

MSU Weed Science Research Program

Sequential weed control programs in corn

Trial ID: C03-12 Study Dir.: Sprague, Powell  
 Conducted: T-17 Campus Investigator: Christy Sprague

**Date Planted:** May/21/2012 **Row Spacing:** 30 IN  
**Variety:** Pioneer 9855HR **No. of Reps:** 4  
**Population:** 31,000 seeds/acre **% OM:** 3.6  
**Soil Type:** Loam **pH:** 6.1  
**Plot Size:** 10 X 40 FT **Design:** RANDOMIZED COMPLETE BLOCK

**Tillage:** Spring chisel plow; spring soil finish  
**Fertilizer:** 300 lb/acre urea broadcast, 125 lb/acre 19-19-19 with planter

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1.	ANGR	mainly foxtail species	SETARIA SP.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	AMAPO	AMARANTH, POWELL	AMARANTHUS POWELLII S. WATS.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISII FOLIA L.
5.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	ZEAMX	CORN	

**Application Description**

	A	B
<b>Application Timing:</b>	PRE	POST
<b>Date Treated:</b>	May/22/2012	Jun/19/2012
<b>Time Treated:</b>	12:15 PM	9:00 AM
<b>% Cloud Cover:</b>	60	0
<b>Air Temp., Unit:</b>	66 F	77 F
<b>% Relative Humidity:</b>	50	64
<b>Wind Speed/Unit/Dir:</b>	7 mph N	8 mph S
<b>Soil Temp., Unit:</b>	60 F	72 F
<b>Soil/Leaf Surface M:</b>	4 -	4 5
<b>Soil Moist (1=w 5=d):</b>	3	3

**Crop Stage at Each Application**

	A	B
<b>Crop Name:</b>	ZEAMX	ZEAMX
<b>Height (In.):</b>	-	14
<b>Stage (L):</b>	-	V4-V5

**Weed Stage at Each Application**

	A	B
<b>Weed 1 Name:</b>	ANGR	ANGR
<b>Height (In.):</b>	-	7"
<b>Stage (L):</b>	-	4
<b>Weed 2 Name:</b>	CHEAL	CHEAL
<b>Height (In.):</b>	-	3"
<b>Stage (L):</b>	-	10-15
<b>Weed 3 Name:</b>	AMAPO	AMAPO
<b>Height (In.):</b>	-	4
<b>Stage (L):</b>	-	12
<b>Weed 4 Name:</b>	AMBEL	AMBEL
<b>Height (In.):</b>	-	3"
<b>Stage (L):</b>	-	8
<b>Weed 5 Name:</b>	ABUTH	ABUTH
<b>Height (In.):</b>	-	2-5"
<b>Stage (L):</b>	-	5-7

**Weed Density (plants/sq. ft.)**

<b>Date:</b>	1	Jul/09/2012
<b>Weed Name:</b>		ANGR
<b>Density:</b>	2	
<b>Date:</b>	2	Jul/09/2012
<b>Weed Name:</b>		CHEAL
<b>Density:</b>	16	
<b>Date:</b>	3	Jul/09/2012
<b>Weed Name:</b>		AMAPO
<b>Density:</b>	1	
<b>Date:</b>	4	Jul/09/2012
<b>Weed Name:</b>		AMBEL
<b>Density:</b>	10	
<b>Date:</b>	5	Jul/09/2012
<b>Weed Name:</b>		ABUTH
<b>Density:</b>	2	

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Appl	Sprayer	Speed	Nozzle	Application Equipment				GPA	Carrier	PSI
				Nozzle	Nozzle	Nozzle	Boom			
A	Cub	3.8	AI XR	11003	22"	20"	100"	19	Water	28
B	Cub	3.8	AI XR	11003	25"	20"	100"	19	Water	28

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## Sequential weed control programs in corn

Trial ID: C03-12 Study Dir.: Sprague, Powell  
 Conducted: T-17 Campus Investigator: Christy Sprague

