

Dry bean tolerance to tiafenacil from preplant and preemergence applications

Trial ID: DB09-18 Study Dir.: Powell, Stiles, Sprague
 Conducted: Campus, T-15W Investigator: Christy Sprague

Planting Date: Jun-18-2018 **Row Spacing:** 30 IN
Variety: 'Zenith' black bean **No. of Reps:** 4
Population: 109000 seeds/A **% OM:** 2.7
Soil Type: L loam **pH:** 6.1
Plot Size: 10 X 30 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Spring disked; spring soil finished three times
Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1			
Crop	Code	Common Name	
1	PHSVX	Dry bean	

Application Description

	A	B	C
Application Timing:	7 DBP	3 DBP	PRE
Date Treated:	Jun-11-2018	Jun-15-2018	Jun-18-2018
Time Treated:	2:30 PM	9:30 AM	9:30 AM
% Cloud Cover:	20	10	90
Air Temp., Unit:	82 F	70 F	85 F
% Relative Humidity:	40	53	77
Wind Speed/Unit/Dir:	11 MPH E	5 MPH SE	7 MPH SW
Soil Temp, Unit:	67 F	67 F	76 F
Leaf Moist/Dew Presence (Y/N):	5	5	5
Soil Moist:	3	5	5

Crop Stage at Each Application

	A	B	C
Crop 1 Name:	PHSVX	PHSVX	PHSVX
Height:			
Stage:			

Weed Stage at Each Application

	A	B	C
Weed 1 Name:			
Height:			
Stage:			

Application Equipment

Appl	Sprayer	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	CUB	3.8 MPH	11003	AIXR	22 "	20 "	100 "	19 GPA	WATER	30 PSI
B	CUB	3.8 MPH	11003	AIXR	24 "	20 "	100 "	19 GPA	WATER	30 PSI
C	CUB	3.8 MPH	11003	AIXR	24 "	20 "	100 "	19 GPA	WATER	30 PSI

Comments: A broadcast application of Raptor (4 fl oz) + Basagran (16 fl oz) + Reflex (16 fl oz) + SelectMax (12 fl oz) + COC (0.5%) + AMS (2.5 lb/A) was applied on July 16, 2018.

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Pest Code	Crop Code	Rating Date	Rating Type	Rating Unit	Trt-Eval Interval	Number of Decimals	PHSVX Jun-28-2018 injury percent 10 DA-C 0	PHSVX Jun-29-2018 stand count 30' LT 11 DA-C 0	PHSVX Jun-29-2018 stand count 30' RT 11 DA-C 0	PHSVX Jun-29-2018 stand count 30' AVE 11 DA-C 0	PHSVX Jul-12-2018 injury percent 24 DA-C 0	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
1	Tiafenacil (DCC-3825)	2.83 L	L	3 fl oz/a	7 DBP	A		29	91	93	92	33
1	MSO		L	0.5 % v/v	7 DBP	A						
2	Tiafenacil (DCC-3825)	2.83 L	L	6 fl oz/a	7 DBP	A		58	31	23	27	75
2	MSO		L	0.5 % v/v	7 DBP	A						
3	Tiafenacil (DCC-3825)	2.83 L	L	9 fl oz/a	7 DBP	A		78	23	18	20	84
3	MSO		L	0.5 % v/v	7 DBP	A						
4	Gramoxone	2 SL	L	4 pt/a	7 DBP	A		0	169	193	181	2
4	Surfactant		L	0.25 % v/v	7 DBP	A						
5	Tiafenacil (DCC-3825)	2.83 L	L	3 fl oz/a	3 DBP	B		35	86	93	89	35
5	MSO		L	0.5 % v/v	3 DBP	B						
6	Tiafenacil (DCC-3825)	2.83 L	L	6 fl oz/a	3 DBP	B		75	36	38	37	74
6	MSO		L	0.5 % v/v	3 DBP	B						
7	Tiafenacil (DCC-3825)	2.83 L	L	9 fl oz/a	3 DBP	B		94	4	10	7	95
7	MSO		L	0.5 % v/v	3 DBP	B						
8	Gramoxone	2 SL	L	4 pt/a	3 DBP	B		0	169	197	183	1
8	Surfactant		L	0.25 % v/v	3 DBP	B						
9	Tiafenacil (DCC-3825)	2.83 L	L	3 fl oz/a	PRE	C		0	183	185	184	2
9	MSO		L	0.5 % v/v	PRE	C						
10	Tiafenacil (DCC-3825)	2.83 L	L	6 fl oz/a	PRE	C		3	157	184	170	10
10	MSO		L	0.5 % v/v	PRE	C						
11	Tiafenacil (DCC-3825)	2.83 L	L	9 fl oz/a	PRE	C		7	122	157	139	13
11	MSO		L	0.5 % v/v	PRE	C						
12	Sharpen	2.85 L	L	0.5 fl oz/a	PRE	C		0	171	186	179	3
12	MSO		L	1 % v/v	PRE	C						
13	Untreated							0	172	195	183	0
14	Sharpen	2.85 L	L	0.5 fl oz/a	7 DBP	A		0	150	180	165	4
14	MSO		L	1 % v/v	7 DBP	A						
15	Sharpen	2.85 L	L	0.5 fl oz/a	3 DBP	B		1	160	161	160	4
15	MSO		L	1 % v/v	3 DBP	B						
16	Gramoxone	2 SL	L	4 pt/a	PRE	C		0	160	191	175	2
16	Surfactant		L	0.25 % v/v	PRE	C						
LSD P=.05								10.0	30.7	23.7	24.1	7.0
Standard Deviation								7.0	21.5	16.6	16.9	4.9
CV								29.62	18.3	12.65	13.61	18.19

