GROWTH AND ISOZYME ANALYSIS OF AXENIC CULTURES OF CRONARTIUM QUERCUUM F. SP. FUSIFORME DERIVED FROM BASIDIOSPORES

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Abstract.--Fusiform rust, induced by the pathogen Cronartium quercuum (Berk.) Miyabe ex Shirai f. sp. fusiforme (c.g.f.), is a heteroecious macrocyclic rust fungus and the most economically destructive disease on pine plantations in the Southeastern U.S.

One of the primary advantages of axenic hyphal cultures is to study the physiology of rust resistance. Also, biochemical comparisons of the mycelium and the uninfected Loblolly pine host may indicate whether certain chemical resistance (isozymes) found in infected tissues of resistant Loblolly pine families are of fungus (c.g.f.) or host origin. The isozyme markers in tree improvement breeding programs can save researchers time over present conventional methods of inoculating pine and waiting for 6-9 months for gall formation.

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