Weed Code	ANGR	CHEAL	AMAPO	AMBEL
Crop Code	ZEAMX			
Rating Data Type	injury	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jun/19/2012	Jun/19/2012	Jun/19/2012	Jun/19/2012
Trt-Eval Interval	28 DA-A	28 DA-A	28 DA-A	28 DA-A
ARM Action Codes				
# Subsamples, Dec.	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Harness	7	L	1.5	pt/a	PRE	A	0	96	83	94	78
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
2	Harness Xtra	5.6	L	2	qt/a	PRE	A	0	99	99	99	91
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
3	SureStart	4.16	L	2	pt/a	PRE	A	0	89	98	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
4	Lexar EZ	3.7	L	2.5	qt/a	PRE	A	0	84	99	99	98
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
5	Anthem ATZ	4.5	L	1	qt/a	PRE	A	0	86	93	99	80
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
6	Anthem ATZ	4.5	L	1.5	qt/a	PRE	A	0	94	99	99	89
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
7	Anthem ATZ	4.5	L	1	qt/a	PRE	A	0	69	99	97	96
	Sharpen	2.85	L	2	fl oz/a	PRE	A					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
8	Anthem	2.15	L	8	fl oz/a	PRE	A	0	90	62	83	63
	Hornet	68.5	WG	3	oz/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
9	Untreated							0	0	0	0	0
10	Harness	7	L	1.5	pt/a	PRE	A	0	99	70	99	69
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	28% UAN		L	2.5	% v/v	POST	B					
11	Dual II Magnum	7.64	L	1	pt/a	PRE	A	0	91	20	33	22
	Callisto Xtra	3.7	L	20	fl oz/a	POST	B					
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	8.5	lb/100 gal	POST	B					
12	Harness	7	L	1.5	pt/a	PRE	A	0	95	76	99	80
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	MSO		L	0.5	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
13	Anthem	2.15	L	8	fl oz/a	PRE	A	0	91	61	80	64
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	0.5	pt/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					

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Weed Code							ANGR	CHEAL	AMAPO	AMBEL			
Crop Code							ZEAMX						
Rating Data Type							injury	control	control	control			
Rating Unit							percent	percent	percent	percent			
Rating Date							Jun/19/2012	Jun/19/2012	Jun/19/2012	Jun/19/2012			
Trt-Eval Interval							28 DA-A	28 DA-A	28 DA-A	28 DA-A			
ARM Action Codes													
# Subsamples, Dec.							0	0	0	0			
Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Form Unit	Rate Unit	Grow Stg	Appl Code					
14	Verdict	5.57	L	15	fl oz/a		PRE	A	0	95	94	99	96
	Armezon	2.8	L	0.75	fl oz/a		POST	B					
	AAtrex	4	L	1	pt/a		POST	B					
	Roundup PowerMax	4.5	L	22	fl oz/a		POST	B					
	MSO		L	1	% v/v		POST	B					
	AMS		WG	17	lb/100 gal		POST	B					
15	Zidua	85	WG	2	oz/a		PRE	A	0	81	85	99	91
	Sharpen	2.85	L	2	fl oz/a		PRE	A					
	Armezon	2.8	L	0.75	fl oz/a		POST	B					
	AAtrex	4	L	1	pt/a		POST	B					
	Roundup PowerMax	4.5	L	22	fl oz/a		POST	B					
	MSO		L	1	% v/v		POST	B					
	AMS		WG	17	lb/100 gal		POST	B					
16	Anthem ATZ	4.5	L	1	qt/a		PRE	A	0	81	97	97	68
	Impact	2.8	L	0.75	fl oz/a		POST	B					
	AAtrex	4	L	0.5	pt/a		POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a		POST	B					
	MSO		L	1	% v/v		POST	B					
	AMS		WG	17	lb/100 gal		POST	B					
17	Anthem ATZ	4.5	L	1	qt/a		PRE	A	0	79	97	99	74
	Hornet	68.5	WG	3	oz/a		POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a		POST	B					
	AMS		WG	17	lb/100 gal		POST	B					
18	Corvus	2.63	L	3	fl oz/a		PRE	A	0	95	99	99	99
	AAtrex	4	L	1	qt/a		PRE	A					
	Laudis	3.5	L	3	fl oz/a		POST	B					
	Clarity	4	L	1	pt/a		POST	B					
	Liberty	2.34	L	22	fl oz/a		POST	B					
	AMS		WG	17	lb/100 gal		POST	B					
19	Corvus	2.63	L	3	fl oz/a		PRE	A	0	94	97	99	97
	AAtrex	4	L	1	qt/a		PRE	A					
	Capreno	3.45	L	3	fl oz/a		POST	B					
	Clarity	4	L	1	pt/a		POST	B					
	Liberty	2.34	L	22	fl oz/a		POST	B					
	AMS		WG	17	lb/100 gal		POST	B					
20	Lumax	3.95	L	1.5	qt/a		PRE	A	0	74	98	99	93
	Halex GT	4.38	L	3.6	pt/a		POST	B					
	NIS		L	0.25	% v/v		POST	B					
	AMS		WG	17	lb/100 gal		POST	B					
LSD (P=.05)							0.0	16.5	12.7	18.2	15.2		
CV							0.0	13.92	11.05	14.58	13.91		

