



# Nursery Cooperative MANAGEMENT ALERT 2016 - 01

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## SEED GERMINATION CONCERNS WHEN USING SIGNET® 480FS (THIRAM) FROM NUFARM



Signet® 480FS is a seed treatment label from Nufarm containing 44% Thiram. The compound is labeled for use on conifer seed for the treatment of damping off at the rate of 2 quarts per 100 pounds of seed.

In Spring 2014, Warren Bryant and Steve Fuller with White City Nursery in Prattville, AL tried this product and experienced seed germination problems that were reported to Nursery Cooperative staff. After the poor germination results, White City Nursery set up a formal test under more controlled conditions to verify what they had observed in the field. An image of their results is shown below and it appears the seeds of loblolly germinated but were not able to send the radical into the soil. This resulted in germinated loblolly seeds lying on the soil surface, unable to send the radical downwards.

When this was brought to our attention last fall, a more thorough analysis was designed to see if their results could be repeated. The Nursery Cooperative is in the middle of a controlled greenhouse study verifying these results. The test will not be complete until later this week. **Although the study is not complete as of this Management Alert, we wanted to inform you of a potential concern with this product.** Like those results observed both in the field and in the trials, we began to notice this same germination pattern in the greenhouse after just 2 days of germination.

It appears that the SIGNET® 480FS (Thiram) from NUFARM is affecting geotropism of the seedling radical causing the inability of the seed to properly send the radical down into the soil. However, the phototropism is still working causing emerging seedling to try to erect itself.

**Based on these results, this product should not be used as a seed treatment on loblolly pine seed until we have a more complete picture of what is occurring to the radical.** We have not experienced this germinating seed behavior with Bayer CropScience's label of thiram. We will have a complete report of this study at the 2016 Contact Meeting in Lake Charles.