Ohio State University
Horticulture and Crop Science

WEED CONTROL IN ROUNDUP READY CORN I

Trial ID: 07RRC1 Study Dir.: Anthony F. Dobbels
Location: WESTERN BRANCH BIG E Investigator: Dr. Mark M. Loux

GENERAL TRIAL INFORMATION

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

TRIAL LOCATION

Trial Status: yield
State/Prov.: Ohio
Initiation Date: Apr/01/2007
Country: USA

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.	AMBTR	Giant ragweed	Ambrosia trifida
4.	POLPY	Pennsylvania smartweed	Polygonum pensylvanicum
5.	ABUTH	Velvetleaf	Abutilon theophrasti
6.	AMARE	Redroot pigweed	Amaranthus retroflexus

Crop 1: ZEAMX CORN, FIELD **Variety:** DEKALB DKC63-74
Planting Date: May/02/2007 **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:** 30 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

Overall Moisture Conditions: POOR

APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	May/02/2007	May/22/2007	Jun/01/2007	Jun/04/2007	Jun/20/2007
Time of Day:	4:00 PM	8:15 AM	7:30 AM	9:00 AM	9:00 AM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPO	POST	POST	LPO
Applic. Placement:	BROADCAST	BROADCAST	BROADCAST	BROADCAST	BROADCAST
Air Temp., Unit:	74 F	57 F	71 F	69 F	70 F
% Relative Humidity:	57	69	68	69	89
Wind Velocity, Unit:	7 N	4 E	2 S	5 SW	3 W
Soil Temp., Unit:	66 F	60 F	72 F	65 F	64 F
Soil Moisture:	DRY MOIST	DRY/MOIST	MOIST MOI	WET/WET	WET/WET
% Cloud Cover:	20	20	100	15	30

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	ZEAMX .	ZEAMX V3	ZEAMX V5	ZEAMX V6	ZEAMX V10
Stage Scale:	.	3 COLLARS	5 COLLAR	6 COLLAR	10 COLLAR
Height, Unit:	0. .	5 IN	15 IN	16 IN	38 IN

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WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	SETFA .	SETFA 1-3"	SETFA 7-9"	SETFA 4-9"	SETFA 1-2"
Stage Scale:	.	3 LVS	3-5 LVS	4-6 LVS	2 LVS
Density, Unit:	76.5 M2	76.5 M2	76.5 M2	76.5 M2	76.5 M2
Weed 2 Code, Stage:	CHEAL .	CHEAL 1-2"	CHEAL 2-4"	CHEAL 3-7"	CHEAL 1"
Stage Scale:	.	6 LVS	8-1- LVS	6-15 LVS	4 LVS
Density, Unit:	21 M2	21 M2	21 M2	21 M2	21 M2
Weed 3 Code, Stage:	AMBTR .	AMBTR 2-3"	AMBTR 6-8"	AMBTR 5-7"	AMBTR 1-2"
Stage Scale:	.	6 LVS	8-12 LVS	4-8 LVS	2 LVS
Density, Unit:	1.5 M2	1.5 M2	1.5 M2	1.5 M2	1.5 M2
Weed 4 Code, Stage:	POLPY .	POLPY 2'	POLPY 3"	POLPY 4-6"	POLPY .
Stage Scale:	.	6 LVS	6 LVS	6-10 LVS	.
Density, Unit:	3 M2	3 M2	3 M2	3 M2	. .
Weed 5 Code, Stage:	ABUTH .	ABUTH 1-2"	ABUTH 4"	ABUTH 4-6	ABUTH .
Stage Scale:	.	6 LVS	5 LVS	6-8 LVS	.
Density, Unit:	.75 M2	0.75 M2	0.75 M2	0.75 M2	. .
Weed 6 Code, Stage:	AMARE .	AMARE .	AMARE 3-4"	AMARE 4-6"	AMARE .
Stage Scale:	.	.	6-8 LVS	6-10 LVS	.
Density, Unit:	6 M2	. .	6 M2	6 M2	. .

APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	BACKPACK	BACKPACK	BACKPACK	BACKPACK	BACKPACK
Operating Pressure:	50	50	50	50	50
Nozzle Type:	DG	DG	DG	DG	DG
Nozzle Size:	11002	11002	11002	11002	11002
Nozzle Spacing, Unit:	18 IN	18 IN	18 IN	18 IN	18 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER	WATER	WATER
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA
Propellant:	CO2	CO2	CO2	CO2	CO2

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Location: WESTERN BRANCH BIG E Investigator: Dr. Mark M. Loux

