ABSTRACTS

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flatwoods site and on two average sites in the upper coastal plain. The loblolly pine plantings were at the same upper coastal plain sites and on a piedmont site. Fifth-year average total height, average number of **Cronartium fusiforme** (Hedge. and Hunt ex Cumm.) cankers per tree and the ratio of crown width/total height were analyzed and the relative magnitude of the variance components were compared.

Interactions for fusiform rust infection in slash pine were not significant, indicating that this trait can be adequately evaluated at one location if sufficient infection occurs to differentiate progenies.

A significant and substantial interaction for the crown width/height ratio in two slash pine tests indicates that successful development of narrow-crowned strains with wide adaptability will be difficult.

A significant interaction for height in one of the slash pine tests is not conclusive since, in the other test, this component was small.

There were no significant interactions in the loblolly pine tests.

If more recently established tests substantiate the absence of significant interaction, the biological necessity for testing at several locations will be diminished and the selection of second-generation material greatly eased.

ROOTING CUTTINGS OF SPRUCE IN A GREENHOUSE UNDER INTERMITTENT MIST

Ronald M. Girouard

Rooting studies were initiated in late May 1967 under intermittent mist in a greenhouse. Preliminary investigations involved cuttings from **Picea abies, P. glauca, P. mariana** and **P. rubens** trees varying between 7 and 20 years of age and growing in plantations at Valcartier, Quebec. Shoot extension had begun in all species except **P. rubens.** The results were not the same for all species and treatments used, but, nevertheless, they permitted us to state that all future collections of plant material should be made from the lower region of the crowns no later than the beginning of shoot extension and that plain cuttings, that is, cuttings with a basal cut — no heel of old wood — are adequate for most of our work.

In a second experiment, cuttings were made from 2-2 seedlings of the four species mentioned above. Throughout the experiment, **P. rubens** was one of the most difficult species to root, while **P. abies** was always the easiest.

In general, the short cuttings rooted more easily than the long ones; the length of the cuttings did not influence the number of roots formed per rooted cutting.