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Pest Code	Crop Code	Rating Date	Rating Type	Rating Unit	Trt-Eval Interval	Number of Decimals	PHSVX Jul-12-2018 stand count 30' LT 24 DA-C 0	PHSVX Jul-12-2018 stand count 30' RT 24 DA-C 0	PHSVX Jul-12-2018 stand count 30' AVE 24 DA-C 0	PHSVX Jul-30-2018 injury percent 42 DA-C 0	PHSVX Oct-23-2018 moisture percent 127 DA-C 1	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code					
1	Tiafenacil (DCC-3825)	2.83 L	L	3 fl oz/a	7 DBP	A		92	114	103	29	21.1
1	MSO		L	0.5 % v/v	7 DBP	A						
2	Tiafenacil (DCC-3825)	2.83 L	L	6 fl oz/a	7 DBP	A		34	18	26	71	23.0
2	MSO		L	0.5 % v/v	7 DBP	A						
3	Tiafenacil (DCC-3825)	2.83 L	L	9 fl oz/a	7 DBP	A		26	18	22	81	22.2
3	MSO		L	0.5 % v/v	7 DBP	A						
4	Gramoxone	2 SL	L	4 pt/a	7 DBP	A		184	177	181	0	20.1
4	Surfactant		L	0.25 % v/v	7 DBP	A						
5	Tiafenacil (DCC-3825)	2.83 L	L	3 fl oz/a	3 DBP	B		88	89	88	26	21.0
5	MSO		L	0.5 % v/v	3 DBP	B						
6	Tiafenacil (DCC-3825)	2.83 L	L	6 fl oz/a	3 DBP	B		38	32	35	68	22.5
6	MSO		L	0.5 % v/v	3 DBP	B						
7	Tiafenacil (DCC-3825)	2.83 L	L	9 fl oz/a	3 DBP	B		4	9	6	91	17.4
7	MSO		L	0.5 % v/v	3 DBP	B						
8	Gramoxone	2 SL	L	4 pt/a	3 DBP	B		194	201	197	0	20.8
8	Surfactant		L	0.25 % v/v	3 DBP	B						
9	Tiafenacil (DCC-3825)	2.83 L	L	3 fl oz/a	PRE	C		183	203	193	0	20.4
9	MSO		L	0.5 % v/v	PRE	C						
10	Tiafenacil (DCC-3825)	2.83 L	L	6 fl oz/a	PRE	C		167	190	178	19	20.4
10	MSO		L	0.5 % v/v	PRE	C						
11	Tiafenacil (DCC-3825)	2.83 L	L	9 fl oz/a	PRE	C		134	144	139	10	22.3
11	MSO		L	0.5 % v/v	PRE	C						
12	Sharpen	2.85 L	L	0.5 fl oz/a	PRE	C		178	198	188	1	20.6
12	MSO		L	1 % v/v	PRE	C						
13	Untreated							191	198	195	0	23.5
14	Sharpen	2.85 L	L	0.5 fl oz/a	7 DBP	A		161	183	172	3	21.0
14	MSO		L	1 % v/v	7 DBP	A						
15	Sharpen	2.85 L	L	0.5 fl oz/a	3 DBP	B		169	167	168	3	21.4
15	MSO		L	1 % v/v	3 DBP	B						
16	Gramoxone	2 SL	L	4 pt/a	PRE	C		168	198	183	0	20.7
16	Surfactant		L	0.25 % v/v	PRE	C						
LSD P=.05								34.8	31.9	27.6	11.3	5.10
Standard Deviation								24.4	22.4	19.4	7.9	3.58
CV								19.47	16.76	14.99	31.5	16.94

