C							
6	NIS	6.4 oz/a		MPO								
6	AMS	4 qt/a		MPO								
7	BICEP II MAGNUM	1.2 qt/a		PRE	A	84 a	55 ab	73 a	94 a	100 a	96 a	89 bc
7	ROUNDUP ORIGINAL MAX	21.3 oz/a		MPO	C							
7	NIS	6.4 oz/a		MPO								
7	AMS	4 qt/a		MPO								
8	LEXAR	3 qt/a		PRE	A	94 a	90 a	100 a	100 a	100 a	100 a	93 ab
8	ROUNDUP ORIGINAL MAX	21.3 oz/a		MPO	C							
8	NIS	6.4 oz/a		MPO								
8	AMS	4 qt/a		MPO								
9	ROUNDUP ORIGINAL MAX	21.3 oz/a		LPO	D	0 d	0 c	0 b	0 b	0 c	0 b	83 cd
9	NIS	6.4 oz/a		LPO								
9	AMS	4 qt/a		LPO								
10	ATRAZINE	1 qt/a		PRE	A	8 d	0 c	75 a	95 a	84 b	86 a	96 ab
10	ROUNDUP ORIGINAL MAX	21.3 oz/a		LPO	D							
10	NIS	6.4 oz/a		LPO								
10	AMS	4 qt/a		LPO								
11	BICEP II MAGNUM	1.2 qt/a		PRE	A	70 b	60 ab	55 a	96 a	84 b	95 a	99 a
11	ROUNDUP ORIGINAL MAX	21.3 oz/a		LPO	D							
11	NIS	6.4 oz/a		LPO								
11	AMS	4 qt/a		LPO								
12	LEXAR	3 qt/a		PRE	A	89 a	90 a	100 a	99 a	84 b	100 a	100 a
12	ROUNDUP ORIGINAL MAX	21.3 oz/a		LPO	D							
12	NIS	6.4 oz/a		LPO								
12	AMS	4 qt/a		LPO								
LSD (P=.05)						10.3	25.8	32.4	8.2	8.6	9.6	6.7
Standard Deviation						7.1	17.9	22.5	5.7	6.0	6.7	4.7
CV						13.51	38.37	35.77	7.83	8.41	9.18	5.48
Bartlett's X2						15.979	14.627	13.956	7.506	4.197	18.078	24.807
P(Bartlett's X2)						0.025*	0.041*	0.016*	0.277	0.123	0.001*	0.006*

