

MSU Weed Science Research Program

Weed Control in Dry Edible Beans

Trial ID: DB01-08
 Conducted: T-12 Botany

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Date Planted: 5/29/08
 Variety: Jaguar Black
 Population: 106,000 seeds/Acre
 Soil Type: Loam
 Plot Size: 10 X 35 FT

Row Spacing: 30 IN
 No. of Reps: 4
 % OM: 3.8
 pH: 6.5
 Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow
 Soil finish on 5/8/08
 Soil finish x1 on 5/29/08
 Fertilizer: 160#/Acre 19-19-19 with planter

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISII FOLIA L.
2.	ANGR	mainly foxtail species	SETARIA SP.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	PHSVX	BEAN, DRY	

Application Description

	A	B	C
Application Timing:	PPI	PRE	POST
Date Treated:	5/29/08	5/29/08	6/18/08
Time Treated:	9:00 AM	11:35 AM	10:45 AM
% Cloud Cover:	0	10	100
Air Temp., Unit:	61 F	76 F	58 F
% Relative Humidity:	38	25	66
Wind Speed/Unit/Dir:	2 mph W	5 mph SW	4 mph NW
Soil Temp., Unit:	56 F	59 F	60 F
Soil/Leaf Surface M:	5 -	5 -	5 5
Soil Moist (1=w 5=d):	5	5	5

Crop Stage at Each Application

	A	B	C
Crop Name:	PHSVX	PHSVX	PHSVX
Height (In.):	--	--	4-6
Stage (L):	--	--	V1-V2

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	AMBEL	AMBEL	AMBEL
Height (In.):	--	--	1-2
Stage (L):	--	--	2-4
Weed 2 Name:	ANGR	ANGR	ANGR
Height (In.):	--	--	1-3
Stage (L):	--	--	2-4
Weed 3 Name:	CHEAL	CHEAL	CHEAL
Height (In.):	--	--	1-2
Stage (L):	--	--	2-4
Weed 4 Name:	ABUTH	ABUTH	ABUTH
Height (In.):	--	--	1-2
Stage (L):	--	--	2

Weed Density (plants/sq. ft.)

	1	2	3	4	5	6	7
Date:	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08
Weed Name:	CHEAL	ABUTH	ANGR	AMAPO	AMBEL	SOLPT	BRKA
Density:	11.625	0.625	108.75	0.75	15	2.75	1

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Appl	Sprayer Type	Speed MPH	Nozzle Type	Application Equipment				GPA	Carrier	PSI
				Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width			
A	Cub	3.8	AirMix	11003	22	20	100	19	water	28
B	Cub	3.8	AirMix	11003	22	20	100	19	water	28
C	Cub	3.8	AirMix	11003	26	20	100	19	water	28

