SCREENING FOR FUSIFORM RUST RESISTANCE IN LOBLOLLY PINE: A COMPARISON OF ARTIFICIAL INOCULATION WITH FIVE YEARS FIELD PERFORMANCE

by

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Seedlings of seven half-sib families of loblolly pine were inoculated at 6 weeks with basidiospores of Cronartium quercuum f. sp. fusiforme from two geographic sources using the Concentrated Basidiospore System (CBS) and examined for gall development after 9 months. Uninoculated, fourteen-month-old seedlings of the same seven families were outplanted in a high-hazard rust area of central Georgia and examined for fusiform rust incidence after five years.

The family rankings based on the percentage of seedlings infected following the two methods of evaluation were essentially the same.

	Artificial Inoculation		Outplanted	
Family	% galls after 9 months	Ranking	% galls after 5 years	Ranking
10-5	45	1	46	1
10-25	64	2	55	2
7-56	75	3	55	2
10-8	77	4	80	5
5-33	78	5	66	4
12-12	79	6	84	6
12-9	84	7	85	7

In this test, the CBS system not only identified the most resistant and most susceptible families but also accurately ranked the intermediate families that have traditionally been more variable in previous tests.

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