



PROMISED LAND  
CROPS LLC

# Genesis

MICROBIAL SOIL ENHANCER with **SUMAGROW**

Two months ago I assisted Foxworth Forestry Consultants in the planting of approximately 7,000 improved ArborGen pine seedlings with SumaGrow. The site consists of around 30 acres of three retired rolling agricultural fields which could best be described as a productive sandy loam. If I had to guess, I would probably say it has the potential to have a site index of around 70 to 80 with a base age of 25. We do not have any soil test data on the site but, it should be productive with a pH of around 5.5-7.0. The entire tract was planted with 18,000 seedlings at a average of 550 trees per acre with 7,000 seedlings being inoculated with SumaGrow. Each box of 1,000 seedlings plants anywhere from 1.5 to 2 acres which brings us to about 14 acres inoculated with SumaGrow.

How we did it:

I decided to conduct the trial with seven different concentration gradients ranging from 2.0 ounces/gallon to 14.0 ounces/gallon, skipping odd numbers. I combined the SumaGrow with pond water in a five gallon bucket and dipped each seedling just past the root collar. We marked off the site with flagging showing the concentration per gallon.

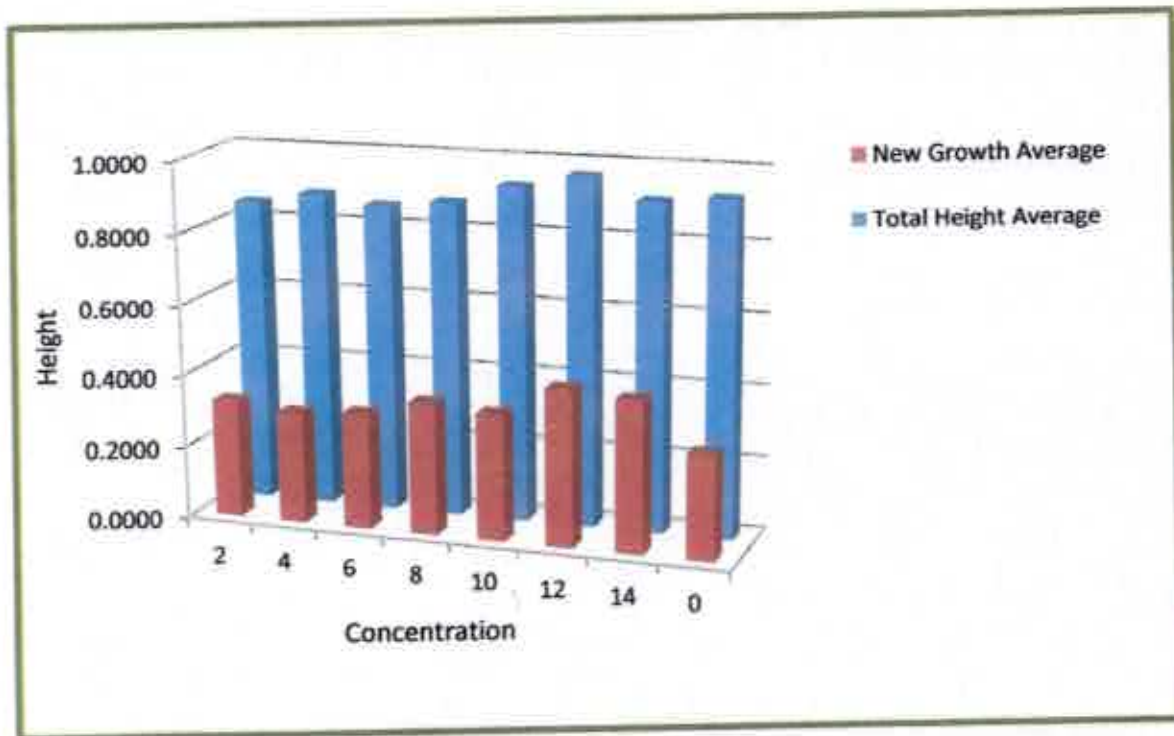
In the collection of growth data a total of 19 permanent 100th acre plots were taken to determine Total Height and New Growth. All trees were measured by standard forestry 1/10ths of a foot scale. Data was then compiled and averages obtained.

Results:

Based upon what I have observed since planting, there has been an increase in the average new growth of all pine seedlings inoculated with SumaGrow across the site. The trees were planted just over two months ago and have only been growing for just over one month due to winter dormancy. Across the site all the trees seem to be growing well and have very little completion from other plant species. The SumaGrow inoculated seedlings do exhibit more uniformity in their growth in regards to the control group. The average variation in growth among the inoculated seedlings are not varying more that around .1 1/10ths of a foot with the control at around .15 - .275 1/10ths of a foot.

Below I have attached both a table showing the concentration gradient, total height average and new growth average with an accompanying representative graph.

Average Concentration Gradient Growth		
Concentration	Total Height	New Growth
	Average	Average
oz/gallon	1/10ths of ft.	1/10ths of ft.
2	0.8495	0.3245
4	0.8817	0.3049
6	0.8591	0.3182
8	0.8771	0.3636
10	0.9304	0.3482
12	0.9667	0.4321
14	0.9100	0.4181
Control	0.9259	0.2885



The data above shows that with the limited number of samples taken there is optimum growth on this site at a concentration gradient of **12.0 ounces/gallon** with an average of **0.4321 1/10ths of a foot growth** in the first months growth. The difference in height from the control was an average of **0.1436 1/10ths of a foot of extra growth**. More data will be collected to verify these findings.

Drew Pigott, R.F.

Promised Land Crops, L.L.C.