**DIAGNOSIS AND CORRECTION OF SOIL NUTRIENT LIMITATIONS IN
INTENSIVELY MANAGED SOUTHERN PINE FORESTS**

Quarterly Report for the Period October-December 1999

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Summary of Project Status And Activities Performed During the Quarter

1. The coding of the model has been completed. All sections have been run to find coding errors. It is expected that continued searching for errors will continue throughout the month of January, 2000. Documentation was started in December and will continue for the next several months.
2. The first phase of the P laboratory studies was completed. Two publications are in preparation. A method to measure desorption isotherms in soils was defined. We will use this method in the characterization of the field sites.
3. Field sampling of 6 sites was accomplished. We now have samples for 3 -year old stands and 3 4-year old stands. Samples for the laboratory include both soil and plant tissue samples.
4. A literature search continued focusing on root to shoot relationships of fast growing pine in order to assist our development of the nutrient demand section of the model. This is about 20% done.

An Account of Percentage Completion of each task

<u>Task</u>	<u>% Completed</u>
1. Development of Model	100%
2. Error testing of model	90%
3. Documentation of model	5%
4. Field measurement of study sites	50%
4. Laboratory characterization of soils	0%
5. Laboratory analysis of study site samples	0%
6. Specific laboratory studies on soil processes	30%

Variances to Cost or Project Schedule

We over spent our annual budget on personnel in order to finish the field work. In addition we are spending more on the computer programmer in order to finish up the error analysis and documentation. We hope to have savings in the laboratory work to make up for this overspending on personnel.

Significant Accomplishments Expected in Next Quarter

- 1 We expect to have the model completely documented and ready for delivery to DOE
2. We expect to have one articles submitted for review on the P desorption work.
3. We expect to begin work on the analysis of the plant and soil samples as well as finish the grinding of tissue samples.
4. We are having an review meeting with the forest industry on Jan. 20 in Gainesville, FL to bring them up to date on the results and progress of the study.