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

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Weed Code								ABUTH		ANGR	CHEAL	AMAPO
Crop Code									ZEAMX			
Rating Data Type								control	injury	control	control	control
Rating Unit								percent	percent	percent	percent	percent
Rating Date								Jun/19/2012	Jun/26/2012	Jun/26/2012	Jun/26/2012	Jun/26/2012
Trt-Eval Interval								28 DA-A	7 DA-B	7 DA-B	7 DA-B	7 DA-B
ARM Action Codes												
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Harness	7	L	1.5	pt/a	PRE	A	54	0	99	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
2	Harness Xtra	5.6	L	2	qt/a	PRE	A	54	0	99	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
3	SureStart	4.16	L	2	pt/a	PRE	A	75	0	99	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
4	Lexar EZ	3.7	L	2.5	qt/a	PRE	A	99	0	99	99	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
5	Anthem ATZ	4.5	L	1	qt/a	PRE	A	65	0	99	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
6	Anthem ATZ	4.5	L	1.5	qt/a	PRE	A	73	0	99	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
7	Anthem ATZ	4.5	L	1	qt/a	PRE	A	94	0	99	99	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
8	Anthem	2.15	L	8	fl oz/a	PRE	A	67	0	99	96	99
	Hornet	68.5	WG	3	oz/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
9	Untreated							0	0	0	0	0
10	Harness	7	L	1.5	pt/a	PRE	A	51	7	98	99	99
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	28% UAN		L	2.5	% v/v	POST	B					
11	Dual II Magnum	7.64	L	1	pt/a	PRE	A	20	0	99	99	99
	Callisto Xtra	3.7	L	20	fl oz/a	POST	B					
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	8.5	lb/100 gal	POST	B					
12	Harness	7	L	1.5	pt/a	PRE	A	50	4	99	99	99
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	MSO		L	0.5	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
13	Anthem	2.15	L	8	fl oz/a	PRE	A	56	2	99	99	99
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	0.5	pt/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
14	Verdict	5.57	L	15	fl oz/a	PRE	A	85	7	99	99	99
	Armezon	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					

## MSU Weed Science Research Program

Weed Code							ABUTH		ANGR	CHEAL	AMAPO
Crop Code								ZEAMX			
Rating Data Type							control	injury	control	control	control
Rating Unit							percent	percent	percent	percent	percent
Rating Date							Jun/19/2012	Jun/26/2012	Jun/26/2012	Jun/26/2012	Jun/26/2012
Trt-Eval Interval							28 DA-A	7 DA-B	7 DA-B	7 DA-B	7 DA-B
ARM Action Codes											
# Subsamples, Dec.							0	0	0	0	0
Trt	Treatment	Form	Form	Rate	Grow	Appl					
No. Name	Conc	Type	Rate	Unit	Stg	Code					
15	Zidua	85	WG	2	oz/a	PRE A	82	5	99	99	99
	Sharpen	2.85	L	2	fl oz/a	PRE A					
	Armezon	2.8	L	0.75	fl oz/a	POST B					
	AAtrex	4	L	1	pt/a	POST B					
	Roundup PowerMax	4.5	L	22	fl oz/a	POST B					
	MSO		L	1	% v/v	POST B					
	AMS		WG	17	lb/100 gal	POST B					
16	Anthem ATZ	4.5	L	1	qt/a	PRE A	60	6	98	99	99
	Impact	2.8	L	0.75	fl oz/a	POST B					
	AAtrex	4	L	0.5	pt/a	POST B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST B					
	MSO		L	1	% v/v	POST B					
	AMS		WG	17	lb/100 gal	POST B					
17	Anthem ATZ	4.5	L	1	qt/a	PRE A	66	0	99	98	99
	Hornet	68.5	WG	3	oz/a	POST B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST B					
	AMS		WG	17	lb/100 gal	POST B					
18	Corvus	2.63	L	3	fl oz/a	PRE A	94	15	99	99	99
	AAtrex	4	L	1	qt/a	PRE A					
	Laudis	3.5	L	3	fl oz/a	POST B					
	Clarity	4	L	1	pt/a	POST B					
	Liberty	2.34	L	22	fl oz/a	POST B					
	AMS		WG	17	lb/100 gal	POST B					
19	Corvus	2.63	L	3	fl oz/a	PRE A	95	30	99	99	99
	AAtrex	4	L	1	qt/a	PRE A					
	Capreno	3.45	L	3	fl oz/a	POST B					
	Clarity	4	L	1	pt/a	POST B					
	Liberty	2.34	L	22	fl oz/a	POST B					
	AMS		WG	17	lb/100 gal	POST B					
20	Lumax	3.95	L	1.5	qt/a	PRE A	97	0	99	99	99
	Halex GT	4.38	L	3.6	pt/a	POST B					
	NIS		L	0.25	% v/v	POST B					
	AMS		WG	17	lb/100 gal	POST B					
LSD (P=.05)							18.9	1.7	0.8	1.8	0.0
CV							19.98	31.29	0.6	1.35	0.0

