

Ohio State University  
Horticulture and Crop Science

PROGRAM APPROACHES IN ROUNDUP READY / LIBERTY LINK CORN

Trial ID: 08RRLLSYS Study Dir.: Anthony F. Dobbels  
Location: WESTERN BRANCH BIG E Investigator: Dr. Mark M. Loux

**GENERAL TRIAL INFORMATION**

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

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. CHEAL	Common lambsquarters	Chenopodium album
3. ABUTH	Velvetleaf	Abutilon theophrasti
4. AMARE	Redroot pigweed	Amaranthus retroflexus
5. POLPY	Pennsylvania smartweed	Polygonum pensylvanicum
6. AMBTR	Giant ragweed	Ambrosia trifida

Crop 1: ZEAMX CORN, FIELD Variety: PIONEER 32B83  
Planting Date: May/01/2008 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: 2.2 Texture: SILTY CLAY LOAM  
pH: 6.1 Soil Name: KOKOMO  
CEC: 13.8 Fert. Level: GOOD

**APPLICATION DESCRIPTION**

	A	B	C
Application Date:	May/01/2008	May/29/2008	Jun/08/2008
Time of Day:	8:30 P.M.	9:30 A.M.	7:30 P.M.
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPO	POST
Applic. Placement:	BROADCAST	BROADCAST	BROADCAST
Air Temp., Unit:	56 F	63 F	73 F
% Relative Humidity:	68	45	81
Wind Velocity, Unit:	5 SE	3 E	7 SW
Soil Temp., Unit:	53 F	58 F	69 F
Soil Moisture:	DRY/MOIST	DRY/MOIST	MOIST/WET
% Cloud Cover:	30	0	7

**CROP STAGE AT EACH APPLICATION**

	A	B	C
Crop 1 Code, Stage:	ZEAMX ZEAMX V3	ZEAMX V6	
Stage Scale:	DESC	DESC	
Height, Unit:	5 IN	22 IN	

**WEED STAGE AT EACH APPLICATION**

	A	B	C
Weed 1 Code, Stage:	SETFA SETFA 1-2"	SETFA 1-10"	
Stage Scale:	1 LV	1-3 LVS	
Weed 2 Code, Stage:	CHEAL CHEAL .25-1"	CHEAL 2-4"	
Stage Scale:	3-4 LVS	4-8 LVS	
Weed 3 Code, Stage:	ABUTH ABUTH .5"	ABUTH	
Stage Scale:	COT		
Weed 4 Code, Stage:	AMARE AMARE .25"	AMARE 2-7"	
Stage Scale:	COT	4-6 LVS	
Weed 5 Code, Stage:	POLPY POLPY .5"	POLPY	
Stage Scale:	1 LVS		
Weed 6 Code, Stage:	AMBTR AMBTR 3-4"	AMBTR 15-20"	
Stage Scale:	4 LVS	>12 LVS	

