

**BAYTAN® SEED TREATMENT FUNGICIDE:
A REVIEW OF FIELD PERFORMANCE ACROSS
THE COTTON GROWING REGIONS**

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Abstract

Baytan, a sterol-inhibiting fungicide composed of the active ingredient, triadimenol, and a member of the triazole chemistry group of fungicides, has proven to be an excellent systemic, seed treatment protectant for cottonseed. Having been researched and developed as a cottonseed treatment to be utilized in combination with other co-fungicides since 1987, Baytan received a cotton label from the EPA in the Fall of 1993.

Baytan offers excellent disease protection to seed and seedlings against the soilborne plant pathogens, *Rhizoctonia solani* and *Thielaviopsis basicola*, responsible for inciting damping-off and black root rot disease to cotton seedlings. Use rates of the product have been defined for each disease due to the diversity of disease problems in the Cottonbelt regions. A 100 ppm rate of Baytan (.165 oz.a.i.) applied per hundredweight cottonseed offers excellent protection against *Rhizoctonia*, identified as being a universal problem across the cotton beltwide growing regions, whereas a 200-300 ppm rate (.33-.5 oz.a.i.) of Baytan delivered per hundredweight of seed offers suppression against *Thielaviopsis* infection. Data from Gustafson research personnel and confirmed by university cooperators, support the efficacy provided by Baytan.

Stand establishment of cotton seedlings treated with Baytan has been enhanced, when compared to other broad spectrum fungicides (both contact and systemic- active). Data from university trials and the National Cottonseed Treatment Trials (conducted across multiple locations) show Baytan, when used as a co-fungicide, provides a 5-8% increase in seedling survival over older, conventional fungicides, such as captan, PCNB, and carboxin, when stand performance was compared between the chemical seed treatments. A Baytan-based seed treatment combination provided the best stands in the 1993, 1994, and 1995 National Cottonseed Treatment trials, conducted over 15-18 U.S. locations. In addition, disease incidence in the location trials was recorded, with *Thielaviopsis* identified across states in the Southeast (AL, AR, LA, MS, OK, and TN), areas not generally identified as having a *Thielaviopsis* seedling disease problem. Due to the broader distribution of *Thielaviopsis* in the Cottonbelt, it may be assumed that Baytan's exceptional performance in this trial

is due to the activity against this cotton seedling pathogen, which older cottonseed treatment products do not control or suppress.

Baytan has been tested across cotton varieties, combined with co-fungicides and insecticides, for seed computability. Warm and cool germination studies indicate Baytan is a user-friendly product on cottonseed. As with other triazole chemistry, ie. NuFlow® M, Baytan, in some seed lots, may slightly lower cool germination percentages. Long-term Baytan-treated seed storage studies indicate the product to be safe, when proper seed storage conditions are maintained.