

MSU Weed Science Research Program

High input sugarbeet systems - Syngenta II

Trial ID: SB08-12 Study Dir.: Sprague, Powell  
 Conducted: Campus H6-8 Investigator: Christy Sprague

**Date Planted:** Apr/12/2012 **Row Spacing:** 30 IN  
**Variety:** HM 28RR **No. of Reps:** 4  
**Population:** 52,000 seeds/A **% OM:** 2.8  
**Soil Type:** Loam **pH:** 6.6  
**Plot Size:** 10 X 40 FT **Design:** RANDOMIZED COMPLETE BLOCK

**Tillage:** Previous crop: soybean; Tillage: spring chisel plow, spring soil finish (twice)

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
2.	AMAPO	AMARANTH, POWELL	AMARANTHUS POWELLII S. WATS.
3.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
4.	CAPBP	SHEPHERDSPURSE	CAPSELLA BURSA-PASTORIS (L.) MEDIK.
5.	LAMAM	HENBIT	LAMIUM AMPLEXICAULE L.
Crop	Code	Common Name	
1.	BEAVA	BEET, SUGAR	

**Application Description**

	A	B	C	D	E	F	G
<b>Application Timing:</b>	2-leaf	4-leaf	6-leaf	Canopy	55 DSV	+55 DSV1	+55 DSV2
<b>Date Treated:</b>	May/15/2012	May/23/2012	Jun/06/2012	Jun/26/2012	Jul/02/2012	Jul/25/2012	Aug/14/2012
<b>Time Treated:</b>	12:30 PM	12:45 PM	2:00 PM	8:20 AM	10:00 AM	1:30 PM	4:40 PM
<b>% Cloud Cover:</b>	0	0	60	0	0	50	30
<b>Air Temp., Unit:</b>	80 F	82 F	83 F	65 F	76 F	83 F	76 F
<b>% Relative Humidity:</b>	35	35	40	54	64	45	48
<b>Wind Speed/Unit/Dir:</b>	4 mph SW	2 mph SW	1 mph S	1 mph S	2 mph SE	7 mph S	4 mph SW
<b>Soil Temp., Unit:</b>	66 F	75 F	75 F	70 F	72 F	81 F	77 F
<b>Soil/Leaf Surface M:</b>	3 5	5 5	5 5	5 4	5 5	5 5	2 5
<b>Soil Moist (1=w 5=d):</b>	4	4	3	5	5	5	2

**Crop Stage at Each Application**

	A	B	C	D	E	F	G
<b>Crop Name:</b>	BEAVA	BEAVA	BEAVA	BEAVA	BEAVA	BEAVA	BEAVA
<b>Height (In.):</b>	1"	3"	4"	9"	10-12"	11-14"	18"
<b>Stage (L):</b>	2	4	8	11	14	14	20

**Weed Stage at Each Application**

	A	B	C	D	E	F	G
<b>Weed 1 Name:</b>	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL
<b>Height (In.):</b>	1"	-	1-2"	5"	-	-	-
<b>Stage (L):</b>	2	-	4-8	25	-	-	-
<b>Weed 2 Name:</b>	AMAPO	AMAPO	AMAPO	AMAPO	AMAPO	AMAPO	AMAPO
<b>Height (In.):</b>	-	-	2-3"	-	-	-	-
<b>Stage (L):</b>	-	-	6-8	-	-	-	-
<b>Weed 3 Name:</b>	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
<b>Height (In.):</b>	-	-	1-2"	7"	-	-	-
<b>Stage (L):</b>	-	-	1-3	6	-	-	-
<b>Weed 4 Name:</b>	CAPBP	CAPBP	CAPBP	CAPBP	CAPBP	CAPBP	CAPBP
<b>Height (In.):</b>	0.5-1.5"	-	1-2"	-	-	-	-
<b>Stage (L):</b>	2-6	-	4-12	-	-	-	-
<b>Weed 5 Name:</b>	LAMAM	LAMAM	LAMAM	LAMAM	LAMAM	LAMAM	LAMAM
<b>Height (In.):</b>	0.25-1"	-	1-2"	-	-	-	-
<b>Stage (L):</b>	2-4	-	4	-	-	-	-

**Application Equipment**

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AI XR	11003	23"	20"	100"	19	Water	28
B	Cub	3.8	AI XR	11003	22"	20"	100"	19	Water	28
C	Cub	3.8	AI XR	11003	24"	20"	100"	19	Water	28
D	Cub	3.8	AI XR	11003	27"	20"	100"	19	Water	28
E	Cub	3.8	AI XR	11003	28"	20"	100"	19	Water	28
F	Cub	3.8	AI XR	11003	28"	20"	100"	19	Water	28
G	Cub	3.8	AI XR	11003	28"	20"	100"	19	Water	28

**Comments:** There were no signs of Rhizoctonia crown or root rot.

Cercospora leaf spot (CLS) was evaluated on a scale from 0 to 100%.

