

Rotational crop safety with POST applications of ethofumesate (SB04-17) - Year 2

Trial ID: SB04-18 Study Dir.: Sprague, Powell, Stiles
 Conducted: SVREC Investigator: Christy Sprague

Planting Date: Apr-18-2017 **Row Spacing:** 30 IN
Variety: Hilleshog 9619RR **No. of Reps:** 4
Population: 4.125 " spacing **% OM:** 2.6
Soil Type: CL clay loam **pH:** 6.9
Plot Size: 10 X 30 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Conventional tillage
Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1			
Crop	Code	Common Name	
1	BETVU	Sugarbeet	

Application Description

	A	B	C	D	E	F
Application Timing:						
Date Treated:	May-24-2017	Jun-8-2017	Jun-15-2017	Jul-5-2017	Jul-18-2017	Aug-10-2018
Time Treated:	3:15 AM	11:15 AM	11:30 AM	11:00 AM	11:10 AM	2:00 PM
% Cloud Cover:	90	0	10	0	0	90
Air Temp., Unit:	63 F	73 F	80 F	78 F	67 F	80 F
% Relative Humidity:	67	36	47	39	67	41
Wind Speed/Unit/Dir:	11 mph N	1.8 mph SSW	5 mph W	1 mph W	3 mph SW	7 mph S
Soil Temp, Unit:		68 F	82 F	72 F	72 F	75 F
Leaf Moist/Dew Presence (Y/N):	5	5	5	5	5	5
Soil Moist:	3	5	4	5	5	5

Crop Stage at Each Application

	A	B	C	D	E	F
Crop 1 Name:	BETVU	BETVU	BETVU	BETVU	BETVU	BETVU
Height:	1-2 " (1)	4-6 " (4)	4-8 " (6)	8-10 " (9)	10-14 " (12)	13-15 " (14)
Stage:	4 leaf	8 leaf	8-12 lf	10-14 lf	14-18 lf	20 leaf

Weed Stage at Each Application

	A	B	C	D	E	F
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	AIXR	11003	22 "	20 "	100 "	19 GPA	WATER	30 PSI
B	CUB	3.8 mph	AIXR	11003	26 "	20 "	100 "	19 GPA	WATER	30 PSI
C	CUB	3.8 mph	AIXR	11003	26 "	20 "	100 "	19 GPA	WATER	30 PSI
D	CUB	3.8 mph	AIXR	11003	26 "	20 "	100 "	19 GPA	WATER	30 PSI
E	CUB	3.8 mph	AIXR	11003	26 "	20 "	100 "	19 GPA	WATER	30 PSI
F	CUB	3.8 mph	AIXR	11003	26 "	20 "	100 "	19 GPA	WATER	30 PSI

Comments:

There was no apparent crop injury to sugarbeet in year one of this experiment. There was shallow spring soil-finishing of the field prior to planting corn and soybean to level out the ground from the previous year's sugarbeet harvest. Corn 'Stine 9316' was planted at 32,000 seeds/A on May 1, 2018. Soybean 'Stine 14RD62' was planted at 150,000 seeds/A on May 16, 2018. Black bean 'Zenith' was planted at 106,000 seeds/A on June 19, 2018. Corn and soybean were kept clean with two applications of Roundup PowerMax at 32 fl oz/A + 17 lb/100 gal of AMS on May 25 and June 19, 2018. Dual Magnum at 1.33 pt/A + Prowl H2O at 1.6 pt/A were applied immediately after dry bean planting on June 19, 2019. There were no differences in flowering between any of the treatments for all three crops.

