

# Screening for Resistance to Fusiform Rust in Southern United States Forest Trees

Josh Bronson<sup>1</sup>

## Abstract

The Resistance Screening Center (RSC) is operated by the Forest Health Protection unit of the U.S. Department of Agriculture, Forest Service, Southern Region, State and Private Forestry. The RSC is located at the Bent Creek Experimental Forest near Asheville, North Carolina. The center evaluates seedlings for resistance to disease, primarily fusiform rust (caused by *Cronartium quercuum* f. sp. *fusiforme*) and pitch canker (caused by *Fusarium circinatum*) as a service to tree improvement specialists, seed orchard managers, scientists, government agencies, research institutions, universities, and private industry. Testing enables clients to obtain information on the relative resistance of their materials in much less time than is possible in field progeny tests. The RSC has the flexibility to modify current screening procedures to accommodate specialized requests, such as unique species or inoculation procedures. This allows researchers to use the RSC as an additional experimental tool. In a research assistance capacity, the RSC has played an important role in newly developed understanding of genetic interactions in the pine-fusiform rust pathosystem, and will continue to do so in the foreseeable future. By using information from the resistance screening center tests, trees producing resistant progeny can be identified, or questions may be answered, concerning such things as the nature of pathogen variation or the effectiveness of fungicides. The RSC remains open to service screening work or research endeavors in an effort to improve forest health.

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<sup>1</sup> USDA Forest Service, Resistance Screening Center, 1579 Brevard Road, Asheville, NC 28805.  
Corresponding author: jjbronson@fs.fed.us.