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## High input sugarbeet systems - Syngenta II

Trial ID: SB08-12                      Study Dir.: Sprague, Powell  
 Conducted: Campus H6-8              Investigator: Christy Sprague

Weed Code							
Crop Code						BETVU	BETVU
Rating Data Type						stand count	stand count
Rating Unit						100' row	100' row
Rating Date						Apr/26/2012	May/03/2012
Trt-Eval Interval						14 DAP	21 DAP
ARM Action Codes						T1	T2
# Subsamples, Dec.						0	0

Trt	Treatment	Form	Form	Rate	Grow	Appl					
No.	Name	Conc	Type	Rate	Unit	Stg	Code				
1	H9028							68	182	266	0
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
2	H9028 CruiserMax							66	216	297	0
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
3	H9028							58	192	263	0
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					



## MSU Weed Science Research Program

Weed Code	CHEAL	AMAPO	ABUTH	CAPBP							
Crop Code											
Rating Data Type	control	control	control	control							
Rating Unit	percent	percent	percent	percent							
Rating Date	Jun/14/2012	Jun/14/2012	Jun/14/2012	Jun/14/2012							
Trt-Eval Interval	8 DA-C	8 DA-C	8 DA-C	8 DA-C							
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	H9028							94	99	97	99
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
2	H9028 CruiserMax							91	99	98	99
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
3	H9028							99	99	97	99
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					

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Weed Code	CHEAL	AMAPO	ABUTH	CAPBP							
Crop Code											
Rating Data Type	control	control	control	control							
Rating Unit	percent	percent	percent	percent							
Rating Date	Jun/14/2012	Jun/14/2012	Jun/14/2012	Jun/14/2012							
Trt-Eval Interval	8 DA-C	8 DA-C	8 DA-C	8 DA-C							
ARM Action Codes											
# Subsamples, Dec.	0	0	0	0							
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Grow Stg	Appl Code				
4	H9028 CruiserMax							90	99	97	98
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
	LSD (P=.05)							3.1	0.0	5.1	1.9
	CV							2.05	0.0	3.27	1.18

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

## MSU Weed Science Research Program

Weed Code		LAMAM	POROL	BETVU	CHEAL						
Crop Code											
Rating Data Type		control	control	injury	control						
Rating Unit		percent	percent	percent	percent						
Rating Date		Jun/14/2012	Jun/14/2012	Jun/26/2012	Jun/26/2012						
Trt-Eval Interval		8 DA-C	8 DA-C	20 DA-C	20 DA-C						
ARM Action Codes											
# Subsamples, Dec.		0	0	0	0						
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
1	H9028							97	93	0	91
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
2	H9028 CruiserMax							94	96	0	88
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
3	H9028							96	95	0	96
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					

## MSU Weed Science Research Program

Weed Code						LAMAM	POROL	BETVU	CHEAL
Crop Code									
Rating Data Type						control	control	injury	control
Rating Unit						percent	percent	percent	percent
Rating Date						Jun/14/2012	Jun/14/2012	Jun/26/2012	Jun/26/2012
Trt-Eval Interval						8 DA-C	8 DA-C	20 DA-C	20 DA-C
ARM Action Codes									
# Subsamples, Dec.						0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code		
4	H9028 CruiserMax								
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A	99	92
	AMS		WG	17	lb/100 gal	2-leaf	A		
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B		
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C		
	AMS		WG	17	lb/100 gal	6-leaf	C		
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D		
	AMS (IFN)		WG	17	lb/100 gal	canopy	D		
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E		
	SuperTin	80	WG	2	oz/a	+55 DSV1	F		
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F		
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G		
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G		
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3			
	EDBC			2.5	lb/a	+55 DSV3			
	LSD (P=.05)							5.7	12.0
	CV							3.74	8.03
								0.0	6.9
								0.0	4.68

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

## MSU Weed Science Research Program

Weed Code		ANGR	ABUTH	CAPBP	LAMAM						
Crop Code											
Rating Data Type		control	control	control	control						
Rating Unit		percent	percent	percent	percent						
Rating Date		Jun/26/2012	Jun/26/2012	Jun/26/2012	Jun/26/2012						
Trt-Eval Interval		20 DA-C	20 DA-C	20 DA-C	20 DA-C						
ARM Action Codes											
# Subsamples, Dec.		0	0	0	0						
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
1	H9028							99	94	99	99
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
2	H9028 CruiserMax							99	96	99	99
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
3	H9028							99	94	99	99
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					