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Pest Code						
Crop Code						
Rating Date						
Rating Type						
Rating Unit						
Trt-Eval Interval						
Number of Decimals						
	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
	May-31-2018	May-31-2018	May-31-2018	May-31-2018	Jun-29-2018	Oct-16-2018
	injury	left count	right count	ave count	injury	moisture
	percent	30' row	30' row	30' row	percent	percent
	30 DAP	30 DAP	30 DAP	30 DAP	60 DAP	
	0	0	0	0	0	1

Trt	Treatment	Form	Form	Rate				
No.	Name	Conc	Type	Rate	Unit			
1	Soybean							
1	Untreated							
2	Soybean							
2	Ethofumesate (4-times)	4 L		32 fl oz/a				
2	Destiny HC (4-times)	L		1.5 pt/a				
3	Soybean							
3	Ethofumesate	4 L		128 fl oz/a				
3	Destiny HC	L		1.5 pt/a				
4	Soybean							
4	Ethofumesate	4 L		128 fl oz/a				
4	Destiny HC	L		1.5 pt/a				
5	Soybean							
5	Ethofumesate	4 L		128 fl oz/a				
5	Destiny HC	L		1.5 pt/a				
6	Corn					0	55	57
6	Untreated							56
								0
								16.5
7	Corn					0	56	55
7	Ethofumesate (4-times)	4 L		32 fl oz/a				55
7	Destiny HC (4-times)	L		1.5 pt/a				0
								16.4
8	Corn					0	57	57
8	Ethofumesate	4 L		128 fl oz/a				57
8	Destiny HC	L		1.5 pt/a				0
								16.0
9	Corn					0	56	58
9	Ethofumesate	4 L		128 fl oz/a				57
9	Destiny HC	L		1.5 pt/a				0
								15.7
10	Corn					0	57	56
10	Ethofumesate	4 L		128 fl oz/a				56
10	Destiny HC	L		1.5 pt/a				0
								15.6
11	Dry bean - Zenith							
11	Untreated							
12	Dry bean - Zenith							
12	Ethofumesate (4-times)	4 L		32 fl oz/a				
12	Destiny HC (4-times)	L		1.5 pt/a				
13	Dry bean - Zenith							
13	Ethofumesate	4 L		128 fl oz/a				
13	Destiny HC	L		1.5 pt/a				

Could not calculate LSD (% mean diff) for columns 1,5,8,12,15,19 because error mean square = 0.

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Pest Code						
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX
Rating Date	May-31-2018	May-31-2018	May-31-2018	May-31-2018	Jun-29-2018	Oct-16-2018
Rating Type	injury	left count	right count	ave count	injury	moisture
Rating Unit	percent	30' row	30' row	30' row	percent	percent
Trt-Eval Interval	30 DAP	30 DAP	30 DAP	30 DAP	60 DAP	
Number of Decimals	0	0	0	0	0	1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit
14	Dry bean - Zenith				
14	Ethofumesate	4 L		128 fl oz/a	
14	Destiny HC	L		1.5 pt/a	
15	Dry bean - Zenith				
15	Ethofumesate	4 L		128 fl oz/a	
15	Destiny HC	L		1.5 pt/a	
LSD P=.05					
Standard Deviation					
CV					

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Pest Code						
Crop Code						
Rating Date	Oct-16-2018	Jun-15-2018	Jun-15-2018	Jun-15-2018	Jun-15-2018	Jul-16-2018
Rating Type	yield	injury	left count	right count	ave count	injury
Rating Unit	bu/acre	percent	30' row	30' row	30' row	percent
Trt-Eval Interval	at 15% M	30 DAP	30 DAP	30 DAP	30 DAP	60 DAP
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit					
1	Soybean					0	178	172	175	0
1	Untreated									
2	Soybean					0	161	160	160	0
2	Ethofumesate (4-times)	4 L		32 fl oz/a						
2	Destiny HC (4-times)	L		1.5 pt/a						
3	Soybean					0	178	157	168	0
3	Ethofumesate	4 L		128 fl oz/a						
3	Destiny HC	L		1.5 pt/a						
4	Soybean					0	171	174	173	0
4	Ethofumesate	4 L		128 fl oz/a						
4	Destiny HC	L		1.5 pt/a						
5	Soybean					0	175	179	177	0
5	Ethofumesate	4 L		128 fl oz/a						
5	Destiny HC	L		1.5 pt/a						
6	Corn								205	
6	Untreated									
7	Corn								198	
7	Ethofumesate (4-times)	4 L		32 fl oz/a						
7	Destiny HC (4-times)	L		1.5 pt/a						
8	Corn								212	
8	Ethofumesate	4 L		128 fl oz/a						
8	Destiny HC	L		1.5 pt/a						
9	Corn								212	
9	Ethofumesate	4 L		128 fl oz/a						
9	Destiny HC	L		1.5 pt/a						
10	Corn								215	
10	Ethofumesate	4 L		128 fl oz/a						
10	Destiny HC	L		1.5 pt/a						
11	Dry bean - Zenith									
11	Untreated									
12	Dry bean - Zenith									
12	Ethofumesate (4-times)	4 L		32 fl oz/a						
12	Destiny HC (4-times)	L		1.5 pt/a						
13	Dry bean - Zenith									
13	Ethofumesate	4 L		128 fl oz/a						
13	Destiny HC	L		1.5 pt/a						

