

CONTROL OF SEEDLING THrips WITH FOLIAR INSECTICIDE APPLICATIONS

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Introduction

Thrips are an annual insect pest of seedling cotton in Georgia and other cotton producing states in the southeast. Failure to adequately control early season thrips results in distortion of expanding leaves, stunting of seedlings, delays in maturity, reduced yield potential, and in severe cases loss of stands. Due to the predictability of early season thrips populations, preventive at-plant systemic insecticides are recommended for their control. However under high populations or conditions which are not conducive for uptake of preventive insecticides, thrips infestations and resulting seedling injury may require supplemental treatment with foliar insecticides. The objective of this trial was to compare selected foliar insecticides for control of early season thrips on seedling cotton.

Methods

A small plot trial was conducted at the Sunbelt Agricultural Exposition near Moultrie GA to evaluate thrips control for selected insecticides. DP444 was planted on May 7, 2003 and no at plant insecticide was used. Plots were 2 rows wide, 40 feet in length, and replicated four times in a randomized complete block design. Treatments were applied on an 18 inch band with a CO₂ backpack sprayer calibrated to deliver 10 gpa using 8002 nozzles and 40 psi on May 20 and May 27. Thrips control was evaluated on May 23, 27, and 30 by randomly selecting 5 plants per plot and immediately immersing and swirling each seedling in a container filled with 70% ETOH to dislodge thrips from the plant. Adult and immature thrips were separated and counted using a dissecting microscope. Mean plant heights for each plot were determined on June 18 by measuring 10 consecutive plants in the center of each plot.

Results and Discussion

High populations of thrips, exceeding 40 per plant in untreated plots, were present at this trial site. All treatments significantly reduced immature and adult thrips populations on May 23, 3 DAT1, (Table 1). On May 27, 7 DAT1, all treatments significantly reduced immature thrips populations, however Orthene and Bidrin provided significantly better control compared with Mustang Max and Vydate. On May 30, 3 DAT2, all treatments again significantly reduced adult and immature thrips compared with the untreated. Orthene and Bidrin significantly reduced immature thrips compared with all other treatments with the exception of Vydate at 3 DAT2. Plant heights were lowest in untreated plots and significantly reduced compared with Orthene, Bidrin, and Vydate treatments.

In summary, all treatments provided control of early season thrips at 3 DAT. No significant

difference was observed between the low and high rates of the pyrethroid Mustang Max on any evaluation date. Treatments which had systemic activity such as Orthene, Bidrin, and Vydate tended to provide better thrips control compared with the contact insecticide Mustang Max. Orthene and Bidrin provided greater residual control compared with other treatments and would be preferred treatments if early season thrips were the only target pest which required control.

Table 1. Immature and adult thrips per 5 plants on three dates and plant heights following treatment with selected insecticides. Sunbelt Agricultural Exposition, Colquitt County GA - 2003.

Treatment	Thrips per 5 plants						June 18 Height (cm)	
	May 23 3DAT1		May 27 7DAT1		May 30 3DAT2			
	immat.	adults	immat.	adults	immat.	adults		
Untreated	45.25a	7.25a	217.50a	3.00a	55.00a	1.75a	33.90c	
Mustang Max 1.28 ozs/a	16.00b	1.50bc	99.75b	2.75a	14.00bc	0.25b	37.55bc	
Mustang Max 1.92 ozs/a	20.50b	2.50b	110.50b	3.50a	18.00 b	0.50b	38.08bc	
Orthene 97 3 ozs/a	14.75b	0.25c	22.00c	0.00a	1.25d	0.25b	42.85a	
Vydate C-LV 17 ozs/a	18.50b	1.25bc	114.75b	3.00a	7.00cd	0.50b	40.08ab	
Bidrin 8E 3.2 ozs/a	14.00b	0.75bc	37.75c	1.00a	3.75d	0.00b	42.98a	

Treated on May 20 and May 27.

Means within a column followed by the same letter do not significantly differ (P=0.10, LSD)