

MSU Weed Science Research Program

Comparison of bentazon formulations in dry edible beans

Trial ID: DB03-14 Study Dir.: Sprague and Powell
 Conducted: Campus T-15 Investigator: Christy Sprague

Date Planted: Jun/16/2014 Row Spacing: 30" IN
 Variety: 'Zorro' black beans No. of Reps: 4
 Population: 105,000 seeds/A % OM: 3.2
 Soil Type: Loam pH: 6.5
 Plot Size: 10 X 35 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow, spring soil finish.
 Fertilizer: 132 lb/A of 19-19-19 banded 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.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
5.	SOLPT	NIGHTSHADE, EASTERN BLACK	SOLANUM PTYCANTHUM DUNAL
Crop	Code	Common Name	
1.	PHSVX	BEAN, DRY	

Application Description

A
 Application Timing: POST
 Date Treated: Jul/10/2014
 Time Treated: 3:15 PM
 % Cloud Cover: 50
 Air Temp., Unit: 75 F
 % Relative Humidity: 52
 Wind Speed/Unit/Dir: 2 mph NE
 Soil Temp., Unit: 68 F
 Soil/Leaf Surface M: 4 5
 Soil Moist (1=w 5=d): 4

Crop Stage at Each Application

A
 Crop Name: PHSVX
 Height (In.): 9"
 Stage (L): V3

Weed Stage at Each Application

A
 Weed 1 Name: ANGR
 Height (In.): 6"
 Stage (L): 5
 Weed 2 Name: CHEAL
 Height (In.): 2-4"
 Stage (L): 8-10
 Weed 3 Name: AMAPO
 Height (In.): 3"
 Stage (L): 6
 Weed 4 Name: ABUTH
 Height (In.): 2"
 Stage (L): 4
 Weed 5 Name: SOLPT
 Height (In.): 1-2"
 Stage (L): 4

Weed Density (plants/sq. ft.)

Date:	1	2	3	4	5
Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/17/2014
Weed Name:	ANGR	CHEAL	AMAPO	ABUTH	SOLPT
Density:	5	2	<1	<1	<1

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI	
A	Cub	3.8	AIXR	11003	26"	20"	100"	19	Water	30

Comments: Applied SelectMax + COC (12 oz + 1% v/v) to all treatments on July 17, 2014

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Weed Code								PHSVX	ANGR	CHEAL	AMAPO	ABUTH
Crop Code								injury	control	control	control	control
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/17/2014
Rating Date								7 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Broadloom	4	L	1	pt/a	POST	A	0	0	91	35	86
1	Crop oil concentrate		L	1	% v/v	POST	A					
2	Broadloom	4	L	1.5	pt/a	POST	A	0	0	96	40	98
2	Crop oil concentrate		L	1	% v/v	POST	A					
3	Broadloom	4	L	2	pt/a	POST	A	0	0	99	47	98
3	Crop oil concentrate		L	1	% v/v	POST	A					
4	Basagran	4	L	1	pt/a	POST	A	0	0	81	40	92
4	Crop oil concentrate		L	1	% v/v	POST	A					
5	Basagran	4	L	1.5	pt/a	POST	A	0	0	92	38	98
5	Crop oil concentrate		L	1	% v/v	POST	A					
6	Basagran	4	L	2	pt/a	POST	A	0	0	94	47	99
6	Crop oil concentrate		L	1	% v/v	POST	A					
7	Untreated							0	0	0	0	0
8	Broadloom	4	L	0.5	pt/a	POST	A	3	75	88	91	97
8	Raptor	1	L	4	fl oz/a	POST	A					
8	Crop oil concentrate		L	1	% v/v	POST	A					
8	AMS		WG	2.5	lb/a	POST	A					
9	Basagran	4	L	0.5	pt/a	POST	A	3	74	83	93	99
9	Raptor	1	L	4	fl oz/a	POST	A					
9	Crop oil concentrate		L	1	% v/v	POST	A					
9	AMS		WG	2.5	lb/a	POST	A					
10	Broadloom	4	L	1	pt/a	POST	A	3	75	95	96	99
10	Raptor	1	L	4	fl oz/a	POST	A					
10	Crop oil concentrate		L	1	% v/v	POST	A					
10	AMS		WG	2.5	lb/a	POST	A					
11	Basagran	4	L	1	pt/a	POST	A	3	76	86	97	99
11	Raptor	1	L	4	fl oz/a	POST	A					
11	Crop oil concentrate		L	1	% v/v	POST	A					
11	AMS		WG	2.5	lb/a	POST	A					
LSD (P=.05)								0.2	3.4	9.4	9.9	7.8
CV								14.35	8.62	7.92	12.08	6.13

