

MSU Weed Science Research Program

Betamix and Progress Formulation Comparison

Trial ID: SB03-06BB Form Study Dir.: Sprague, Powell
 Conducted: Saginaw Bean&Beet Investigator: Christy Sprague

Date Planted: 4/11/2006 Row Spacing: 30 IN
 Variety: Crystal 963 No. of Reps: 4
 Population: 4 3/8" seed spacing % OM: 3.3
 Soil Type: Silty Clay pH: 7.8
 Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel Plow. Spring Field Cultivate.
 Fertilizer: Broadcast application of 125#/acre N on March 15, 2006

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	CHEAL	Common lambsquarters	Chenopodium album L.
2.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
3.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
4.	THLAR	PENNYCRESS, FIELD	THLASPI ARVENSE L.
Crop	Code	Common Name	
1.	BETVU	BEEET, SUGAR	

Application Description

	A	B	C	D	E
Application Timing:	Micro 1	Post	Micro 2	Micro 3	Micro 4
Date Treated:	4/27/2006	5/3/2006	5/9/2006	5/22/2006	5/30/2006
Time Treated:	1:00 pm	11:00 am	1:30 pm	2:00	2:30
% Cloud Cover:	0	20	40	10	35
Air Temp., Unit:	58 F	60 F	76 F	53 F	90 F
% Relative Humidity:	22	69	29	25	40
Wind Speed/Unit/Dir:	8 mph NE	3 mph S	7 mph S	8 mph NW	6 mph S
Soil Temp., Unit:	52 F	55 F	66 F	54 F	81 F
Soil/Leaf Surface M:	5	5	5	5	5
Soil Moist (1=w 5=d):	4	4	3	3	5

Crop Stage at Each Application

	A	B	C	D	E
Crop Name:	BETVU	BETVU	BETVU	BETVU	BETVU
Height (In.):	1/8"-1/4"	1/2"-1"	1"-1 1/2"	2-4"	4-6"
Stage (L):	coty	coty-2	2-4	2-6	6-8

Weed Stage at Each Application

	A	B	C	D	E
Weed 1 Name:	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):	1/8"-1/4"	1/4"-1/2"	1"-1 1/2"	1-2"	2.5-6"
Stage (L):	coty-2	2-4	4	4-6	6-8
Weed 2 Name:	AMBEL	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):	1/8"-4"	-	1"-1 1/2"	1-2"	-
Stage (L):	coty-2L	-	2-4	2-4	-
Weed 3 Name:	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):	-	1/2"-3/4"	1/2"-1"	1-2"	1-2.5"
Stage (L):	-	coty	coty-2	coty-4	coty-6
Weed 4 Name:	THLAR	THLAR	THLAR	THLAR	THLAR
Height (In.):	-	-	3"-4"	-	-
Stage (L):	-	-	-	-	-

Weed Density (plants/sq. ft.)

	1	2	3	4	5
Date:	7/21/2006	7/21/2006	7/21/2006	7/21/2006	7/21/2006
Weed Name:	CHEAL	POLPY	AMARE	AMBEL	ABUTH
Density:	2	1	0	0	<1

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Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	18"	20"	100"	19	H20	27
B	Cub	3.8	AirMix	11003	20"	20"	100"	19	H20	27
C	Cub	3.8	AirMix	11003	20"	20"	100"	19	H20	27
D	Cub	3.8	AirMix	11003	20"	20"	100"	19	H20	27
E	Cub	3.8	AirMix	11003	22"	20"	100"	19	H20	27

Comments: Previous Crop: Soybeans. Previous Herbicide: Roundup.