## MSU Weed Science Research Program

Weed Code							ANGR	ABUTH	CAPBP	LAMAM	
Crop Code											
Rating Data Type							control	control	control	control	
Rating Unit							percent	percent	percent	percent	
Rating Date							Jun/26/2012	Jun/26/2012	Jun/26/2012	Jun/26/2012	
Trt-Eval Interval							20 DA-C	20 DA-C	20 DA-C	20 DA-C	
ARM Action Codes											
# Subsamples, Dec.							0	0	0	0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
4	H9028 CruiserMax							99	94	99	99
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
	LSD (P=.05)							0.8	13.1	0.0	1.2
	CV							0.51	8.66	0.0	0.75

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

MSU Weed Science Research Program

Weed Code	POROL	CHEAL	AMBEL	ANGR
Crop Code				
Rating Data Type	control	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jun/26/2012	Jul/11/2012	Jul/11/2012	Sep/13/2012
Trt-Eval Interval	20 DA-C	15 DA-D	15 DA-D	79 DA-D
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	H9028							93	99	96	96
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
2	H9028 CruiserMax							95	99	96	97
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
3	H9028							95	98	95	99
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					

## MSU Weed Science Research Program

Weed Code						POROL	CHEAL	AMBEL	ANGR
Crop Code									
Rating Data Type						control	control	control	control
Rating Unit						percent	percent	percent	percent
Rating Date						Jun/26/2012	Jul/11/2012	Jul/11/2012	Sep/13/2012
Trt-Eval Interval						20 DA-C	15 DA-D	15 DA-D	79 DA-D
ARM Action Codes									
# Subsamples, Dec.						0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code		
4	H9028 CruiserMax								
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A	94	99
	AMS		WG	17	lb/100 gal	2-leaf	A		
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B		
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C		
	AMS		WG	17	lb/100 gal	6-leaf	C		
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D		
	AMS (IFN)		WG	17	lb/100 gal	canopy	D		
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E		
	SuperTin	80	WG	2	oz/a	+55 DSV1	F		
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F		
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G		
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G		
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3			
	EDBC			2.5	lb/a	+55 DSV3			
	LSD (P=.05)							6.9	1.5
	CV							4.58	0.96
									3.4
									2.2
									3.4
									2.19

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							
Rating Unit	percent	percent	percent	percent							
Rating Date	Sep/13/2012	Sep/13/2012	Sep/13/2012	Sep/13/2012							
Trt-Eval Interval	79 DA-D	79 DA-D	79 DA-D	79 DA-D							
ARM Action Codes											
# Subsamples, Dec.	0	0	0	0							
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
1	H9028							95	99	99	99
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
2	H9028 CruiserMax							93	99	99	99
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
3	H9028							96	99	99	99
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					

MSU Weed Science Research Program

Weed Code	CHEAL	AMAPO	AMBEL	ABUTH							
Crop Code											
Rating Data Type	control	control	control	control							
Rating Unit	percent	percent	percent	percent							
Rating Date	Sep/13/2012	Sep/13/2012	Sep/13/2012	Sep/13/2012							
Trt-Eval Interval	79 DA-D	79 DA-D	79 DA-D	79 DA-D							
ARM Action Codes											
# Subsamples, Dec.	0	0	0	0							
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit Unit	Grow Stg	Appl Code				
4	H9028 CruiserMax							97	99	99	99
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
	LSD (P=.05)							7.1	0.4	0.0	1.2
	CV							4.67	0.25	0.0	0.75

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

MSU Weed Science Research Program

Weed Code	POROL			
Crop Code		CLS	GLXMA	GLXMA
Rating Data Type	control	injury	stand count	% sugar
Rating Unit	percent	percent	100# row	
Rating Date	Sep/13/2012	Sep/13/2012	Oct/17/2012	Oct/17/2012
Trt-Eval Interval	79 DA-D	121 DA-A	188 DAP	188 DAP
ARM Action Codes			T4	
# Subsamples, Dec.	0	0	0	1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	H9028							91	0	132	17.8
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
2	H9028 CruiserMax							96	0	131	18.1
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Eminent	1	L	13	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
3	H9028							96	0	135	18.3
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					