Comments: Previous Crop- Fallow

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								ANGR	CHEAL	AMARE	
								PHSVX			
								injury	control	control	
								percent	percent	percent	
								6/18/08	6/18/08	6/18/08	
								20 DA-A	20 DA-A	20 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
1	Eptam 7-E	7	EC	2.5	pt/a	PPI	A	0	78	97	99
1	Permit	75	DF	0.66	oz/a	PPI	A				
2	Pursuit Plus	2.9	EC	20	fl oz/a	PPI	A	0	63	99	99
2	Permit	75	DF	0.5	oz/a	PPI	A				
3	Untreated							0	0	0	0
4	Permit	75	DF	0.5	oz/a	PRE	B	1	90	99	99
4	Dual Magnum	7.62	EC	1	pt/a	PRE	B				
5	Permit	75	DF	0.66	oz/a	PRE	B	3	81	99	99
5	Dual Magnum	7.62	EC	1	pt/a	PRE	B				
6	Permit	75	DF	0.66	oz/a	PRE	B	4	87	97	99
6	Outlook	6	L	12	fl oz/a	PRE	B				
7	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	0	91	84	99
7	Reflex	2	L	1	pt/a	PRE	B				
8	Dual Magnum	7.62	EC	1	pt/a	PRE	B	0	97	33	92
8	Permit	75	DF	0.5	oz/a	POST	C				
8	Activator 90		L	0.25	% v/v	POST	C				
9	Dual Magnum	7.62	EC	1	pt/a	PRE	B	0	95	15	93
9	Permit	75	DF	0.5	oz/a	POST	C				
9	Basagran	4	L	1	pt/a	POST	C				
9	Crop Oil Concentrate		L	0.25	% v/v	POST	C				
10	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	0	94	20	95
10	Reflex	2	L	1	pt/a	POST	C				
10	Activator 90		L	0.25	% v/v	POST	C				
11	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	0	97	15	93
11	Reflex	2	L	1	pt/a	POST	C				
11	Basagran	4	L	1	pt/a	POST	C				
11	Crop Oil Concentrate		L	1	% v/v	POST	C				
12	Raptor	1	L	4	fl oz/a	POST	C	0	0	0	0
12	Basagran	4	L	1	pt/a	POST	C				
12	Crop Oil Concentrate		L	1	% v/v	POST	C				
12	Ammonium Sulfate		DF	12	lb/100 gal	POST	C				
LSD (P=.10)								3.0	5.1	10.3	3.2
Standard Deviation								2.5	4.2	8.6	2.7
CV								441.25	5.8	15.73	3.3

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								AMBEL	ABUTH	SINAR	SOLPT
								control	control	control	control
								percent	percent	percent	percent
								6/18/08	6/18/08	6/18/08	6/18/08
								20 DA-A	20 DA-A	20 DA-A	20 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
1	Eptam 7-E	7	EC	2.5	pt/a	PPI	A	75	93	99	55
1	Permit	75	DF	0.66	oz/a	PPI	A				
2	Pursuit Plus	2.9	EC	20	fl oz/a	PPI	A	73	90	99	97
2	Permit	75	DF	0.5	oz/a	PPI	A				
3	Untreated							0	0	0	0
4	Permit	75	DF	0.5	oz/a	PRE	B	83	94	99	97
4	Dual Magnum	7.62	EC	1	pt/a	PRE	B				
5	Permit	75	DF	0.66	oz/a	PRE	B	90	90	99	94
5	Dual Magnum	7.62	EC	1	pt/a	PRE	B				
6	Permit	75	DF	0.66	oz/a	PRE	B	91	92	99	96
6	Outlook	6	L	12	fl oz/a	PRE	B				
7	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	71	39	97	98
7	Reflex	2	L	1	pt/a	PRE	B				
8	Dual Magnum	7.62	EC	1	pt/a	PRE	B	0	0	0	96
8	Permit	75	DF	0.5	oz/a	POST	C				
8	Activator 90		L	0.25	% v/v	POST	C				
9	Dual Magnum	7.62	EC	1	pt/a	PRE	B	0	0	0	97
9	Permit	75	DF	0.5	oz/a	POST	C				
9	Basagran	4	L	1	pt/a	POST	C				
9	Crop Oil Concentrate		L	0.25	% v/v	POST	C				
10	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	0	0	0	97
10	Reflex	2	L	1	pt/a	POST	C				
10	Activator 90		L	0.25	% v/v	POST	C				
11	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	0	0	0	96
11	Reflex	2	L	1	pt/a	POST	C				
11	Basagran	4	L	1	pt/a	POST	C				
11	Crop Oil Concentrate		L	1	% v/v	POST	C				
12	Raptor	1	L	4	fl oz/a	POST	C	0	0	0	0
12	Basagran	4	L	1	pt/a	POST	C				
12	Crop Oil Concentrate		L	1	% v/v	POST	C				
12	Ammonium Sulfate		DF	12	lb/100 gal	POST	C				
LSD (P=.10)								5.4	7.6	1.6	4.2
Standard Deviation								4.5	6.3	1.3	3.5
CV								11.28	15.18	2.72	4.58