Weed Code												
Crop Code								ZEAMX		ZEAMX		ZEAMX
Rating Data Type								WEIGHT		MOISTURE		YIELD
Rating Unit								LBS		PERCENT		BU
Rating Date								Oct/12/2007		Oct/12/2007		Oct/12/2007
Trt-Eval Interval								HARVEST		HARVEST		HARVEST
ARM Action Codes												TY1
# Subsamples, Dec.								1		1		1
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Appl Code	22		23		24	
1	KEYSTONE	3.28	lb ai/a	2.5	qt/a	A	34.8	ab	14.2	a	181.9	ab
1	HORNET WDG	0.128	lb ai/a	3	oz/a							
2	LEXAR	2.78	lb ai/a	3	qt/a	A	40.1	a	14.5	a	209.1	a
3	SURESTART	0.93	lb ai/a	1.75	pt/a	A	40.6	a	14.4	a	212.0	a
3	DURANGO	0.75	lb ae/a	24	oz/a	D						
3	AMS	2.5	% v/v	2	qt/a							
4	KEYSTONE	1.97	lb ai/a	1.5	qt/a	A	43.6	a	14.6	a	227.3	a
4	DURANGO	0.75	lb ae/a	24	oz/a	D						
4	AMS	2.5	% v/v	2	qt/a							
5	HORNET WDG	0.128	lb ai/a	3	oz/a	A	42.6	a	14.2	a	222.8	a
5	ATRAZINE	1.5	lb ai/a	1.5	qt/a							
5	DURANGO	0.75	lb ae/a	24	oz/a	D						
5	AMS	2.5	% v/v	2	qt/a							
6	PYTHON	0.031	lb ai/a	0.62	oz/a	A	41.9	a	14.5	a	218.6	a
6	ATRAZINE	1.5	lb ai/a	1.5	qt/a							
6	DURANGO	0.75	lb ae/a	24	oz/a	D						
6	AMS	2.5	% v/v	2	qt/a							
7	LEXAR	2.08	lb ai/a	2.25	qt/a	A	41.8	a	14.1	a	218.6	a
7	TOUCHDOWN TOTAL	0.78	lb ae/a	24	oz/a	D						
7	AMS	2.5	% v/v	2	qt/a							
8	HARNESS XTRA 5.6	2.1	lb ai/a	1.5	qt/a	A	43.7	a	14.6	a	227.5	a
8	ROUNDUP ORIGINAL MAX	0.77	lb ae/a	22	oz/a	D						
8	AMS	2.5	% v/v	2	qt/a							
9	LEXAR	1.62	lb ai/a	1.75	qt/a	A	45.3	a	15.2	a	234.4	a
9	A15189	45	lb ai/a	3.6	pt/a	D						
9	NIS	0.25	% v/v	6.4	oz/a							
9	AMS	8.5	% v/v	6.8	qt/a							
10	DUAL II MAGNUM	1.28	lb ai/a	1.34	pt/a	A	41.7	a	14.5	a	217.3	a
10	CALLISTO	0.094	lb ai/a	3	oz/a	D						
10	TOUCHDOWN HI-TECH	0.94	lb ae/a	24	oz/a							
10	AMS	8.5	% v/v	6.8	qt/a							
11	OUTLOOK	0.56	lb ai/a	12	oz/a	A	41.1	a	15.2	a	212.3	a
11	STATUS	0.0875	lb ai/a	2.5	oz/a	D						
11	ROUNDUP ORIGINAL MAX	0.77	lb ae/a	22	oz/a							
11	AMS	8.5	% v/v	6.8	qt/a							
12	DUAL II MAGNUM	1.6	lb ai/a	1.68	pt/a	A	38.9	a	14.2	a	203.4	a
12	CALLISTO	0.094	lb ai/a	3	oz/a	D						
12	ATRAZINE	0.5	lb ai/a	1	pt/a							
12	COC	1	% v/v	0.8	qt/a							
12	AMS	8.5	% v/v	6.8	qt/a							

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Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Appl Code	22	23	24
	Weed Code								
	Crop Code						ZEAMX	ZEAMX	ZEAMX
	Rating Data Type						WEIGHT	MOISTURE	YIELD
	Rating Unit						LBS	PERCENT	BU
	Rating Date						Oct/12/2007	Oct/12/2007	Oct/12/2007
	Trt-Eval Interval						HARVEST	HARVEST	HARVEST
	ARM Action Codes								TY1
	# Subsamples, Dec.						1	1	1
13	A15189	4	pt/a	4	pt/a	B	37.5 ab	14.1 a	196.5 a
13	NIS	0.25	% v/v	6.4	oz/a				
13	AMS	2.5	% v/v	2	qt/a				
14	A15189	4	pt/a	4	pt/a	B	38.9 a	14.3 a	203.1 a
14	ATRAZINE	0.5	lb ai/a	1	pt/a				
14	NIS	0.25	% v/v	6.4	oz/a				
14	AMS	2.5	% v/v	2	qt/a				
15	SURESTART	0.93	lb ai/a	1.75	pt/a	B	41.4 a	14.9 a	214.8 a
15	DURANGO	0.75	lb ae/a	24	oz/a				
15	AMS	2.5	% v/v	2	qt/a				
16	LAUDIS	0.082	lb ai/a	3	oz/a	B	34.5 ab	15.0 a	179.3 ab
16	ROUNDUP ORIGINAL MAX	0.77	lb ae/a	22	oz/a				
16	AMS	2.5	% v/v	2	qt/a				
17	HORNET WDG	0.086	lb ai/a	2	oz/a	B	37.4 ab	14.6 a	195.0 a
17	DURANGO	0.75	lb ae/a	24	oz/a				
17	AMS	2.5	% v/v	2	qt/a				
18	ROUNDUP ORIGINAL MAX	0.77	lb ae/a	22	oz/a	C	42.8 a	14.6 a	222.8 a
18	AMS	2.5	% v/v	2	qt/a				
19	ROUNDUP ORIGINAL MAX	0.77	lb ae/a	22	oz/a	C	44.2 a	15.2 a	228.0 a
19	AMS	2.5	% v/v	2	qt/a				
19	ROUNDUP ORIGINAL MAX	0.77	lb ae/a	22	oz/a	E			
19	AMS	2.5	% v/v	2	qt/a				
20	UTC						25.6 b	14.3 a	133.9 b
	LSD (P=.05)						8.55	1.51	43.84
	Standard Deviation						6.04	1.06	31.00
	CV						15.14	7.32	14.91
	Bartlett's X2						8.33	35.992	8.193
	P(Bartlett's X2)						0.983	0.011*	0.985
	Replicate F						2.971	1.911	2.755
	Replicate Prob(F)						0.0393	0.1381	0.0507
	Treatment F						2.190	0.492	2.195
	Treatment Prob(F)						0.0119	0.9556	0.0117

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.

ARM Action Codes
TY1 = 5.185714*[C22]*(100-[C23])/85