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

## MSU Weed Science Research Program

Weed Code								AMBEL	ABUTH		ANGR	CHEAL
Crop Code										ZEAMX		
Rating Data Type								control	control	injury	control	control
Rating Unit								percent	percent	percent	percent	percent
Rating Date								Jun/26/2012	Jun/26/2012	Jul/03/2012	Jul/03/2012	Jul/03/2012
Trt-Eval Interval								7 DA-B	7 DA-B	14 DA-B	14 DA-B	14 DA-B
ARM Action Codes												
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Harness	7	L	1.5	pt/a	PRE	A	97	96	0	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
2	Harness Xtra	5.6	L	2	qt/a	PRE	A	95	97	0	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
3	SureStart	4.16	L	2	pt/a	PRE	A	99	99	0	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
4	Lexar EZ	3.7	L	2.5	qt/a	PRE	A	99	99	0	99	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
5	Anthem ATZ	4.5	L	1	qt/a	PRE	A	92	97	0	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
6	Anthem ATZ	4.5	L	1.5	qt/a	PRE	A	90	99	0	99	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
7	Anthem ATZ	4.5	L	1	qt/a	PRE	A	99	99	0	99	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
8	Anthem	2.15	L	8	fl oz/a	PRE	A	90	98	0	99	98
	Hornet	68.5	WG	3	oz/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
9	Untreated							0	0	0	0	0
10	Harness	7	L	1.5	pt/a	PRE	A	99	98	6	99	99
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	28% UAN		L	2.5	% v/v	POST	B					
11	Dual II Magnum	7.64	L	1	pt/a	PRE	A	99	99	0	99	99
	Callisto Xtra	3.7	L	20	fl oz/a	POST	B					
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	8.5	lb/100 gal	POST	B					
12	Harness	7	L	1.5	pt/a	PRE	A	99	99	3	99	99
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	MSO		L	0.5	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
13	Anthem	2.15	L	8	fl oz/a	PRE	A	98	99	4	99	99
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	0.5	pt/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
14	Verdict	5.57	L	15	fl oz/a	PRE	A	99	99	6	99	99
	Armezon	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					