June 12- 3.5 oz/acre Amistar applied
July 7- 0.5 oz/acre Topsin applied
July 19- 9.2 oz/acre Headline applied
July 31- 13 oz/acre Emmminent applied
August 15- 9.2 oz/acre Headline applied

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Weed Code						CHEAL		CHEAL		CHEAL		
Crop Code						BETVU		BETVU		BETVU		
Rating Data Type						injury	control	injury	control	injury	control	
Rating Unit						percent	percent	percent	percent	percent	percent	
Rating Date						5/30/2006	5/30/2006	6/8/2006	6/8/2006	6/15/2006	6/15/2006	
Trt-Eval Interval						33 DA-A	33 DA-A	42 DA-A	42 DA-A	49 DA-A	49 DA-A	
Trt No.	Treatment Name	Form Conc	Rate	Grow Unit	Appl Stg	Code						
1	Betamix (Old Form.)	1.3	8	fl oz/a	micro 1	A	9	86	1	81	3	80
1	Upbeet	50	0.125	oz/a	micro 1	A						
1	Stinger	3	1	fl oz/a	micro 1	A						
1	MSO		1.5	% v/v	micro 1	A						
1	Betamix (Old Form.)	1.3	8	fl oz/a	micro 2	C						
1	Upbeet	50	0.125	oz/a	micro 2	C						
1	Stinger	3	1	fl oz/a	micro 2	C						
1	MSO		1.5	% v/v	micro 2	C						
1	Betamix (Old Form.)	1.3	8	fl oz/a	micro 3	D						
1	Upbeet	50	0.125	oz/a	micro 3	D						
1	Stinger	3	1	fl oz/a	micro 3	D						
1	MSO		1.5	% v/v	micro 3	D						
1	Betamix (Old Form.)	1.3	8	fl oz/a	micro 4	F						
1	Upbeet	50	0.125	oz/a	micro 4	F						
1	Stinger	3	1	fl oz/a	micro 4	F						
1	MSO		1.5	% v/v	micro 4	F						
2	Betamix Ultra (New)	2.6	4	fl oz/a	micro 1	A	10	89	4	88	4	81
2	Upbeet	50	0.125	oz/a	micro 1	A						
2	Stinger	3	1	fl oz/a	micro 1	A						
2	MSO		1.5	% v/v	micro 1	A						
2	Betamix Ultra (New)	2.6	4	fl oz/a	micro 2	C						
2	Upbeet	50	0.125	oz/a	micro 2	C						
2	Stinger	3	1	fl oz/a	micro 2	C						
2	MSO		1.5	% v/v	micro 2	C						
2	Betamix Ultra (New)	2.6	4	fl oz/a	micro 3	D						
2	Upbeet	50	0.125	oz/a	micro 3	D						
2	Stinger	3	1	fl oz/a	micro 3	D						
2	MSO		1.5	% v/v	micro 3	D						
2	Betamix Ultra (New)	2.6	4	fl oz/a	micro 4	F						
2	Upbeet	50	0.125	oz/a	micro 4	F						
2	Stinger	3	1	fl oz/a	micro 4	F						
2	MSO		1.5	% v/v	micro 4	F						
3	Progress (Old Form.)	1.8	5.7	fl oz/a	micro 1	A	11	83	4	84	4	73
3	Upbeet	50	0.125	oz/a	micro 1	A						
3	Stinger	3	1	fl oz/a	micro 1	A						
3	MSO		1.5	% v/v	micro 1	A						
3	Progress (Old Form.)	1.8	5.7	fl oz/a	micro 2	C						
3	Upbeet	50	0.125	oz/a	micro 2	C						
3	Stinger	3	1	fl oz/a	micro 2	C						
3	MSO		1.5	% v/v	micro 2	C						
3	Progress (Old Form.)	1.8	5.7	fl oz/a	micro 3	D						
3	Upbeet	50	0.125	oz/a	micro 3	D						
3	Stinger	3	1	fl oz/a	micro 3	D						
3	MSO		1.5	% v/v	micro 3	D						
3	Progress (Old Form.)	1.8	5.7	fl oz/a	micro 4	F						
3	Upbeet	50	0.125	oz/a	micro 4	F						
3	Stinger	3	1	fl oz/a	micro 4	F						
3	MSO		1.5	% v/v	micro 4	F						