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

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Weed Code								SOLPT	PHSVX	CHEAL	AMAPO	ABUTH
Crop Code								control	injury	control	control	control
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jul/17/2014	Jul/24/2014	Jul/24/2014	Jul/24/2014	Jul/24/2014
Rating Date								7 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Broadloom	4	L	1	pt/a	POST	A	0	0	85	35	94
1	Crop oil concentrate		L	1	% v/v	POST	A					
2	Broadloom	4	L	1.5	pt/a	POST	A	0	0	89	33	99
2	Crop oil concentrate		L	1	% v/v	POST	A					
3	Broadloom	4	L	2	pt/a	POST	A	0	0	98	37	97
3	Crop oil concentrate		L	1	% v/v	POST	A					
4	Basagran	4	L	1	pt/a	POST	A	0	0	70	25	88
4	Crop oil concentrate		L	1	% v/v	POST	A					
5	Basagran	4	L	1.5	pt/a	POST	A	0	0	85	28	93
5	Crop oil concentrate		L	1	% v/v	POST	A					
6	Basagran	4	L	2	pt/a	POST	A	0	0	86	33	94
6	Crop oil concentrate		L	1	% v/v	POST	A					
7	Untreated							0	0	0	0	0
8	Broadloom	4	L	0.5	pt/a	POST	A	99	4	95	99	99
8	Raptor	1	L	4	fl oz/a	POST	A					
8	Crop oil concentrate		L	1	% v/v	POST	A					
8	AMS		WG	2.5	lb/a	POST	A					
9	Basagran	4	L	0.5	pt/a	POST	A	99	4	89	98	99
9	Raptor	1	L	4	fl oz/a	POST	A					
9	Crop oil concentrate		L	1	% v/v	POST	A					
9	AMS		WG	2.5	lb/a	POST	A					
10	Broadloom	4	L	1	pt/a	POST	A	99	4	97	99	99
10	Raptor	1	L	4	fl oz/a	POST	A					
10	Crop oil concentrate		L	1	% v/v	POST	A					
10	AMS		WG	2.5	lb/a	POST	A					
11	Basagran	4	L	1	pt/a	POST	A	99	4	94	99	99
11	Raptor	1	L	4	fl oz/a	POST	A					
11	Crop oil concentrate		L	1	% v/v	POST	A					
11	AMS		WG	2.5	lb/a	POST	A					
LSD (P=.05)								0.0	0.8	11.3	12.9	6.9
CV								0.0	41.76	9.66	16.84	5.51