## MSU Weed Science Research Program

Weed Code						AMBEL	ABUTH		ANGR	CHEAL
Crop Code								ZEAMX		
Rating Data Type						control	control	injury	control	control
Rating Unit						percent	percent	percent	percent	percent
Rating Date						Jun/26/2012	Jun/26/2012	Jul/03/2012	Jul/03/2012	Jul/03/2012
Trt-Eval Interval						7 DA-B	7 DA-B	14 DA-B	14 DA-B	14 DA-B
ARM Action Codes										
# Subsamples, Dec.						0	0	0	0	0
Trt Treatment	Form	Form	Rate	Grow	Appl					
No. Name	Conc	Type	Rate	Unit	Stg	Code				
15 Zidua	85	WG	2	oz/a	PRE	A	99	98	5	99
Sharpen	2.85	L	2	fl oz/a	PRE	A				
Armezon	2.8	L	0.75	fl oz/a	POST	B				
AAtrex	4	L	1	pt/a	POST	B				
Roundup PowerMax	4.5	L	22	fl oz/a	POST	B				
MSO		L	1	% v/v	POST	B				
AMS		WG	17	lb/100 gal	POST	B				
16 Anthem ATZ	4.5	L	1	qt/a	PRE	A	99	99	5	99
Impact	2.8	L	0.75	fl oz/a	POST	B				
AAtrex	4	L	0.5	pt/a	POST	B				
Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
MSO		L	1	% v/v	POST	B				
AMS		WG	17	lb/100 gal	POST	B				
17 Anthem ATZ	4.5	L	1	qt/a	PRE	A	92	96	0	99
Hornet	68.5	WG	3	oz/a	POST	B				
Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B				
AMS		WG	17	lb/100 gal	POST	B				
18 Corvus	2.63	L	3	fl oz/a	PRE	A	99	99	2	99
AAtrex	4	L	1	qt/a	PRE	A				
Laudis	3.5	L	3	fl oz/a	POST	B				
Clarity	4	L	1	pt/a	POST	B				
Liberty	2.34	L	22	fl oz/a	POST	B				
AMS		WG	17	lb/100 gal	POST	B				
19 Corvus	2.63	L	3	fl oz/a	PRE	A	99	99	18	99
AAtrex	4	L	1	qt/a	PRE	A				
Capreno	3.45	L	3	fl oz/a	POST	B				
Clarity	4	L	1	pt/a	POST	B				
Liberty	2.34	L	22	fl oz/a	POST	B				
AMS		WG	17	lb/100 gal	POST	B				
20 Lumax	3.95	L	1.5	qt/a	PRE	A	99	99	0	99
Halex GT	4.38	L	3.6	pt/a	POST	B				
NIS		L	0.25	% v/v	POST	B				
AMS		WG	17	lb/100 gal	POST	B				
LSD (P=.05)							4.0	2.2	1.7	0.2
CV							3.09	1.64	49.52	0.12

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



## MSU Weed Science Research Program

Weed Code								AMAPO	AMBEL	ABUTH		ANGR
Crop Code											ZEAMX	
Rating Data Type								control	control	control	injury	control
Rating Unit								percent	percent	percent	percent	percent
Rating Date								Jul/03/2012	Jul/03/2012	Jul/03/2012	Jul/19/2012	Jul/19/2012
Trt-Eval Interval								14 DA-B	14 DA-B	14 DA-B	30 DA-B	30 DA-B
ARM Action Codes												
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Harness	7	L	1.5	pt/a	PRE	A	99	98	99	0	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
2	Harness Xtra	5.6	L	2	qt/a	PRE	A	99	97	99	0	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
3	SureStart	4.16	L	2	pt/a	PRE	A	99	99	99	0	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
4	Lexar EZ	3.7	L	2.5	qt/a	PRE	A	99	99	99	0	99
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
5	Anthem ATZ	4.5	L	1	qt/a	PRE	A	99	99	99	0	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
6	Anthem ATZ	4.5	L	1.5	qt/a	PRE	A	99	99	99	0	99
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
7	Anthem ATZ	4.5	L	1	qt/a	PRE	A	99	99	99	0	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
8	Anthem	2.15	L	8	fl oz/a	PRE	A	99	99	99	0	99
	Hornet	68.5	WG	3	oz/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
9	Untreated							0	0	0	0	0
10	Harness	7	L	1.5	pt/a	PRE	A	99	99	99	3	98
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	28% UAN		L	2.5	% v/v	POST	B					
11	Dual II Magnum	7.64	L	1	pt/a	PRE	A	99	99	99	0	99
	Callisto Xtra	3.7	L	20	fl oz/a	POST	B					
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B					
	AMS		WG	8.5	lb/100 gal	POST	B					
12	Harness	7	L	1.5	pt/a	PRE	A	99	99	99	2	99
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	MSO		L	0.5	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
13	Anthem	2.15	L	8	fl oz/a	PRE	A	99	99	99	3	99
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	0.5	pt/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
14	Verdict	5.57	L	15	fl oz/a	PRE	A	99	99	99	3	99
	Armezon	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					

