

**Liberty-based weed control programs in corn**

Trial ID: C09-16 Study Dir.: Sprague, Powell, Stiles  
 Conducted: Campus T-17 Investigator: Christy Sprague

**Planting Date:** May-18-2016 **Row Spacing:** 30 IN  
**Variety:** DKC49-72 **No. of Reps:** 3  
**Population:** 32000 seeds/A **% OM:** 2.8  
**Soil Type:** L loam **pH:** 6.2  
**Plot Size:** 10 X 30 FT **Study Design:** Randomized Complete Block (RCB)

**Tillage/Previous Crops:** Fall chisel plowed; spring soil finished twice  
**Fertilizer:** 300 lb urea incorporated 200 lb 19-19-19 starter

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1	ANGR	mainly foxtail species	Annual grass
2	CHEAL	lambsquarters, common	Chenopodium album
3	AMAPO	amaranth, Powell	Amaranthus powellii
4	AMBEL	ragweed, common	Ambrosia artemisiifolia
5	ABUTH	velvetleaf	Abutilon theophrasti
Crop	Code	Common Name	
1	ZEAMX	Corn	

**Application Description**

	A	B
<b>Application Timing:</b>	PRE	POST
<b>Date Treated:</b>	May-18-2016	Jun-13-2016
<b>Time Treated:</b>	6:30 PM	11:20 AM
<b>% Cloud Cover:</b>	40	60
<b>Air Temp., Unit:</b>	62 F	66 F
<b>% Relative Humidity:</b>	38	47
<b>Wind Speed/Unit/Dir:</b>	4 mph E	4.5 mph SE
<b>Soil Temp, Unit:</b>	52 F	70 F
<b>Leaf Moist/Dew Presence (Y/N):</b>	5	5
<b>Soil Moist:</b>	4	4

**Crop Stage at Each Application**

	A	B
<b>Crop 1 Name:</b>	ZEAMX	ZEAMX
<b>Height:</b>		16 "
<b>Stage:</b>		V5

**Weed Stage at Each Application**

	A	B
<b>Weed 1 Name:</b>	ANGR	ANGR
<b>Height:</b>		5-6 " (5)
<b>Stage:</b>		4-5L
<b>Weed 2 Name:</b>	CHEAL	CHEAL
<b>Height:</b>		1.5-2 " (2)
<b>Stage:</b>		4-6L
<b>Weed 3 Name:</b>	AMAPO	AMAPO
<b>Height:</b>		2-3 " (2)
<b>Stage:</b>		6-8L
<b>Weed 4 Name:</b>	AMBEL	AMBEL
<b>Height:</b>		2-3 " (2)
<b>Stage:</b>		4-6L
<b>Weed 5 Name:</b>	ABUTH	ABUTH
<b>Height:</b>		2 "
<b>Stage:</b>		4L

**Application Equipment**

Appl	Sprayer Type	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	CUB	3.8 mph	AIXR	11003	22 "	20 "	100 "	19 GAL/AC	WATER	30 PSI
B	CUB	3.8 mph	AIXR	11003	28 "	20 "	100 "	19 GAL/AC	WATER	30 PSI

**Comments:**

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Study Director: Sprague, Powell, Stiles

Pest Code	CHEAL	AMBEL	ABUTH	ANGR	CHEAL
Crop Code	ZEAMX				ZEAMX
Rating Date	Jun-13-2016	Jun-13-2016	Jun-13-2016	Jun-20-2016	Jun-20-2016
Rating Type	injury	control	control	injury	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	7 DA-B	7 DA-B
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code							
1	Balance Flexx	3 fl oz/a		A	0	99	95	70	0	99	100
1	Atrazine	0.56 lb/a		A							
1	Liberty	22 fl oz/a		B							
1	AMS	8.5 lb/100 gal		B							
2	Balance Flexx	3 fl oz/a		A	0	98	87	77	0	100	100
2	Atrazine	0.56 lb/a		A							
2	Liberty	29 fl oz/a		B							
2	AMS	8.5 lb/100 gal		B							
3	Balance Flexx	3 fl oz/a		A	0	97	85	82	0	100	100
3	Atrazine	0.56 lb/a		A							
3	Liberty	36 fl oz/a		B							
3	AMS	8.5 lb/100 gal		B							
4	Untreated				0	0	0	0	0	0	0
5	Balance Flexx	3 fl oz/a		A	0	98	83	93	0	100	100
5	Atrazine	0.56 lb/a		A							
5	Liberty	22 fl oz/a		B							
5	Atrazine	1.1 lb/a		B							
5	AMS	8.5 lb/100 gal		B							
6	Balance Flexx	3 fl oz/a		A	0	97	93	87	0	100	99
6	Atrazine	0.56 lb/a		A							
6	Liberty	29 fl oz/a		B							
6	Atrazine	1.1 lb/a		B							
6	AMS	8.5 lb/100 gal		B							
7	Balance Flexx	3 fl oz/a		A	0	96	93	92	0	99	100
7	Atrazine	0.56 lb/a		A							
7	Liberty	36 fl oz/a		B							
7	Atrazine	1.1 lb/a		B							
7	AMS	8.5 lb/100 gal		B							
8	Balance Flexx	3 fl oz/a		A	0	94	90	90	0	97	100
8	Atrazine	0.56 lb/a		A							
8	Liberty	22 fl oz/a		B							
8	Laudis	3 fl oz/a		B							
8	AMS	8.5 lb/100 gal		B							
9	Balance Flexx	3 fl oz/a		A	0	98	90	78	0	100	100
9	Atrazine	0.56 lb/a		A							
9	Liberty	29 fl oz/a		B							
9	Laudis	3 fl oz/a		B							
9	AMS	8.5 lb/100 gal		B							

