

LOBLOLLY VS. LONGLEAF: A DECISION WITH LASTING IMPACT

A McIntire-Stennis supported project

In the Gulf and Atlantic coastal plains of the southern U.S., loblolly and longleaf pines are two major species under widespread management on public and private lands.

The managers of those lands are constantly making the choice to favor one species over the other, however, the decisions they make between the two will have a long-lasting impact on southern forests.

To help inform those choices, a Clemson University research team led by Professor Geoff Wang is investigating the growth differences and differential disturbance responses between loblolly and longleaf pines, with the ultimate goal of a forest condition that is better adapted to, or better equipped to mitigate, future climate change.

Researchers will first compare growth differences of the two species by sampling trees growing under the same site and conditions using stem analysis, while mature trees will be studied by comparing radial growth via tree ring analysis, the method by which effects of fire and drought on tree growth will also be analyzed.

The project will result in a comprehensive dataset for the growth of loblolly and longleaf pines established on the same site under the same climate for both juvenile and mature trees. Based on the dataset, the growth differences between the two species will be revealed over time up to 100 years.



About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.



IMPACT

By developing a comprehensive understanding of the differences in growth and response to major disturbances between the two species, the study will help landowners make better informed decisions.



90 million

The approximate number of acres longleaf pine ecosystem once covered in the southeastern U.S. Today, it has been reduced to fewer than two million acres.



20th

The century in which loblolly pine replaced longleaf pine as the dominant forest species in the South in part because of fire control, widespread planting and its rapid growth on a wide variety of sites.



88

Percentage of S.C.'s forestland that is privately owned. Those lands contain some of the world's most productive land.