**APPLICATION EQUIPMENT**

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

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Weed Code		SETFA		AMBTR		CHEAL		SETFA		AMBTR	
Crop Code		ZEAMX		CONTROL		CONTROL		CONTROL		CONTROL	
Rating Data Type		PHYTO		PERCENT		PERCENT		PERCENT		PERCENT	
Rating Unit		Jun/07/2008		Jun/07/2008		Jun/07/2008		Jun/07/2008		Jun/30/2008	
Rating Date		AT POST		AT POST		AT POST		AT POST		22 DA-C	
Trt-Eval Interval		0		0		0		0		0	
# Subsamples, Dec.											
Trt No.	Treatment Name	Product Rate	Product Unit	Grow Stg	Appl Code	1	2	3	4	5	6
1	BICEP II MAGNUM	1.2 qt/a		PRE	A	0 b	87 ab	48 b	73 ab	84 ab	78 ab
1	ROUNDUP POWERMAX	21.3 oz/a		LPO	C						
1	AMS	4 qt/a		LPO							
2	LEXAR	2 qt/a		PRE	A	0 b	90 ab	79 a	100 a	86 ab	71 ab
2	ROUNDUP POWERMAX	21.3 oz/a		LPO	C						
2	AMS	4 qt/a		LPO							
3	BICEP II MAGNUM	1.2 qt/a		PRE	A	0 b	95 a	35 b	83 ab	94 a	75 ab
3	IGNITE	22 oz/a		LPO	C						
3	ATRAZINE	1 pt/a		LPO							
3	AMS	4 qt/a		LPO							
4	LEXAR	2 qt/a		PRE	A	0 b	94 a	76 a	100 a	92 a	71 ab
4	IGNITE	22 oz/a		LPO	C						
4	ATRAZINE	1 pt/a		LPO							
4	AMS	4 qt/a		LPO							
5	BICEP II MAGNUM	1.2 qt/a		PRE	A	0 b	91 ab	39 b	64 b	89 ab	76 ab
5	LAUDIS	3 oz/a		LPO	C						
5	ATRAZINE	1 pt/a		LPO							
5	DESTINY HC	0.4 qt/a		LPO							
5	AMS	4 qt/a		LPO							
6	LEXAR	2 qt/a		PRE	A	0 b	91 ab	71 a	100 a	84 ab	81 a
6	LAUDIS	3 oz/a		LPO	C						
6	ATRAZINE	1 pt/a		LPO							
6	DESTINY HC	0.4 qt/a		LPO							
6	AMS	4 qt/a		LPO							
7	BICEP II MAGNUM	1.2 qt/a		PRE	A	0 b	92 ab	28 b	72 b	92 a	74 ab
7	STEADFAST	0.75 oz/a		LPO	C						
7	STATUS	3 oz/a		LPO							
7	SUPERB HC	0.4 qt/a		LPO							
7	AMS	4 qt/a		LPO							
8	LEXAR	2 qt/a		PRE	A	0 b	91 ab	70 a	100 a	90 ab	78 ab
8	STEADFAST	0.75 oz/a		LPO	C						
8	STATUS	3 oz/a		LPO							
8	SUPERB HC	0.4 qt/a		LPO							
8	AMS	4 qt/a		LPO							
9	BICEP II MAGNUM	1.2 qt/a		EPO	B	0 b	100 a	91 a	100 a	78 ab	59 bc
9	ROUNDUP POWERMAX	21.3 oz/a		EPO							
9	AMS	4 qt/a		EPO							
9											
10	LEXAR	2 qt/a		EPO	B	0 b	100 a	94 a	100 a	77 ab	66 abc
10	ROUNDUP POWERMAX	21.3 oz/a		EPO							
10	AMS	4 qt/a		EPO							
11	BICEP II MAGNUM	1.2 qt/a		EPO	B	0 b	95 a	92 a	99 a	70 b	59 bc
11	IGNITE	22 oz/a		EPO							
11	AMS	4 qt/a		EPO							
12	LEXAR	2 qt/a		EPO	B	1 b	96 a	97 a	100 a	72 b	71 ab
12	IGNITE	22 oz/a		EPO							
12	AMS	4 qt/a		EPO							
13	BICEP II MAGNUM	1.2 qt/a		EPO	B	1 b	96 a	92 a	100 a	75 ab	64 abc
13	LAUDIS	3 oz/a		EPO							
13	SUPERB HC	0.4 qt/a		EPO							
13	AMS	4 qt/a		EPO							

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Weed Code						SETFA	AMBTR	CHEAL	SETFA	AMBTR	
Crop Code				ZEAMX							
Rating Data Type				PHYTO		CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit				PERCENT		PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date				Jun/07/2008		Jun/07/2008	Jun/07/2008	Jun/07/2008	Jun/30/2008	Jun/30/2008	
Trt-Eval Interval				AT POST		AT POST	AT POST	AT POST	22 DA-C	22 DA-C	
# Subsamples, Dec.				0		0	0	0	0	0	
Trt No.	Treatment Name	Product Rate	Product Unit	Grow Stg	Appl Code	1	2	3	4	5	6
14	LEXAR	2 qt/a		EPO	B	0 b	76 b	88 a	100 a	23 c	53 c
14	LAUDIS	3 oz/a		EPO							
14	SUPERB HC	0.4 qt/a		EPO							
14	AMS	4 qt/a		EPO							
15	BICEP II MAGNUM	1.2 qt/a		EPO	B	6 a	95 a	97 a	100 a	81 ab	75 ab
15	STEADFAST	0.75 oz/a		EPO							
15	SUPERB HC	0.4 qt/a		EPO							
15	AMS	4 qt/a		EPO							
16	LEXAR	2 qt/a		EPO	B	2 b	96 a	96 a	100 a	81 ab	79 ab
16	STEADFAST	0.75 oz/a		EPO							
16	SUPERB HC	0.4 qt/a		EPO							
16	AMS	4 qt/a		EPO							
LSD (P=.05)						1.9	10.9	17.1	15.8	11.6	11.7
Standard Deviation						1.4	7.6	12.0	11.0	8.1	8.2
CV						222.64	8.22	16.09	11.86	10.24	11.57
Bartlett's X2						7.672	26.197	43.248	10.645	25.918	11.394
P(Bartlett's X2)						0.053	0.016*	0.001*	0.031*	0.039*	0.724
Replicate F						2.250	9.429	5.316	3.204	1.062	14.308
Replicate Prob(F)						0.0955	0.0001	0.0032	0.0320	0.3748	0.0001
Treatment F						5.505	2.184	16.211	5.273	17.132	4.070
Treatment Prob(F)						0.0001	0.0222	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	AMBEL	CHEAL	AMARE
Crop Code			
Rating Data Type	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT
Rating Date	Jun/30/2008	Jun/30/2008	Jun/30/2008
Trt-Eval Interval	22 DA-C	22 DA-C	22 DA-C
# Subsamples, Dec.	0	0	0