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Pest Code	CHEAL	AMBEL	ABUTH	ANGR	CHEAL
Crop Code	ZEAMX		ZEAMX		
Rating Date	Jun-13-2016	Jun-13-2016	Jun-13-2016	Jun-20-2016	Jun-20-2016
Rating Type	injury	control	control	injury	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	7 DA-B	7 DA-B
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	CHEAL	AMBEL	ABUTH	ANGR	CHEAL		
10	Balance Flexx	3 fl oz/a	A		0	98	93	87	0	100	100
10	Atrazine	0.56 lb/a	A								
10	Liberty	36 fl oz/a	B								
10	Laudis	3 fl oz/a	B								
10	AMS	8.5 lb/100 gal	B								
11	Balance Flexx	3 fl oz/a	A		0	97	85	68	0	99	100
11	Atrazine	0.56 lb/a	A								
11	Liberty	22 fl oz/a	B								
11	DiFlexx	8 fl oz/a	B								
11	AMS	8.5 lb/100 gal	B								
12	Balance Flexx	3 fl oz/a	A		0	100	90	92	0	100	100
12	Atrazine	0.56 lb/a	A								
12	Liberty	29 fl oz/a	B								
12	DiFlexx	8 fl oz/a	B								
12	AMS	8.5 lb/100 gal	B								
13	Balance Flexx	3 fl oz/a	A		0	100	95	93	0	100	100
13	Atrazine	0.56 lb/a	A								
13	Liberty	36 fl oz/a	B								
13	DiFlexx	8 fl oz/a	B								
13	AMS	8.5 lb/100 gal	B								
14	Balance Flexx	3 fl oz/a	A		0	100	90	60	0	100	100
14	Atrazine	0.56 lb/a	A								
14	Liberty	22 fl oz/a	B								
14	DiFlexx Duo	24 fl oz/a	B								
14	AMS	8.5 lb/100 gal	B								
15	Balance Flexx	3 fl oz/a	A		0	93	80	83	0	100	97
15	Dual II Magnum	1 pt/a	A								
15	Liberty	22 fl oz/a	B								
15	AMS	8.5 lb/100 gal	B								
16	Balance Flexx	3 fl oz/a	A		0	91	85	90	0	100	100
16	Dual II Magnum	1 pt/a	A								
16	Liberty	22 fl oz/a	B								
16	Atrazine	0.56 lb/a	B								
16	AMS	8.5 lb/100 gal	B								
LSD P=.05					.	6.9	15.9	23.9	.	2.1	2.4
Standard Deviation					0.0	4.2	9.5	14.3	0.0	1.2	1.5
CV					0.0	4.57	11.44	18.47	0.0	1.32	1.55

