

AN IMPROVED METHOD FOR TREATING PINE  
SEEDS WITH BAYLETON

Walter D. Kelley 1/

Abstract.--Treating wetted pine seeds with Bayleton 50 WP at a rate of 4 oz of the product per 100 lb of seed provided protection against fusiform rust that was equal to that obtained with the Bayleton seed soak. The new method is easier to use and Bayleton is compatible with other seed treatment compounds.

Bayleton has proven very effective in controlling fusiform rust on loblolly and slash pine seedlings in southern nurseries. The small percentages of fusiform rust that have been reported at various nurseries can be attributed to infections that occurred on early-emerging seedlings from non-treated seed. The first foliar spray of Bayleton usually is applied after 50% or more of the seedlings have emerged. Oftentimes, 10 to 14 days are required to attain this percentage after emergence begins. The "kickback" activity of Bayleton is not sufficient to eradicate all infections that have had 10 to 14 days to become established. On the other hand, the Bayleton foliar spray will not protect seedlings that emerge after the application. Thus, if the nurseryman applies Bayleton as a foliar spray earlier in the germination period it will be necessary to spray a second time approximately 10 days later to protect those seedlings that emerge after the first spray.

Protecting pine seedlings from fusiform rust during emergence also can

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1/ Associate Professor, Alabama Agric. Expt. Stn., Auburn University, AL 36849.

be accomplished by soaking the seed for 24 h in a solution containing 800 mg a.i. of Bayleton per liter. This treatment provides protection to young seedlings for about 14 days after emergence. Unfortunately, the seed soak procedure creates logistical problems for the nurseryman during the sowing season; thus, the procedure is used at very few nurseries. The need for a seed treatment procedure that would be acceptable by nurserymen prompted the research reported here.

Stratified loblolly pine seed were treated with Bayleton either as a seed soak or as a seed dressing. The seed soak treatment was a 24 h soak in a solution containing 800 mg a.i. of Rayleton per liter, as described by Mexal and Snow. The seed dressing treatment was Rayleton 50 WP applied to wetted seed as a dry powder at rates of 1.0, 2.0, and 4.0 oz per 100 lb of seed. Seed were tumbled in a Gustafson Laboratory Batch Seed Treater for 10 minutes to insure uniform coverage with the Bayleton. Seed sowing dates were arranged so that each treatment contained seedlings from seed that were sown 26, 31, 36 and 41 days before inoculation with the rust fungus. Control seedlings received no Bayleton, and all treatments were conducted with and without the animal repellent and fungicide, thiram. Seedlings were examined for rust galls 30 wk after inoculation.

Results of the study showed that all Bayleton seed treatments tested significantly decreased incidence of fusiform rust. Thiram had no effect on efficacy of the Bayleton. The Rayleton seed dressing at a rate of 4 oz per 100 lb of seed was equally as effective as the Bayleton seed soak treatment currently labelled for use in forest nurseries. Either of these treatments provided protection to emerging seedlings for 36 days (but less than 41 days) after sowing. This period of protection may be sufficient to eliminate one of the three to four foliar sprays of Bayleton currently used in forest nurseries.