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Weed Code	SETFA	AMBTR	AMBEL	CHEAL	AMARE	ABUTH	SETFA					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL					
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT					
Rating Date							Jul/07/2008					
Trt-Eval Interval	AT APPL	AT APPL	AT APPL	AT APPL	AT APPL	AT APPL	20 DA-D					
# Subsamples, Dec.	0	0	0	0	0	0	0					
Trt No.	Treatment Name	Product Rate	Product Rate Unit	Grow Stg	Appl Code	1	2	3	4	5	6	7
Replicate F						2.445	2.058	1.793	0.064	2.159	1.645	2.287
Replicate Prob(F)						0.0814	0.1248	0.1678	0.9783	0.1115	0.1978	0.0968
Treatment F						127.987	17.702	12.983	237.959	210.868	173.918	19.310
Treatment Prob(F)						0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Weed Code	AMBTR	AMBEL	CHEAL	AMARE	ABUTH					
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL					
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT					
Rating Date	Jul/07/2008	Jul/07/2008	Jul/07/2008	Jul/07/2008	Jul/07/2008					
Trt-Eval Interval	20 DA-D	20 DA-D	20 DA-D	20 DA-D	20 DA-D					
# Subsamples, Dec.	0	0	0	0	0					
Trt No.	Treatment Name	Product Rate	Product Rate Unit	Grow Stg	Appl Code	8	9	10	11	12
1	ROUNDUP ORIGINAL MAX	22 oz/a		EPO	B	76 ab	88 a	85 a	63 de	80 bc
1	NIS	6.4 oz/a		EPO						
1	AMS	4 qt/a		EPO						
2	ATRAZINE	1 qt/a		PRE	A	76 ab	99 a	86 a	58 e	81 bc
2	ROUNDUP ORIGINAL MAX	22 oz/a		EPO	B					
2	NIS	6.4 oz/a		EPO						
2	AMS	4 qt/a		EPO						
3	BICEP II MAGNUM	1.2 qt/a		PRE	A	75 ab	94 a	85 a	63 de	76 c
3	ROUNDUP ORIGINAL MAX	22 oz/a		EPO	B					
3	NIS	6.4 oz/a		EPO						
3	AMS	4 qt/a		EPO						
4	LEXAR	3 qt/a		PRE	A	69 b	91 a	98 a	70 cd	95 ab
4	ROUNDUP ORIGINAL MAX	22 oz/a		EPO	B					
4	NIS	6.4 oz/a		EPO						
4	AMS	4 qt/a		EPO						
5	ROUNDUP ORIGINAL MAX	21.3 oz/a		MPO	C	83 ab	92 a	94 a	81 b	92 ab
5	NIS	6.4 oz/a		MPO						
5	AMS	4 qt/a		MPO						
6	ATRAZINE	1 qt/a		PRE	A	79 ab	96 a	100 a	70 cd	100 a
6	ROUNDUP ORIGINAL MAX	21.3 oz/a		MPO	C					
6	NIS	6.4 oz/a		MPO						
6	AMS	4 qt/a		MPO						
7	BICEP II MAGNUM	1.2 qt/a		PRE	A	85 ab	97 a	100 a	76 bc	93 ab
7	ROUNDUP ORIGINAL MAX	21.3 oz/a		MPO	C					
7	NIS	6.4 oz/a		MPO						
7	AMS	4 qt/a		MPO						
8	LEXAR	3 qt/a		PRE	A	90 ab	100 a	100 a	80 bc	95 ab
8	ROUNDUP ORIGINAL MAX	21.3 oz/a		MPO	C					
8	NIS	6.4 oz/a		MPO						
8	AMS	4 qt/a		MPO						
9	ROUNDUP ORIGINAL MAX	21.3 oz/a		LPO	D	76 ab	91 a	93 a	100 a	100 a
9	NIS	6.4 oz/a		LPO						
9	AMS	4 qt/a		LPO						
10	ATRAZINE	1 qt/a		PRE	A	91 ab	95 a	100 a	99 a	100 a
10	ROUNDUP ORIGINAL MAX	21.3 oz/a		LPO	D					
10	NIS	6.4 oz/a		LPO						
10	AMS	4 qt/a		LPO						
11	BICEP II MAGNUM	1.2 qt/a		PRE	A	86 ab	93 a	100 a	98 a	98 a
11	ROUNDUP ORIGINAL MAX	21.3 oz/a		LPO	D					
11	NIS	6.4 oz/a		LPO						
11	AMS	4 qt/a		LPO						
12	LEXAR	3 qt/a		PRE	A	98 a	100 a	100 a	100 a	99 a
12	ROUNDUP ORIGINAL MAX	21.3 oz/a		LPO	D					
12	NIS	6.4 oz/a		LPO						
12	AMS	4 qt/a		LPO						
LSD (P=.05)						13.8	11.5	11.9	7.2	10.2
Standard Deviation						9.6	8.0	8.3	5.0	7.1
CV						11.66	8.44	8.69	6.27	7.66
Bartlett's X2						25.547	11.325	4.868	8.878	14.296
P(Bartlett's X2)						0.008*	0.254	0.432	0.353	0.074
Replicate F						10.094	3.359	1.683	0.170	3.171
Replicate Prob(F)						0.0001	0.0303	0.1896	0.9157	0.0370
Treatment F						3.003	0.969	2.343	41.053	5.799
Treatment Prob(F)						0.0071	0.4923	0.0290	0.0001	0.0001

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Weed Code	AMBTR	AMBEL	CHEAL	AMARE	ABUTH
Rating Data Type	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date	Jul/07/2008	Jul/07/2008	Jul/07/2008	Jul/07/2008	Jul/07/2008
Trt-Eval Interval	20 DA-D	20 DA-D	20 DA-D	20 DA-D	20 DA-D
# Subsamples, Dec.	0	0	0	0	0

Trt No.	Treatment Name	Product Rate	Product Rate Unit	Grow Stg	Appl Code	8	9	10	11	12

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.