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Pest Code	AMAPO	AMBEL	ABUTH	ZEAMX	ANGR	CHEAL	AMBEL
Crop Code							
Rating Date	Jun-20-2016	Jun-20-2016	Jun-20-2016	Jun-27-2016	Jun-27-2016	Jun-27-2016	Jun-27-2016
Rating Type	control	control	control	injury	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	7 DA-B	7 DA-B	7 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code	AMAPO	AMBEL	ABUTH	ZEAMX	ANGR	CHEAL	AMBEL
1	Balance Flexx	3 fl oz/a		A	100	100	97	0	100	99	100.0
1	Atrazine	0.56 lb/a		A							
1	Liberty	22 fl oz/a		B							
1	AMS	8.5 lb/100 gal		B							
2	Balance Flexx	3 fl oz/a		A	100	100	100	0	100	100	100.0
2	Atrazine	0.56 lb/a		A							
2	Liberty	29 fl oz/a		B							
2	AMS	8.5 lb/100 gal		B							
3	Balance Flexx	3 fl oz/a		A	100	100	100	2	100	100	100.0
3	Atrazine	0.56 lb/a		A							
3	Liberty	36 fl oz/a		B							
3	AMS	8.5 lb/100 gal		B							
4	Untreated				0	0	0	0	0	0	0.0
5	Balance Flexx	3 fl oz/a		A	100	100	100	0	100	100	100.0
5	Atrazine	0.56 lb/a		A							
5	Liberty	22 fl oz/a		B							
5	Atrazine	1.1 lb/a		B							
5	AMS	8.5 lb/100 gal		B							
6	Balance Flexx	3 fl oz/a		A	100	100	100	0	100	100	100.0
6	Atrazine	0.56 lb/a		A							
6	Liberty	29 fl oz/a		B							
6	Atrazine	1.1 lb/a		B							
6	AMS	8.5 lb/100 gal		B							
7	Balance Flexx	3 fl oz/a		A	100	100	100	0	100	100	100.0
7	Atrazine	0.56 lb/a		A							
7	Liberty	36 fl oz/a		B							
7	Atrazine	1.1 lb/a		B							
7	AMS	8.5 lb/100 gal		B							
8	Balance Flexx	3 fl oz/a		A	100	100	100	0	100	100	100.0
8	Atrazine	0.56 lb/a		A							
8	Liberty	22 fl oz/a		B							
8	Laudis	3 fl oz/a		B							
8	AMS	8.5 lb/100 gal		B							
9	Balance Flexx	3 fl oz/a		A	100	100	100	2	100	100	100.0
9	Atrazine	0.56 lb/a		A							
9	Liberty	29 fl oz/a		B							
9	Laudis	3 fl oz/a		B							
9	AMS	8.5 lb/100 gal		B							

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Crop Code				ZEAMX			
Rating Date	Jun-20-2016	Jun-20-2016	Jun-20-2016	Jun-27-2016	Jun-27-2016	Jun-27-2016	Jun-27-2016
Rating Type	control	control	control	injury	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	7 DA-B	7 DA-B	7 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate Unit	Appl Code							
10	Balance Flexx	3 fl oz/a	A	100	100	100	0	100	100	100.0
10	Atrazine	0.56 lb/a	A							
10	Liberty	36 fl oz/a	B							
10	Laudis	3 fl oz/a	B							
10	AMS	8.5 lb/100 gal	B							
11	Balance Flexx	3 fl oz/a	A	100	100	100	2	100	100	100.0
11	Atrazine	0.56 lb/a	A							
11	Liberty	22 fl oz/a	B							
11	DiFlexx	8 fl oz/a	B							
11	AMS	8.5 lb/100 gal	B							
12	Balance Flexx	3 fl oz/a	A	100	100	100	5	100	100	100.0
12	Atrazine	0.56 lb/a	A							
12	Liberty	29 fl oz/a	B							
12	DiFlexx	8 fl oz/a	B							
12	AMS	8.5 lb/100 gal	B							
13	Balance Flexx	3 fl oz/a	A	100	100	100	7	100	100	100.0
13	Atrazine	0.56 lb/a	A							
13	Liberty	36 fl oz/a	B							
13	DiFlexx	8 fl oz/a	B							
13	AMS	8.5 lb/100 gal	B							
14	Balance Flexx	3 fl oz/a	A	100	100	100	5	100	100	100.0
14	Atrazine	0.56 lb/a	A							
14	Liberty	22 fl oz/a	B							
14	DiFlexx Duo	24 fl oz/a	B							
14	AMS	8.5 lb/100 gal	B							
15	Balance Flexx	3 fl oz/a	A	100	100	97	0	100	95	100.0
15	Dual II Magnum	1 pt/a	A							
15	Liberty	22 fl oz/a	B							
15	AMS	8.5 lb/100 gal	B							
16	Balance Flexx	3 fl oz/a	A	100	99	100	0	100	100	100.0
16	Dual II Magnum	1 pt/a	A							
16	Liberty	22 fl oz/a	B							
16	Atrazine	0.56 lb/a	B							
16	AMS	8.5 lb/100 gal	B							
LSD P=.05				.	0.5	2.8	3.2	.	3.7	.
Standard Deviation				0.0	0.3	1.7	1.9	0.0	2.2	0.00
CV				0.0	0.31	1.78	141.0	0.0	2.35	0.0