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Weed Code	ANGR	CHEAL	AMARE	AMBEL
Crop Code	PHSVX			
Rating Data Type	injury	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	7/1/08	7/1/08	7/1/08	7/1/08
Trt-Eval Interval	33 DA-A	33 DA-A	33 DA-A	33 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Eptam 7-E	7	EC	2.5	pt/a	PPI	A	0	73	94	99	74
1	Permit	75	DF	0.66	oz/a	PPI	A					
2	Pursuit Plus	2.9	EC	20	fl oz/a	PPI	A	0	70	97	99	76
2	Permit	75	DF	0.5	oz/a	PPI	A					
3	Untreated							0	0	0	0	0
4	Permit	75	DF	0.5	oz/a	PRE	B	0	82	96	99	78
4	Dual Magnum	7.62	EC	1	pt/a	PRE	B					
5	Permit	75	DF	0.66	oz/a	PRE	B	0	78	96	99	86
5	Dual Magnum	7.62	EC	1	pt/a	PRE	B					
6	Permit	75	DF	0.66	oz/a	PRE	B	0	81	92	98	91
6	Outlook	6	L	12	fl oz/a	PRE	B					
7	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	0	84	63	99	75
7	Reflex	2	L	1	pt/a	PRE	B					
8	Dual Magnum	7.62	EC	1	pt/a	PRE	B	0	83	33	99	87
8	Permit	75	DF	0.5	oz/a	POST	C					
8	Activator 90		L	0.25	% v/v	POST	C					
9	Dual Magnum	7.62	EC	1	pt/a	PRE	B	0	83	48	99	94
9	Permit	75	DF	0.5	oz/a	POST	C					
9	Basagran	4	L	1	pt/a	POST	C					
9	Crop Oil Concentrate		L	0.25	% v/v	POST	C					
10	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	0	88	84	99	97
10	Reflex	2	L	1	pt/a	POST	C					
10	Activator 90		L	0.25	% v/v	POST	C					
11	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	0	89	96	99	99
11	Reflex	2	L	1	pt/a	POST	C					
11	Basagran	4	L	1	pt/a	POST	C					
11	Crop Oil Concentrate		L	1	% v/v	POST	C					
12	Raptor	1	L	4	fl oz/a	POST	C	4	81	98	99	91
12	Basagran	4	L	1	pt/a	POST	C					
12	Crop Oil Concentrate		L	1	% v/v	POST	C					
12	Ammonium Sulfate		DF	12	lb/100 gal	POST	C					
LSD (P=.10)								0.9	4.9	8.3	0.8	10.3
Standard Deviation								0.7	4.1	6.9	0.7	8.6
CV								230.94	5.49	9.32	0.72	10.87

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								ABUTH	SOLPT	ANGR	CHEAL
								control	control	control	control
								percent	percent	percent	percent
								7/1/08	7/1/08	7/16/08	7/16/08
								33 DA-A	33 DA-A	48 DA-A	48 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
1	Eptam 7-E	7	EC	2.5	pt/a	PPI	A	98	9	48	90
1	Permit	75	DF	0.66	oz/a	PPI	A				
2	Pursuit Plus	2.9	EC	20	fl oz/a	PPI	A	99	99	61	90
2	Permit	75	DF	0.5	oz/a	PPI	A				
3	Untreated							0	0	0	0
4	Permit	75	DF	0.5	oz/a	PRE	B	97	65	67	88
4	Dual Magnum	7.62	EC	1	pt/a	PRE	B				
5	Permit	75	DF	0.66	oz/a	PRE	B	96	69	51	88
5	Dual Magnum	7.62	EC	1	pt/a	PRE	B				
6	Permit	75	DF	0.66	oz/a	PRE	B	96	82	55	83
6	Outlook	6	L	12	fl oz/a	PRE	B				
7	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	43	96	81	69
7	Reflex	2	L	1	pt/a	PRE	B				
8	Dual Magnum	7.62	EC	1	pt/a	PRE	B	98	94	81	20
8	Permit	75	DF	0.5	oz/a	POST	C				
8	Activator 90		L	0.25	% v/v	POST	C				
9	Dual Magnum	7.62	EC	1	pt/a	PRE	B	99	96	77	48
9	Permit	75	DF	0.5	oz/a	POST	C				
9	Basagran	4	L	1	pt/a	POST	C				
9	Crop Oil Concentrate		L	0.25	% v/v	POST	C				
10	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	90	99	85	69
10	Reflex	2	L	1	pt/a	POST	C				
10	Activator 90		L	0.25	% v/v	POST	C				
11	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	98	99	80	83
11	Reflex	2	L	1	pt/a	POST	C				
11	Basagran	4	L	1	pt/a	POST	C				
11	Crop Oil Concentrate		L	1	% v/v	POST	C				
12	Raptor	1	L	4	fl oz/a	POST	C	99	99	71	81
12	Basagran	4	L	1	pt/a	POST	C				
12	Crop Oil Concentrate		L	1	% v/v	POST	C				
12	Ammonium Sulfate		DF	12	lb/100 gal	POST	C				
LSD (P=.10)								7.2	7.5	8.7	12.5
Standard Deviation								6.0	6.2	7.3	10.4
CV								7.12	8.23	11.51	15.47