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Rating Data Type						injury	control	injury	control	injury	control
Rating Unit						percent	percent	percent	percent	percent	percent
Rating Date						5/30/2006	5/30/2006	6/8/2006	6/8/2006	6/15/2006	6/15/2006
Trt-Eval Interval						33 DA-A	33 DA-A	42 DA-A	42 DA-A	49 DA-A	49 DA-A
Trt No.	Treatment Name	Form Conc	Rate	Grow Unit	Appl Stg Code						
4	Progress Ultra (New)	3.6	2.85	fl oz/a	micro 1 A	11	82	6	84	5	66
4	Upbeet	50	0.125	oz/a	micro 1 A						
4	Stinger	3	1	fl oz/a	micro 1 A						
4	MSO		1.5	% v/v	micro 1 A						
4	Progress Ultra (New)	3.6	2.85	fl oz/a	micro 2 C						
4	Upbeet	50	0.125	oz/a	micro 2 C						
4	Stinger	3	1	fl oz/a	micro 2 C						
4	MSO		1.5	% v/v	micro 2 C						
4	Progress Ultra (New)	3.6	2.85	fl oz/a	micro 3 D						
4	Upbeet	50	0.125	oz/a	micro 3 D						
4	Stinger	3	1	fl oz/a	micro 3 D						
4	MSO		1.5	% v/v	micro 3 D						
4	Progress Ultra (New)	3.6	2.85	fl oz/a	micro 4 F						
4	Upbeet	50	0.125	oz/a	micro 4 F						
4	Stinger	3	1	fl oz/a	micro 4 F						
4	MSO		1.5	% v/v	micro 4 F						
5	Untreated Control				ABCDEF 0	0	0	0	0	0	0
6	Betamix Ultra (New)	2.6	6	fl oz/a	micro 1 A	14	95	8	97	6	98
6	Upbeet	50	0.125	oz/a	micro 1 A						
6	Stinger	3	1	fl oz/a	micro 1 A						
6	MSO		1.5	% v/v	micro 1 A						
6	Betamix Ultra (New)	2.6	6	fl oz/a	micro 2 C						
6	Upbeet	50	0.125	oz/a	micro 2 C						
6	Stinger	3	1	fl oz/a	micro 2 C						
6	MSO		1.5	% v/v	micro 2 C						
6	Betamix Ultra (New)	2.6	11	fl oz/a	micro 3 D						
6	Upbeet	50	0.125	oz/a	micro 3 D						
6	Stinger	3	1	fl oz/a	micro 3 D						
6	MSO		1.5	% v/v	micro 3 D						
6	Betamix Ultra (New)	2.6	11	fl oz/a	micro 4 F						
6	Upbeet	50	0.125	oz/a	micro 4 F						
6	Stinger	3	1	fl oz/a	micro 4 F						
6	MSO		1.5	% v/v	micro 4 F						
7	Progress Ultra (New)	3.6	4.35	fl oz/a	micro 1 A	16	91	9	88	6	88
7	Upbeet	50	0.125	oz/a	micro 1 A						
7	Stinger	3	1	fl oz/a	micro 1 A						
7	MSO		1.5	% v/v	micro 1 A						
7	Progress Ultra (New)	3.6	4.35	fl oz/a	micro 2 C						
7	Upbeet	50	0.125	oz/a	micro 2 C						
7	Stinger	3	1	fl oz/a	micro 2 C						
7	MSO		1.5	% v/v	micro 2 C						
7	Progress Ultra (New)	3.6	8	fl oz/a	micro 3 D						
7	Upbeet	50	0.125	oz/a	micro 3 D						
7	Stinger	3	1	fl oz/a	micro 3 D						
7	MSO		1.5	% v/v	micro 3 D						
7	Progress Ultra (New)	3.6	8	fl oz/a	micro 4 F						
7	Upbeet	50	0.125	oz/a	micro 4 F						
7	Stinger	3	1	fl oz/a	micro 4 F						
7	MSO		1.5	% v/v	micro 4 F						
8	Betamix (Old Form.)	1.3	2	pt/a	e. post B	6	93	1	92	1	88
8	Betamix (Old Form.)	1.3	3	pt/a	post E						
9	Betamix Ultra (New)	2.6	1	pt/a	e. post B	5	94	3	86	1	84
9	Betamix Ultra (New)	2.6	1.5	pt/a	post E						
10	Progress (Old Form.)	1.8	1.13	pt/a	e. post B	6	79	0	71	0	61
10	Progress (Old Form.)	1.8	1.5	pt/a	post E						