## MSU Weed Science Research Program

Weed Code							AMAPO	AMBEL	ABUTH		ANGR	
Crop Code										ZEAMX		
Rating Data Type							control	control	control	injury	control	
Rating Unit							percent	percent	percent	percent	percent	
Rating Date							Jul/03/2012	Jul/03/2012	Jul/03/2012	Jul/19/2012	Jul/19/2012	
Trt-Eval Interval							14 DA-B	14 DA-B	14 DA-B	30 DA-B	30 DA-B	
ARM Action Codes												
# Subsamples, Dec.							0	0	0	0	0	
Trt	Treatment	Form	Form	Rate	Grow	Appl						
No.	Name	Conc	Type	Rate	Unit	Stg	Code					
15	Zidua	85	WG	2	oz/a	PRE	A	99	99	99	3	99
	Sharpen	2.85	L	2	fl oz/a	PRE	A					
	Armezon	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
16	Anthem ATZ	4.5	L	1	qt/a	PRE	A	99	99	99	2	99
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	0.5	pt/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
17	Anthem ATZ	4.5	L	1	qt/a	PRE	A	99	96	99	0	99
	Hornet	68.5	WG	3	oz/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
18	Corvus	2.63	L	3	fl oz/a	PRE	A	99	99	99	0	99
	AAtrex	4	L	1	qt/a	PRE	A					
	Laudis	3.5	L	3	fl oz/a	POST	B					
	Clarity	4	L	1	pt/a	POST	B					
	Liberty	2.34	L	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
19	Corvus	2.63	L	3	fl oz/a	PRE	A	99	99	99	7	99
	AAtrex	4	L	1	qt/a	PRE	A					
	Capreno	3.45	L	3	fl oz/a	POST	B					
	Clarity	4	L	1	pt/a	POST	B					
	Liberty	2.34	L	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
20	Lumax	3.95	L	1.5	qt/a	PRE	A	99	99	99	0	99
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	NIS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
LSD (P=.05)							0.0	2.0	0.3	0.7	0.7	
CV							0.0	1.53	0.2	44.36	0.49	

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

MSU Weed Science Research Program

Weed Code	CHEAL	AMAPO	AMBEL	ABUTH	
Crop Code					
Rating Data Type	control	control	control	control	ZEAMX
Rating Unit	percent	percent	percent	percent	moisture
Rating Date	Jul/19/2012	Jul/19/2012	Jul/19/2012	Jul/19/2012	Nov/09/2012
Trt-Eval Interval	30 DA-B	30 DA-B	30 DA-B	30 DA-B	143 DA-B
ARM Action Codes					
# Subsamples, Dec.	0	0	0	0	1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	Harness	7	L	1.5	pt/a	PRE	A	99	99	97	99	18.7	
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						
2	Harness Xtra	5.6	L	2	qt/a	PRE	A	99	99	99	99	18.7	
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						
3	SureStart	4.16	L	2	pt/a	PRE	A	99	99	99	99	18.8	
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						
4	Lexar EZ	3.7	L	2.5	qt/a	PRE	A	99	99	99	99	18.9	
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						
5	Anthem ATZ	4.5	L	1	qt/a	PRE	A	99	99	98	99	18.7	
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						
6	Anthem ATZ	4.5	L	1.5	qt/a	PRE	A	99	99	98	99	19.2	
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						
7	Anthem ATZ	4.5	L	1	qt/a	PRE	A	99	99	99	99	18.5	
	Sharpen	2.85	L	2	fl oz/a	PRE	A						
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						
8	Anthem	2.15	L	8	fl oz/a	PRE	A	98	99	99	99	18.9	
	Hornet	68.5	WG	3	oz/a	POST	B						
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						
9	Untreated							0	0	0	0	18.0	
10	Harness	7	L	1.5	pt/a	PRE	A	99	99	99	99	18.6	
	Impact	2.8	L	0.75	fl oz/a	POST	B						
	AAtrex	4	L	1	pt/a	POST	B						
	MSO		L	1	% v/v	POST	B						
	28% UAN		L	2.5	% v/v	POST	B						
11	Dual II Magnum	7.64	L	1	pt/a	PRE	A	99	99	99	99	19.0	
	Callisto Xtra	3.7	L	20	fl oz/a	POST	B						
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B						
	AMS		WG	8.5	lb/100 gal	POST	B						
12	Harness	7	L	1.5	pt/a	PRE	A	99	99	99	99	19.0	
	Impact	2.8	L	0.75	fl oz/a	POST	B						
	AAtrex	4	L	1	pt/a	POST	B						
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
	MSO		L	0.5	% v/v	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						
13	Anthem	2.15	L	8	fl oz/a	PRE	A	99	99	99	99	18.8	
	Impact	2.8	L	0.75	fl oz/a	POST	B						
	AAtrex	4	L	0.5	pt/a	POST	B						
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
	MSO		L	1	% v/v	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						
14	Verdict	5.57	L	15	fl oz/a	PRE	A	99	99	99	99	18.5	
	Armezon	2.8	L	0.75	fl oz/a	POST	B						
	AAtrex	4	L	1	pt/a	POST	B						
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B						
	MSO		L	1	% v/v	POST	B						
	AMS		WG	17	lb/100 gal	POST	B						