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								AMBEL	ABUTH	BRAKA	SOLPT
								control	control	control	control
								percent	percent	percent	percent
								7/16/08	7/23/08	7/16/08	7/16/08
								48 DA-A	48 DA-A	48 DA-A	48 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Grow Stg	Appl Code				
1	Eptam 7-E	7	EC	2.5	pt/a	PPI	A	65	99	96	0
1	Permit	75	DF	0.66	oz/a	PPI	A				
2	Pursuit Plus	2.9	EC	20	fl oz/a	PPI	A	72	99	99	99
2	Permit	75	DF	0.5	oz/a	PPI	A				
3	Untreated							0	0	0	0
4	Permit	75	DF	0.5	oz/a	PRE	B	64	95	99	18
4	Dual Magnum	7.62	EC	1	pt/a	PRE	B				
5	Permit	75	DF	0.66	oz/a	PRE	B	65	96	99	20
5	Dual Magnum	7.62	EC	1	pt/a	PRE	B				
6	Permit	75	DF	0.66	oz/a	PRE	B	68	92	99	40
6	Outlook	6	L	12	fl oz/a	PRE	B				
7	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	64	15	99	99
7	Reflex	2	L	1	pt/a	PRE	B				
8	Dual Magnum	7.62	EC	1	pt/a	PRE	B	76	97	99	94
8	Permit	75	DF	0.5	oz/a	POST	C				
8	Activator 90		L	0.25	% v/v	POST	C				
9	Dual Magnum	7.62	EC	1	pt/a	PRE	B	88	98	99	95
9	Permit	75	DF	0.5	oz/a	POST	C				
9	Basagran	4	L	1	pt/a	POST	C				
9	Crop Oil Concentrate		L	0.25	% v/v	POST	C				
10	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	88	85	99	99
10	Reflex	2	L	1	pt/a	POST	C				
10	Activator 90		L	0.25	% v/v	POST	C				
11	Dual Magnum	7.62	EC	1.33	pt/a	PRE	B	98	92	99	99
11	Reflex	2	L	1	pt/a	POST	C				
11	Basagran	4	L	1	pt/a	POST	C				
11	Crop Oil Concentrate		L	1	% v/v	POST	C				
12	Raptor	1	L	4	fl oz/a	POST	C	73	96	99	99
12	Basagran	4	L	1	pt/a	POST	C				
12	Crop Oil Concentrate		L	1	% v/v	POST	C				
12	Ammonium Sulfate		DF	12	lb/100 gal	POST	C				
LSD (P=.10)								11.8	8.1	1.5	7.8
Standard Deviation								9.9	6.8	1.2	6.5
CV								14.46	8.45	1.36	10.29