

## **Plantation Management Research Cooperative**

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### **CRONARTIUM STUDY**

The objective of this study was to investigate the pattern of mortality due to *Cronartium* in slash and loblolly pine plantations and relate the degree of mortality to stand parameters such as age, site index, and density; and to the density and structure of the individual stem infection. In 1976 the PMRC installed 206 monumented plots throughout the SE Coastal Plain containing from 20% to 80% infection levels in stands varying age from 5 to 21 years, in SPA from 300 to 900, and in site index from 30 to 80. In addition to the individual tree and stand measurements, individual canker characteristics such as length, width, shape and circumference infected were measured. These plots were remeasured on a 3-year cycle through 1991.

#### **Status**

- **This study has been released to the companies for harvest.**
- **The measurements and results were summarized in PMRC Technical Reports 1984-4, 1985-2 and 1987-2.**

#### **Key Research Results**

- **Individual tree results confirm that uninfected trees have greater basal area growth than surviving infected trees.**
- **A basal area growth model which includes the percent of infected tree as a prediction variable was developed.**
- **A survival model which includes the percent of infected trees, site index, density and interval of prediction was developed.**