

University of Tennessee

Evaluation of NPV Virus for Caterpillar Control in Grain Sorghum - Gibson Co.

Location: West TN Research and Education Center - Jackson

Variety: Pioneer 84P80 (planted 6-3-2019)

Plots: 5 Rows x 40 ft (RCBD, 4 Reps)

Application: 8-12-19; High clearance sprayer (9.3 GPA, 40 PSI, 8001FF)

Sample size: 10 Heads

Investigators: Stewart, S. Steckel, Williams

Note: Heligen is a nucleopolyhedrosis virus (NPV; a biological product) for control of corn earworm

CEW = Corn earworm

Description			CEW	CEW	CEW	CEW	CEW	CEW	SWW	CEW	CEW	Yield
Pest Stage Majority			Small	Large	Sm + Lg	Small	Large	Sm + Lg	Total	Large	Sm + Lg	Bu/acre
Rating Date			8/16/2019	8/16/2019	8/16/2019	8/19/2019	8/19/2019	8/19/2019	8/19/2019	8/23/2019	8/23/2019	11/20/2019
Trt-Eval Interval			4 DA-A	4 DA-A	4 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A	11 DA-A	11 DA-A	
Treatment	Formulation	Rate										
1 Heligen	100 %	1.4 fl oz/a	9.8 a	2.0 ab	11.8 a	5.3 a	7.0 a	12.3 b	2.0 a	5.8 ab	6.5 ab	43.1 a
2 Heligen	100 %	1.4 fl oz/a	2.3 b	0.3 c	2.5 b	2.0 b	2.8 b	4.8 c	1.0 a	2.0 bc	3.5 bc	38.6 a
Mustang Maxx	0.8 lb/gal	4 fl oz/a										
3 Mustang Maxx	0.8 lb/gal	4 fl oz/a	1.3 b	0.8 bc	2.0 b	2.3 b	0.8 bc	3.0 c	0.5 a	1.0 c	1.5 bc	53.7 a
4 Prevathon	0.43 lb/gal	10 fl oz/a	0.5 b	0.0 c	0.5 b	0.5 b	0.0 c	0.5 c	0.3 a	0.0 c	0.0 c	42.1 a
5 Besiege	1.252 lb/gal	5 fl oz/a	0.0 b	0.0 c	0.0 b	0.0 b	0.0 c	0.0 c	0.3 a	0.0 c	0.0 c	47.2 a
6 Untreated			10.8 a	2.8 a	13.5 a	5.8 a	12.8 a	18.5 a	0.5 a	9.3 a	10.3 a	36.2 a
Treatment Prob(F)			0.0003	0.0105	0.0001	0.0023	0.0001	0.0001	0.2482	0.0019	0.0033	0.4306

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

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Sugarcane Aphid Control in Grain Sorghum - Gibson Co.

Location: West TN Research and Education Center - Jackson

Variety: Pioneer 84P80 (planted 6-3-2019)

Plots: 5 Rows x 40 ft (RCBD, 4 Reps)

Application: 8-1-19; High clearance sprayer (9.3 GPA, 40 PSI, 8001FF)

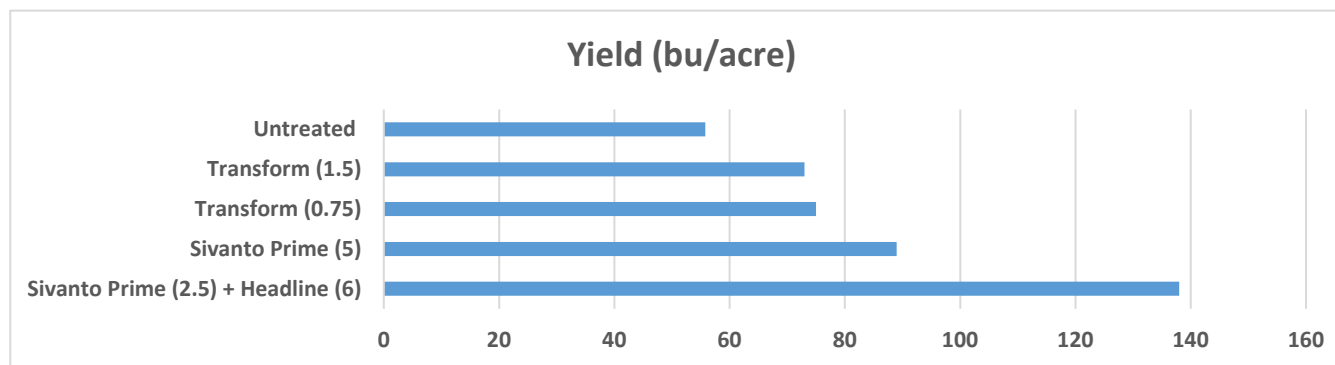
Investigators: Stewart, S. Steckel, Williams

