



Evaluation of Selected Seed Applied Fungicides for Management of *Rhizoctonia solani* Seedling Disease in Cotton

Cooperator: Nathan Lowe 2011

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Summary:

Cotton seedling disease caused by *Rhizoctonia solana* is often referred to as sore shine or damping off. Under cool, wet conditions the fungus can cause stand loss due to damping off and seed decay prior to emergence. A trial was conducted to evaluate the effectiveness of several seed applied fungicides, including an experimental product specific for *Rhizoctonia* management. Weather conditions in 2011 were excessively hot and dry. While soil samples from the selected field had significant *Rhizoctonia solani* inoculum and caused seedling death in preliminary evaluations, *Rhizoctonia solani* was not a significant pathogen issue in the field in 2011. Stand counts were conducted at 14, 28 and 42 days after planting. The field was stripper harvested and yields compared. At 28 and 42 days after planting there were differences among treatments. However, this did not translate to yield differences at harvest.

Objective:

The objective of this applied research trial was to evaluate seed applied fungicides for management of *Rhizoctonia* seedling disease in cotton.

Materials and Methods:

Plots were planted May 6, 2011 in a commercial cotton production field. Plots were four rows by 35 feet in length, on 40 inch centers. The seeding rate was four seed per foot of row utilizing a cone type research planter. The experimental design was a randomized complete block design. All treatments were applied to Phytogen 367WRF cotton seed from the same lot number to insure seed quality across all treatments. Stand counts (plants per foot of row) were conducted at 14, 28 and 42 days after planting. This field has an Amarillo loamy fine sand soil type; irrigation was provided by a center pivot using a low elevation spray application. The plots were harvested October 22.

Results and Discussion:

Rhizoctonia did not appear to be much of a problem in 2011 at this location. The experimental material used at this site was specifically for *Rhizoctonia* control. Plant stands were similar at 14 days after planting but there were treatment differences at 28 days after planting. However, by 42 days after planting, only the nontreated check had lower stands than any other treatments. The best stands were associated with treatment 7 and treatment 5 (Apron + Maxim + Systhane + Dynasty + Cruiser). These stands were significantly better than the Cruiser check and treatment 2 (Apron XL + Maxim + Systhane + Cruiser) at 28 days after planting (Table 1). There were no differences in yield between seed treatments.

Table 1. Effects of selected seed applied fungicides on stand counts and yield of cotton.

Treatment	Chemical(s)	Plants/foot of row			Lbs of Lint/acre
		D ¹¹⁴	D ¹²⁸	D ¹⁴²	
1	Cruiser (C) (Check)	2.12	2.13c ²	2.13b	1,862
2	C+Apron (A)+Maxim (M)+Systhane (S)	2.26	2.43bc	2.31ab	1,954
3	C+A+M+S+Experimental (Exp)	2.44	2.64ab	2.55a	1,853
4	C+A+M+S+Exp	2.46	2.69ab	2.36ab	1,775
5	C+A+M+S+Dynasty	2.53	2.80a	2.54a	1,777
6	Allegiance+Baytan+Vortex+Trilex+Exp	2.40	2.67ab	2.46ab	1,969
7	Experimental	2.53	2.81a	2.65a	1,810

1. Days after planting.

2. Values, within the same column, followed by the same letter, do not differ statistically (P=0.05).

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