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Pest Code						
Crop Code	ZEAMX	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Rating Date	Oct-16-2018	Jun-15-2018	Jun-15-2018	Jun-15-2018	Jun-15-2018	Jul-16-2018
Rating Type	yield	injury	left count	right count	ave count	injury
Rating Unit	bu/acre	percent	30' row	30' row	30' row	percent
Trt-Eval Interval	at 15% M	30 DAP	30 DAP	30 DAP	30 DAP	60 DAP
Number of Decimals	0	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit					
14	Dry bean - Zenith									
14	Ethofumesate	4 L		128 fl oz/a						
14	Destiny HC	L		1.5 pt/a						
15	Dry bean - Zenith									
15	Ethofumesate	4 L		128 fl oz/a						
15	Destiny HC	L		1.5 pt/a						
LSD P=.05				17.7	.	21.4	14.4	16.9	.	.
Standard Deviation				11.5	0.0	13.9	9.4	11.0	0.0	0.0
CV				5.5	0.0	8.07	5.57	6.45	0.0	0.0

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Pest Code						
Crop Code	GLXMA	GLXMA	PHSVX	PHSVX	PHSVX	PHSVX
Rating Date	Oct-17-2018	Oct-17-2018	Jul-17-2018	Jul-17-2018	Jul-17-2018	Jul-17-2018
Rating Type	moisture	yield	injury	left count	right count	ave count
Rating Unit	percent	bu/acre	percent	30' row	30' row	30' row
Trt-Eval Interval		at 13% M	30 DAP	30 DAP	30 DAP	30 DAP
Number of Decimals	1	1	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit						
1	Soybean					10.9	76.6				
1	Untreated										
2	Soybean					10.8	76.1				
2	Ethofumesate (4-times)	4 L		32 fl oz/a							
2	Destiny HC (4-times)	L		1.5 pt/a							
3	Soybean					10.6	78.7				
3	Ethofumesate	4 L		128 fl oz/a							
3	Destiny HC	L		1.5 pt/a							
4	Soybean					10.8	74.5				
4	Ethofumesate	4 L		128 fl oz/a							
4	Destiny HC	L		1.5 pt/a							
5	Soybean					10.8	76.4				
5	Ethofumesate	4 L		128 fl oz/a							
5	Destiny HC	L		1.5 pt/a							
6	Corn										
6	Untreated										
7	Corn										
7	Ethofumesate (4-times)	4 L		32 fl oz/a							
7	Destiny HC (4-times)	L		1.5 pt/a							
8	Corn										
8	Ethofumesate	4 L		128 fl oz/a							
8	Destiny HC	L		1.5 pt/a							
9	Corn										
9	Ethofumesate	4 L		128 fl oz/a							
9	Destiny HC	L		1.5 pt/a							
10	Corn										
10	Ethofumesate	4 L		128 fl oz/a							
10	Destiny HC	L		1.5 pt/a							
11	Dry bean - Zenith							0	154	159	157
11	Untreated										
12	Dry bean - Zenith							0	157	159	158
12	Ethofumesate (4-times)	4 L		32 fl oz/a							
12	Destiny HC (4-times)	L		1.5 pt/a							
13	Dry bean - Zenith							0	156	151	153
13	Ethofumesate	4 L		128 fl oz/a							
13	Destiny HC	L		1.5 pt/a							