Trt No.	Treatment Name	Product Rate	Product Unit	Grow Stg	Appl Code	7	8	9
1	BICEP II MAGNUM	1.2	qt/a	PRE	A	100 a	94 a	95 a
1	ROUNDUP POWERMAX	21.3	oz/a	LPO	C			
1	AMS	4	qt/a	LPO				
2	LEXAR	2	qt/a	PRE	A	100 a	100 a	100 a
2	ROUNDUP POWERMAX	21.3	oz/a	LPO	C			
2	AMS	4	qt/a	LPO				
3	BICEP II MAGNUM	1.2	qt/a	PRE	A	100 a	73 b	100 a
3	IGNITE	22	oz/a	LPO	C			
3	ATRAZINE	1	pt/a	LPO				
3	AMS	4	qt/a	LPO				
4	LEXAR	2	qt/a	PRE	A	100 a	99 a	100 a
4	IGNITE	22	oz/a	LPO	C			
4	ATRAZINE	1	pt/a	LPO				
4	AMS	4	qt/a	LPO				
5	BICEP II MAGNUM	1.2	qt/a	PRE	A	100 a	100 a	100 a
5	LAUDIS	3	oz/a	LPO	C			
5	ATRAZINE	1	pt/a	LPO				
5	DESTINY HC	0.4	qt/a	LPO				
5	AMS	4	qt/a	LPO				
6	LEXAR	2	qt/a	PRE	A	100 a	100 a	100 a
6	LAUDIS	3	oz/a	LPO	C			
6	ATRAZINE	1	pt/a	LPO				
6	DESTINY HC	0.4	qt/a	LPO				
6	AMS	4	qt/a	LPO				
7	BICEP II MAGNUM	1.2	qt/a	PRE	A	100 a	89 a	100 a
7	STEADFAST	0.75	oz/a	LPO	C			
7	STATUS	3	oz/a	LPO				
7	SUPERB HC	0.4	qt/a	LPO				
7	AMS	4	qt/a	LPO				
8	LEXAR	2	qt/a	PRE	A	100 a	100 a	100 a
8	STEADFAST	0.75	oz/a	LPO	C			
8	STATUS	3	oz/a	LPO				
8	SUPERB HC	0.4	qt/a	LPO				
8	AMS	4	qt/a	LPO				
9	BICEP II MAGNUM	1.2	qt/a	EPO	B	100 a	90 a	100 a
9	ROUNDUP POWERMAX	21.3	oz/a	EPO				
9	AMS	4	qt/a	EPO				
9								
10	LEXAR	2	qt/a	EPO	B	100 a	100 a	100 a
10	ROUNDUP POWERMAX	21.3	oz/a	EPO				
10	AMS	4	qt/a	EPO				
11	BICEP II MAGNUM	1.2	qt/a	EPO	B	100 a	76 b	100 a
11	IGNITE	22	oz/a	EPO				
11	AMS	4	qt/a	EPO				
12	LEXAR	2	qt/a	EPO	B	100 a	100 a	100 a
12	IGNITE	22	oz/a	EPO				
12	AMS	4	qt/a	EPO				
13	BICEP II MAGNUM	1.2	qt/a	EPO	B	100 a	100 a	100 a
13	LAUDIS	3	oz/a	EPO				
13	SUPERB HC	0.4	qt/a	EPO				
13	AMS	4	qt/a	EPO				

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Weed Code	AMBEL	CHEAL	AMARE
Crop Code			
Rating Data Type	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT
Rating Date	Jun/30/2008	Jun/30/2008	Jun/30/2008
Trt-Eval Interval	22 DA-C	22 DA-C	22 DA-C
# Subsamples, Dec.	0	0	0

Trt No.	Treatment Name	Product Rate	Product Unit	Grow Stg	Appl Code	7	8	9
14	LEXAR	2	qt/a	EPO	B	100 a	100 a	99 a
14	LAUDIS	3	oz/a	EPO				
14	SUPERB HC	0.4	qt/a	EPO				
14	AMS	4	qt/a	EPO				
15	BICEP II MAGNUM	1.2	qt/a	EPO	B	100 a	98 a	100 a
15	STEADFAST	0.75	oz/a	EPO				
15	SUPERB HC	0.4	qt/a	EPO				
15	AMS	4	qt/a	EPO				
16	LEXAR	2	qt/a	EPO	B	100 a	100 a	100 a
16	STEADFAST	0.75	oz/a	EPO				
16	SUPERB HC	0.4	qt/a	EPO				
16	AMS	4	qt/a	EPO				
LSD (P=.05)						0.0	11.0	3.7
Standard Deviation						0.0	7.7	2.6
CV						0.0	8.15	2.6
Bartlett's X2						0.0	16.394	4.476
P(Bartlett's X2)						.	0.012*	0.034*
Replicate F						0.000	5.161	0.834
Replicate Prob(F)						1.0000	0.0038	0.4821
Treatment F						0.000	5.234	0.959
Treatment Prob(F)						1.0000	0.0001	0.5113

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.