

Seedling Needle Turgor & Root Mass Increase in Just 30 Days with Quantum Growth

- Location:** International Forest Company, Moultrie, GA
- Background:** IFCO wanted to test the benefits of using biological growth additives on Long Leaf Yellow Pine Seed.
- Objective:** Ecological Laboratories, Inc. provided a treatment plan for a test plot of one acre for approximately 900,000 container seedlings. Initial application of 1 gallon Quantum-Light and 1 gallon Quantum-VSC was through overhead irrigation just after seeds were put in flats. A second application of the same dosage was applied through the overhead irrigation system two weeks later. Control seedlings were grown with only the grower's best practices.

Results Achieved: **After 30 days, needle vigor and root mass increase was pronounced.** The treated tree plug showed a denser root mass and a more evenly spread root system throughout the plug. This shows the microorganisms' ability to distribute water evenly in the soil, improving moisture absorption and retention. This is especially important as these trees grow in the forest with only natural rainfall or moisture. Use of Quantum Growth increases food and energy availability to the plant, supporting increased root growth and fruit production. This results in a healthier, heartier plant with decreased dependency on supplemental irrigation, fertilizer, and pesticides.

Fig 1: Seedlings treated with Quantum Growth are on the right in each picture. The visual evidence would indicate root mass increase on inoculated trees is greater than 25%.



For more information visit
GrowQuantum.com
or call 866.871.0154.

The Quantum Growth® Series
Developed by
 **Ecological Laboratories** INC.



Fig. 2: Above are samples from the trees of both the control and the Quantum Growth treated plots. Notice the evenly spread root mass on the treated plugs, while the roots on the control plugs are located near the bottom.



Fig. 3: The tree on the right has been treated with Quantum Growth. Root mass and root collar diameter of the inoculated trees are improved.

Quantum Growth Increased Outplanting Survival of Loblolly Pine Trees

In 2009 two groups of Loblolly Pine seedlings were outplanted in Jacksonville, Florida. One group had been given Quantum Growth, while the control was grown with the grower's best practices.

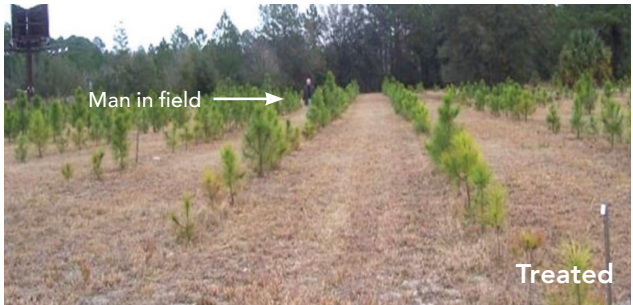


Fig. 4: The pictures above show the seedlings at outplanting in 2009. The Quantum Growth treated seedlings were generally larger and healthier compared to the controls. Many of the pines in the control group did not survive. You can see the amount of growth in comparison to the man standing in the field.



Fig. 5: These pictures show the same group of pines in 2012. As you can see none of the control group has survived. The treated pine trees received no additional inputs. Quantum microbes stay with the trees and grow in proportion with root exudates from the tree.

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