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

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Weed Code								SOLPT	PHSVX	CHEAL	AMAPO	ABUTH
Crop Code								control	injury	control	control	control
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jul/24/2014	Aug/07/2014	Aug/07/2014	Aug/07/2014	Aug/07/2014
Rating Date								14 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Broadloom	4	L	1	pt/a	POST	A	0	0	92	55	96
1	Crop oil concentrate		L	1	% v/v	POST	A					
2	Broadloom	4	L	1.5	pt/a	POST	A	0	0	97	66	98
2	Crop oil concentrate		L	1	% v/v	POST	A					
3	Broadloom	4	L	2	pt/a	POST	A	0	0	98	70	98
3	Crop oil concentrate		L	1	% v/v	POST	A					
4	Basagran	4	L	1	pt/a	POST	A	0	0	78	53	87
4	Crop oil concentrate		L	1	% v/v	POST	A					
5	Basagran	4	L	1.5	pt/a	POST	A	0	0	91	40	94
5	Crop oil concentrate		L	1	% v/v	POST	A					
6	Basagran	4	L	2	pt/a	POST	A	0	0	92	50	95
6	Crop oil concentrate		L	1	% v/v	POST	A					
7	Untreated							0	0	0	0	0
8	Broadloom	4	L	0.5	pt/a	POST	A	99	0	98	99	99
8	Raptor	1	L	4	fl oz/a	POST	A					
8	Crop oil concentrate		L	1	% v/v	POST	A					
8	AMS		WG	2.5	lb/a	POST	A					
9	Basagran	4	L	0.5	pt/a	POST	A	99	0	89	99	99
9	Raptor	1	L	4	fl oz/a	POST	A					
9	Crop oil concentrate		L	1	% v/v	POST	A					
9	AMS		WG	2.5	lb/a	POST	A					
10	Broadloom	4	L	1	pt/a	POST	A	99	0	98	99	99
10	Raptor	1	L	4	fl oz/a	POST	A					
10	Crop oil concentrate		L	1	% v/v	POST	A					
10	AMS		WG	2.5	lb/a	POST	A					
11	Basagran	4	L	1	pt/a	POST	A	99	0	96	99	99
11	Raptor	1	L	4	fl oz/a	POST	A					
11	Crop oil concentrate		L	1	% v/v	POST	A					
11	AMS		WG	2.5	lb/a	POST	A					
LSD (P=.05)								0.0	0.0	11.3	15.7	6.6
CV								0.0	0.0	9.26	16.38	5.22

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

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Weed Code								SOLPT		
Crop Code								control	PHSVX	PHSVX
Rating Data Type								percent	moisture	yield
Rating Unit								Aug/07/2014	percent	cwt/acre
Rating Date								28 DA-A	Oct/09/2014	Oct/09/2014
Trt-Eval Interval								0	91 DA-A	at 18% M
# Subsamples, Dec.								0	1	1
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code			
1	Broadloom	4	L	1	pt/a	POST	A	0	19.9	27.6
1	Crop oil concentrate		L	1	% v/v	POST	A			
2	Broadloom	4	L	1.5	pt/a	POST	A	0	20.0	28.2
2	Crop oil concentrate		L	1	% v/v	POST	A			
3	Broadloom	4	L	2	pt/a	POST	A	0	19.3	28.2
3	Crop oil concentrate		L	1	% v/v	POST	A			
4	Basagran	4	L	1	pt/a	POST	A	0	19.8	27.8
4	Crop oil concentrate		L	1	% v/v	POST	A			
5	Basagran	4	L	1.5	pt/a	POST	A	0	20.1	27.9
5	Crop oil concentrate		L	1	% v/v	POST	A			
6	Basagran	4	L	2	pt/a	POST	A	0	20.9	25.1
6	Crop oil concentrate		L	1	% v/v	POST	A			
7	Untreated							0	23.2	21.3
8	Broadloom	4	L	0.5	pt/a	POST	A	99	19.3	28.5
8	Raptor	1	L	4	fl oz/a	POST	A			
8	Crop oil concentrate		L	1	% v/v	POST	A			
8	AMS		WG	2.5	lb/a	POST	A			
9	Basagran	4	L	0.5	pt/a	POST	A	99	20.1	28.0
9	Raptor	1	L	4	fl oz/a	POST	A			
9	Crop oil concentrate		L	1	% v/v	POST	A			
9	AMS		WG	2.5	lb/a	POST	A			
10	Broadloom	4	L	1	pt/a	POST	A	99	18.9	28.0
10	Raptor	1	L	4	fl oz/a	POST	A			
10	Crop oil concentrate		L	1	% v/v	POST	A			
10	AMS		WG	2.5	lb/a	POST	A			
11	Basagran	4	L	1	pt/a	POST	A	99	19.2	28.2
11	Raptor	1	L	4	fl oz/a	POST	A			
11	Crop oil concentrate		L	1	% v/v	POST	A			
11	AMS		WG	2.5	lb/a	POST	A			
LSD (P=.05)								0.0	2.72	3.57
CV								0.0	9.38	9.1

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