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Pest Code						
Crop Code	GLXMA	GLXMA	PHSVX	PHSVX	PHSVX	PHSVX
Rating Date	Oct-17-2018	Oct-17-2018	Jul-17-2018	Jul-17-2018	Jul-17-2018	Jul-17-2018
Rating Type	moisture	yield	injury	left count	right count	ave count
Rating Unit	percent	bu/acre	percent	30' row	30' row	30' row
Trt-Eval Interval		at 13% M	30 DAP	30 DAP	30 DAP	30 DAP
Number of Decimals	1	1	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit				
14	Dry bean - Zenith					0	155	145	150
14	Ethofumesate	4 L		128 fl oz/a					
14	Destiny HC	L		1.5 pt/a					
15	Dry bean - Zenith					0	151	156	153
15	Ethofumesate	4 L		128 fl oz/a					
15	Destiny HC	L		1.5 pt/a					
LSD P=.05				0.29	4.34	.	9.0	15.3	9.9
Standard Deviation				0.19	2.82	0.0	5.8	9.9	6.4
CV				1.77	3.69	0.0	3.78	6.45	4.18

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Pest Code			
Crop Code	PHSVX	PHSVX	PHSVX
Rating Date	Aug-14-2018	Oct-17-2018	Oct-17-2018
Rating Type	injury	moisture	yield
Rating Unit	percent	percent	cwt/acre
Trt-Eval Interval	60 DAP		at 18% M
Number of Decimals	0	1	1

Trt	Treatment	Form	Form	Rate		
No.	Name	Conc	Type	Rate	Unit	
1	Soybean					
1	Untreated					
2	Soybean					
2	Ethofumesate (4-times)	4 L		32 fl oz/a		
2	Destiny HC (4-times)	L		1.5 pt/a		
3	Soybean					
3	Ethofumesate	4 L		128 fl oz/a		
3	Destiny HC	L		1.5 pt/a		
4	Soybean					
4	Ethofumesate	4 L		128 fl oz/a		
4	Destiny HC	L		1.5 pt/a		
5	Soybean					
5	Ethofumesate	4 L		128 fl oz/a		
5	Destiny HC	L		1.5 pt/a		
6	Corn					
6	Untreated					
7	Corn					
7	Ethofumesate (4-times)	4 L		32 fl oz/a		
7	Destiny HC (4-times)	L		1.5 pt/a		
8	Corn					
8	Ethofumesate	4 L		128 fl oz/a		
8	Destiny HC	L		1.5 pt/a		
9	Corn					
9	Ethofumesate	4 L		128 fl oz/a		
9	Destiny HC	L		1.5 pt/a		
10	Corn					
10	Ethofumesate	4 L		128 fl oz/a		
10	Destiny HC	L		1.5 pt/a		
11	Dry bean - Zenith					
11	Untreated				0	15.2 31.3
12	Dry bean - Zenith					
12	Ethofumesate (4-times)	4 L		32 fl oz/a	0	15.1 30.8
12	Destiny HC (4-times)	L		1.5 pt/a		
13	Dry bean - Zenith					
13	Ethofumesate	4 L		128 fl oz/a	0	15.0 30.9
13	Destiny HC	L		1.5 pt/a		

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Pest Code			
Crop Code	PHSVX	PHSVX	PHSVX
Rating Date	Aug-14-2018	Oct-17-2018	Oct-17-2018
Rating Type	injury	moisture	yield
Rating Unit	percent	percent	cwt/acre
Trt-Eval Interval	60 DAP		at 18% M
Number of Decimals	0	1	1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit			
14	Dry bean - Zenith			0		14.9		30.8
14	Ethofumesate	4 L		128 fl oz/a				
14	Destiny HC	L		1.5 pt/a				
15	Dry bean - Zenith			0		14.9		31.7
15	Ethofumesate	4 L		128 fl oz/a				
15	Destiny HC	L		1.5 pt/a				
	LSD P=.05			.		0.74		3.07
	Standard Deviation			0.0		0.48		1.99
	CV			0.0		3.19		6.41