MSU Weed Science Research Program

Weed Code							POROL	CLS	GLXMA	GLXMA	
Crop Code							control	injury	stand count	% sugar	
Rating Data Type							percent	percent	100# row		
Rating Unit							Sep/13/2012	Sep/13/2012	Oct/17/2012	Oct/17/2012	
Rating Date							79 DA-D	121 DA-A	188 DAP	188 DAP	
Trt-Eval Interval									T4		
ARM Action Codes											
# Subsamples, Dec.							0	0	0	1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
4	H9028 CruiserMax							96	0	131	17.8
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A				
	AMS		WG	17	lb/100 gal	2-leaf	A				
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B				
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C				
	AMS		WG	17	lb/100 gal	6-leaf	C				
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D				
	AMS (IFN)		WG	17	lb/100 gal	canopy	D				
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E				
	SuperTin	80	WG	2	oz/a	+55 DSV1	F				
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F				
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G				
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G				
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3					
	EDBC			2.5	lb/a	+55 DSV3					
LSD (P=.05)								10.6	0.0	16.6	1.13
CV								7.04	0.0	7.85	3.92

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

## MSU Weed Science Research Program

Weed Code			
Crop Code		GLXMA	GLXMA
Rating Data Type		yield	RWST
Rating Unit		ton/acre	# / ton
Rating Date		Oct/17/2012	Oct/17/2012
Trt-Eval Interval		188 DAP	188 DAP
ARM Action Codes		TY5	T6
# Subsamples, Dec.		1	1
			0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code			
1	H9028							23.0	260.8	6020
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A			
	AMS		WG	17	lb/100 gal	2-leaf	A			
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C			
	AMS		WG	17	lb/100 gal	6-leaf	C			
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D			
	AMS (IFN)		WG	17	lb/100 gal	canopy	D			
	Eminent	1	L	13	fl oz/a	55 DSV	E			
	SuperTin	80	WG	2	oz/a	+55 DSV1	F			
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F			
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G			
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G			
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3				
	EDBC			2.5	lb/a	+55 DSV3				
2	H9028 CruiserMax							25.0	264.0	6608
	Touchdown Total	4.17	SL	22	fl oz/a	2-leaf	A			
	AMS		WG	17	lb/100 gal	2-leaf	A			
	Touchdown Total	4.17	SL	22	fl oz/a	6-leaf	C			
	AMS		WG	17	lb/100 gal	6-leaf	C			
	Touchdown Total (IFN)	4.17	SL	22	fl oz/a	canopy	D			
	AMS (IFN)		WG	17	lb/100 gal	canopy	D			
	Eminent	1	L	13	fl oz/a	55 DSV	E			
	SuperTin	80	WG	2	oz/a	+55 DSV1	F			
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F			
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G			
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G			
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3				
	EDBC			2.5	lb/a	+55 DSV3				
3	H9028							24.4	266.0	6509
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A			
	AMS		WG	17	lb/100 gal	2-leaf	A			
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B			
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C			
	AMS		WG	17	lb/100 gal	6-leaf	C			
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D			
	AMS (IFN)		WG	17	lb/100 gal	canopy	D			
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E			
	SuperTin	80	WG	2	oz/a	+55 DSV1	F			
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F			
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G			
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G			
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3				
	EDBC			2.5	lb/a	+55 DSV3				



## MSU Weed Science Research Program

Weed Code									
Crop Code							GLXMA	GLXMA	GLXMA
Rating Data Type							yield	RWST	RWSA
Rating Unit							ton/acre	# / ton	# / acre
Rating Date							Oct/17/2012	Oct/17/2012	Oct/17/2012
Trt-Eval Interval							188 DAP	188 DAP	188 DAP
ARM Action Codes							TY5		T6
# Subsamples, Dec.							1	1	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code		
4	H9028 CruiserMax							23.8	258.4
	Touchdown Total	4.17	SL	28	fl oz/a	2-leaf	A		6209
	AMS		WG	17	lb/100 gal	2-leaf	A		
	Quadris - Banded	2.08	L	10.5	fl oz/a	4-leaf	B		
	Sequence	5.25	SL	3.5	pt/a	6-leaf	C		
	AMS		WG	17	lb/100 gal	6-leaf	C		
	Touchdown Total (IFN)	4.17	SL	28	fl oz/a	canopy	D		
	AMS (IFN)		WG	17	lb/100 gal	canopy	D		
	Inspire XT	1	L	4.17	fl oz/a	55 DSV	E		
	SuperTin	80	WG	2	oz/a	+55 DSV1	F		
	Topsin	70	WG	0.5	lb/a	+55 DSV1	F		
	Penncozeb	75	DF	2	lb/a	+55 DSV2	G		
	Kocide 3000	46.1	DF	2	lb/a	+55 DSV2	G		
	Headline	2.09	L	9.2	fl oz/a	+55 DSV3			
	EDBC			2.5	lb/a	+55 DSV3			
	LSD (P=.05)							4.15	20.92
	CV							10.78	4.99

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