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Pest Code	ABUTH		ANGR	CHEAL	ABUTH	AMBEL	ABUTH
Crop Code		ZEAMX					
Rating Date	Jun-27-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016
Rating Type	control	injury	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	14 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate	Unit	Appl Code						
1	Balance Flexx	3 fl oz/a		A	97	0	100	100	100	100
1	Atrazine	0.56 lb/a		A						
1	Liberty	22 fl oz/a		B						
1	AMS	8.5 lb/100 gal		B						
2	Balance Flexx	3 fl oz/a		A	100	0	100	100	100	100
2	Atrazine	0.56 lb/a		A						
2	Liberty	29 fl oz/a		B						
2	AMS	8.5 lb/100 gal		B						
3	Balance Flexx	3 fl oz/a		A	100	0	100	100	100	100
3	Atrazine	0.56 lb/a		A						
3	Liberty	36 fl oz/a		B						
3	AMS	8.5 lb/100 gal		B						
4	Untreated				0	0	0	0	0	0
5	Balance Flexx	3 fl oz/a		A	100	0	100	100	100	100
5	Atrazine	0.56 lb/a		A						
5	Liberty	22 fl oz/a		B						
5	Atrazine	1.1 lb/a		B						
5	AMS	8.5 lb/100 gal		B						
6	Balance Flexx	3 fl oz/a		A	100	0	100	100	100	100
6	Atrazine	0.56 lb/a		A						
6	Liberty	29 fl oz/a		B						
6	Atrazine	1.1 lb/a		B						
6	AMS	8.5 lb/100 gal		B						
7	Balance Flexx	3 fl oz/a		A	100	0	100	100	100	100
7	Atrazine	0.56 lb/a		A						
7	Liberty	36 fl oz/a		B						
7	Atrazine	1.1 lb/a		B						
7	AMS	8.5 lb/100 gal		B						
8	Balance Flexx	3 fl oz/a		A	100	0	100	100	100	100
8	Atrazine	0.56 lb/a		A						
8	Liberty	22 fl oz/a		B						
8	Laudis	3 fl oz/a		B						
8	AMS	8.5 lb/100 gal		B						
9	Balance Flexx	3 fl oz/a		A	100	0	100	100	100	100
9	Atrazine	0.56 lb/a		A						
9	Liberty	29 fl oz/a		B						
9	Laudis	3 fl oz/a		B						
9	AMS	8.5 lb/100 gal		B						

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Pest Code	ABUTH	ZEAMX	ANGR	CHEAL	ABUTH	AMBEL	ABUTH
Crop Code							
Rating Date	Jun-27-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016	Jul-11-2016
Rating Type	control	injury	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent
Trt-Eval Interval	14 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B
Number of Decimals	0	0	0	0	0	0	0

Trt No.	Treatment Name	Rate Unit	Appl Code	ABUTH	ZEAMX	ANGR	CHEAL	ABUTH	AMBEL	ABUTH
10	Balance Flexx	3 fl oz/a	A	100	0	100	100	100	100	100
10	Atrazine	0.56 lb/a	A							
10	Liberty	36 fl oz/a	B							
10	Laudis	3 fl oz/a	B							
10	AMS	8.5 lb/100 gal	B							
11	Balance Flexx	3 fl oz/a	A	100	0	100	100	100	100	100
11	Atrazine	0.56 lb/a	A							
11	Liberty	22 fl oz/a	B							
11	DiFlexx	8 fl oz/a	B							
11	AMS	8.5 lb/100 gal	B							
12	Balance Flexx	3 fl oz/a	A	100	0	100	100	100	100	100
12	Atrazine	0.56 lb/a	A							
12	Liberty	29 fl oz/a	B							
12	DiFlexx	8 fl oz/a	B							
12	AMS	8.5 lb/100 gal	B							
13	Balance Flexx	3 fl oz/a	A	100	0	100	100	100	100	100
13	Atrazine	0.56 lb/a	A							
13	Liberty	36 fl oz/a	B							
13	DiFlexx	8 fl oz/a	B							
13	AMS	8.5 lb/100 gal	B							
14	Balance Flexx	3 fl oz/a	A	100	0	100	100	100	100	100
14	Atrazine	0.56 lb/a	A							
14	Liberty	22 fl oz/a	B							
14	DiFlexx Duo	24 fl oz/a	B							
14	AMS	8.5 lb/100 gal	B							
15	Balance Flexx	3 fl oz/a	A	100	0	100	98	100	100	100
15	Dual II Magnum	1 pt/a	A							
15	Liberty	22 fl oz/a	B							
15	AMS	8.5 lb/100 gal	B							
16	Balance Flexx	3 fl oz/a	A	100	0	100	100	100	100	100
16	Dual II Magnum	1 pt/a	A							
16	Liberty	22 fl oz/a	B							
16	Atrazine	0.56 lb/a	B							
16	AMS	8.5 lb/100 gal	B							
LSD P=.05				2.4	.	.	1.2	.	.	0.2
Standard Deviation				1.4	0.0	0.0	0.7	0.0	0.0	0.1
CV				1.54	0.0	0.0	0.77	0.0	0.0	0.15