## MSU Weed Science Research Program

Weed Code	CHEAL	AMAPO	AMBEL	ABUTH	ZEAMX
Crop Code					moisture
Rating Data Type	control	control	control	control	percent
Rating Unit	percent	percent	percent	percent	percent
Rating Date	Jul/19/2012	Jul/19/2012	Jul/19/2012	Jul/19/2012	Nov/09/2012
Trt-Eval Interval	30 DA-B	30 DA-B	30 DA-B	30 DA-B	143 DA-B
ARM Action Codes					
# Subsamples, Dec.	0	0	0	0	1

Trt	Treatment	Form	Form	Rate	Grow	Appl						
No.	Name	Conc	Type	Rate	Unit	Stg	Code					
15	Zidua	85	WG	2	oz/a	PRE	A	99	99	99	99	19.0
	Sharpen	2.85	L	2	fl oz/a	PRE	A					
	Armezon	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	1	pt/a	POST	B					
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
16	Anthem ATZ	4.5	L	1	qt/a	PRE	A	99	99	99	99	18.9
	Impact	2.8	L	0.75	fl oz/a	POST	B					
	AAtrex	4	L	0.5	pt/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	MSO		L	1	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
17	Anthem ATZ	4.5	L	1	qt/a	PRE	A	99	99	99	99	19.1
	Hornet	68.5	WG	3	oz/a	POST	B					
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
18	Corvus	2.63	L	3	fl oz/a	PRE	A	99	99	99	99	19.1
	AAtrex	4	L	1	qt/a	PRE	A					
	Laudis	3.5	L	3	fl oz/a	POST	B					
	Clarity	4	L	1	pt/a	POST	B					
	Liberty	2.34	L	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
19	Corvus	2.63	L	3	fl oz/a	PRE	A	99	99	99	99	19.9
	AAtrex	4	L	1	qt/a	PRE	A					
	Capreno	3.45	L	3	fl oz/a	POST	B					
	Clarity	4	L	1	pt/a	POST	B					
	Liberty	2.34	L	22	fl oz/a	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
20	Lumax	3.95	L	1.5	qt/a	PRE	A	99	99	99	99	19.1
	Halex GT	4.38	L	3.6	pt/a	POST	B					
	NIS		L	0.25	% v/v	POST	B					
	AMS		WG	17	lb/100 gal	POST	B					
LSD (P=.05)								0.6	0.0	1.1	0.3	0.99
CV								0.48	0.0	0.85	0.26	3.7

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

## MSU Weed Science Research Program

Weed Code		
Crop Code		
Rating Data Type	ZEAMX	ZEAMX
Rating Unit	test weight	yield
Rating Date	lb/bu	bu/acre
Trt-Eval Interval	Nov/09/2012	Nov/09/2012
ARM Action Codes	143 DA-B	at 15% M
# Subsamples, Dec.	0	TY1
		0

Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code		
1	Harness	7	L	1.5	pt/a	PRE	A	60	203
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
2	Harness Xtra	5.6	L	2	qt/a	PRE	A	60	197
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
3	SureStart	4.16	L	2	pt/a	PRE	A	60	194
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
4	Lexar EZ	3.7	L	2.5	qt/a	PRE	A	60	202
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
5	Anthem ATZ	4.5	L	1	qt/a	PRE	A	60	200
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
6	Anthem ATZ	4.5	L	1.5	qt/a	PRE	A	60	198
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
7	Anthem ATZ	4.5	L	1	qt/a	PRE	A	58	201
	Sharpen	2.85	L	2	fl oz/a	PRE	A		
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
8	Anthem	2.15	L	8	fl oz/a	PRE	A	60	196
	Hornet	68.5	WG	3	oz/a	POST	B		
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
9	Untreated							60	107
10	Harness	7	L	1.5	pt/a	PRE	A	60	201
	Impact	2.8	L	0.75	fl oz/a	POST	B		
	AAtrex	4	L	1	pt/a	POST	B		
	MSO		L	1	% v/v	POST	B		
	28% UAN		L	2.5	% v/v	POST	B		
11	Dual II Magnum	7.64	L	1	pt/a	PRE	A	61	202
	Callisto Xtra	3.7	L	20	fl oz/a	POST	B		
	Touchdown Total	4.17	SL	24	fl oz/a	POST	B		
	AMS		WG	8.5	lb/100 gal	POST	B		
12	Harness	7	L	1.5	pt/a	PRE	A	60	199
	Impact	2.8	L	0.75	fl oz/a	POST	B		
	AAtrex	4	L	1	pt/a	POST	B		
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	MSO		L	0.5	% v/v	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
13	Anthem	2.15	L	8	fl oz/a	PRE	A	60	204
	Impact	2.8	L	0.75	fl oz/a	POST	B		
	AAtrex	4	L	0.5	pt/a	POST	B		
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	MSO		L	1	% v/v	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
14	Verdict	5.57	L	15	fl oz/a	PRE	A	60	200
	Armezon	2.8	L	0.75	fl oz/a	POST	B		
	AAtrex	4	L	1	pt/a	POST	B		
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B		
	MSO		L	1	% v/v	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		

## MSU Weed Science Research Program

Weed Code		
Crop Code		
Rating Data Type	ZEAMX	ZEAMX
Rating Unit	test weight	yield
Rating Date	lb/bu	bu/acre
Trt-Eval Interval	Nov/09/2012	Nov/09/2012
ARM Action Codes	143 DA-B	at 15% M
# Subsamples, Dec.	0	TY1
		0

Trt	Treatment	Form	Form	Rate	Grow	Appl			
No.	Name	Conc	Type	Rate	Unit	Stg	Code		
15	Zidua	85	WG	2	oz/a	PRE	A	60	
	Sharpen	2.85	L	2	fl oz/a	PRE	A	200	
	Armezon	2.8	L	0.75	fl oz/a	POST	B		
	AAtrex	4	L	1	pt/a	POST	B		
	Roundup PowerMax	4.5	L	22	fl oz/a	POST	B		
	MSO		L	1	% v/v	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
16	Anthem ATZ	4.5	L	1	qt/a	PRE	A	60	
	Impact	2.8	L	0.75	fl oz/a	POST	B	202	
	AAtrex	4	L	0.5	pt/a	POST	B		
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	MSO		L	1	% v/v	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
17	Anthem ATZ	4.5	L	1	qt/a	PRE	A	60	
	Hornet	68.5	WG	3	oz/a	POST	B	205	
	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
18	Corvus	2.63	L	3	fl oz/a	PRE	A	60	
	AAtrex	4	L	1	qt/a	PRE	A	201	
	Laudis	3.5	L	3	fl oz/a	POST	B		
	Clarity	4	L	1	pt/a	POST	B		
	Liberty	2.34	L	22	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
19	Corvus	2.63	L	3	fl oz/a	PRE	A	60	
	AAtrex	4	L	1	qt/a	PRE	A	195	
	Capreno	3.45	L	3	fl oz/a	POST	B		
	Clarity	4	L	1	pt/a	POST	B		
	Liberty	2.34	L	22	fl oz/a	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
20	Lumax	3.95	L	1.5	qt/a	PRE	A	60	
	Halex GT	4.38	L	3.6	pt/a	POST	B	209	
	NIS		L	0.25	% v/v	POST	B		
	AMS		WG	17	lb/100 gal	POST	B		
LSD (P=.05)								1.5	16.0
CV								1.83	5.8

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