SCA = Sugarcane aphid

Note: Leaf disease = Mostly target spot

Description			SCA Upper Flag leaves	SCA Upper Flag leaves	SCA Upper Flag leaves	SCA Flag & mid Flag and mid-plant	% disease Lower leaves	% disease Whole plant	Yield	
Rating Date			8/6/2019	8/12/2019	8/16/2019	8/19/2019	8/19/2019	8/30/2019	11/20/2019	
Sample Size			10 leaf	10 leaf	10 leaf	10 leaf	1 Plot	1 Plot	Bu/acre	
Trt-Eval Interval			5 DA-A	11 DA-A	15 DA-A	18 DA-A	18 DA-A	29 DA-A	111 DA-A	
Treatment	Formulation	Rate								
1	Sivanto Prime	1.67 LB/GAL	2.5 fl oz/a	0.1 a	0.7 c	3.1 b	1.5 c	13.5 b	7.8 b	137.9 a
	Headline	2.09 LB/GAL	6 fl oz/a							
2	Sivanto Prime	1.67 LB/GAL	5 fl oz/a	0.0 a	0.7 c	2.0 b	1.0 c	50.0 a	67.5 a	89.3 b
3	Transform	50 %	0.75 oz wt/a	0.2 a	7.9 b	15.5 b	67.8 b	50.0 a	67.5	75.2 bc
4	Transform	50 %	1.5 oz wt/a	0.0 a	8.7 b	14.8 b	32.3 b	50.0 a	67.5	73.0 bc
5	Untreated			18.1 a	108.7 a	60.0 a	2603.8 a	50.0 a	67.5	55.8 c
Treatment Prob(F)				0.0962	0.0404	0.0012	0.0123	0.0001	0.0013	0.0003

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



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Sugarcane Aphid Control in Grain Sorghum - Madison Co.

Location: West TN Research and Education Center - Jackson

Variety: DKS 51-01 (planted 5-22-2019)

Plots: 4 Rows x 40 ft (RCBD, 4 Reps)

Application: 8-1-19; High clearance sprayer (9.3 GPA, 40 PSI, 8001FF)

Investigators: Stewart, S. Steckel, Williams

SCA = Sugarcane aphid

Note: Leaf disease = Mostly target spot

Description				SCA counts		Leaf disease		Yield	
Rating Date				Upper leaves		% area affected		Bu/acre	
Sample Size				9/6/2019		9/6/2019		10/10/2019	
Trt-Eval Interval				10 leaves		1 plot			
				36 DA-A		36 DA-A			
Treatment	Formulation	Rate							
1 Sivanto Prime	1.67 lb/gal	2.5	fl oz/a	2.8	cd	4.8	b	132.7	a
Headline	2.09 lb/gal	6	fl oz/a						
2 Sivanto Prime	1.67 lb/gal	5	fl oz/a	1.8	d	16.3	a	130.8	a
3 Transform	50 %	0.75	oz wt/a	26.3	bc	17.0	a	131.5	a
4 Transform	50 %	1.5	oz wt/a	56.3	ab	16.3	a	131.9	a
5 Untreated				355.0	a	14.5	a	130.8	a
Treatment Prob(F)				0.0045		0.0001		0.9495	

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