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Rating Unit							percent	percent	percent	percent	percent	percent
Rating Date							5/30/2006	5/30/2006	6/8/2006	6/8/2006	6/15/2006	6/15/2006
Trt-Eval Interval							33 DA-A	33 DA-A	42 DA-A	42 DA-A	49 DA-A	49 DA-A
Trt No.	Treatment Name	Form Conc	Rate	Unit	Grow Stg	Appl Code						
11	Progress Ultra (New)	3.6	0.57	pt/a	e. post	B	10	75	4	69	1	58
11	Progress Ultra (New)	3.6	0.75	pt/a	post	E						
12	Betamix (Old Form.)	1.3	2	pt/a	e. post	B	15	98	4	93	5	85
12	Upbeet	50	0.5	oz/a	e. post	B						
12	Stinger	3	0.25	pt/a	e. post	B						
12	Betamix (Old Form.)	1.3	3	pt/a	post	E						
12	Upbeet	50	0.5	oz/a	post	E						
12	Stinger	3	0.25	pt/a	post	E						
12	Activator 90 NIS		0.25	% v/v	post	E						
13	Betamix Ultra (New)	2.6	1	pt/a	e. post	B	14	99	4	98	4	96
13	Upbeet	50	0.5	oz/a	e. post	B						
13	Stinger	3	0.25	pt/a	e. post	B						
13	Betamix Ultra (New)	2.6	1.5	pt/a	post	E						
13	Upbeet	50	0.5	oz/a	post	E						
13	Stinger	3	0.25	pt/a	post	E						
13	Activator 90 NIS		0.25	% v/v	post	E						
14	Progress (Old Form.)	1.8	1.13	pt/a	e. post	B	16	82	6	76	5	74
14	Upbeet	50	0.5	oz/a	e. post	B						
14	Stinger	3	0.25	pt/a	e. post	B						
14	Progress (Old Form.)	1.8	1.5	pt/a	post	E						
14	Upbeet	50	0.5	oz/a	post	E						
14	Stinger	3	0.25	pt/a	post	E						
14	Activator 90 NIS		0.25	% v/v	post	E						
15	Progress Ultra (New)	3.6	0.57	pt/a	e. post	B	9	76	1	69	1	68
15	Upbeet	50	0.5	oz/a	e. post	B						
15	Stinger	3	0.25	pt/a	e. post	B						
15	Progress Ultra (New)	3.6	0.75	pt/a	post	E						
15	Upbeet	50	0.5	oz/a	post	E						
15	Stinger	3	0.25	pt/a	post	E						
15	Activator 90 NIS		0.25	% v/v	post	E						
16	Betamix Ultra (New)	2.6	12	fl oz/a	micro 1	A	16	89	5	80	8	71
16	MSO		1.5	% v/v	micro 1	A						
16	Betamix Ultra (New)	2.6	16	fl oz/a	micro 2	C						
16	Upbeet	50	0.125	oz/a	micro 2	C						
16	Stinger	3	1	fl oz/a	micro 2	C						
16	MSO		1.5	% v/v	micro 2	C						
16	Betamix Ultra (New)	2.6	16	fl oz/a	post	E						
16	Upbeet	50	0.125	oz/a	post	E						
16	Stinger	3	1	fl oz/a	post	E						
16	MSO		1.5	% v/v	post	E						
LSD (P=.05)							5.5	8.9	5.5	11.0	6.2	11.2
Standard Deviation							3.8	6.3	3.8	7.7	4.3	7.8
CV							36.26	7.64	104.71	9.8	126.77	10.68