Loblolly Pine *PRS*™

Performance Rating System

Family Code: SCFC-P1

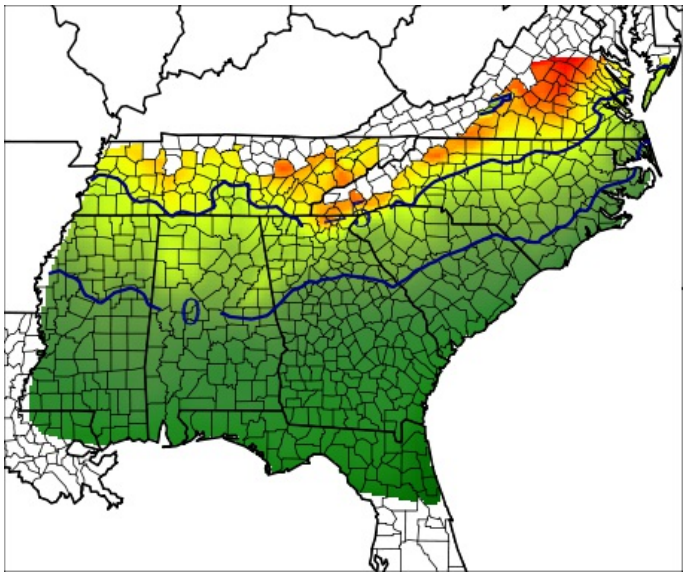
PRS™ Ratings — Predicted Family Performance

Productivity Rating	**100**
Rust Resistance Grade	**A**
Stem Form Grade	**A**

The ***PRS***™ ratings indicate that the progeny of family is projected to be:

- ***P*** = **100** → Approximately 100% greater stem volume at age 6 compared to a local non-improved loblolly pine checklot for the **Georgia and South Carolina Piedmont**.
- ***R*** = **A** → **Excellent** for resistance to fusiform rust disease
- ***S*** = **A** → **Excellent** for stem straightness

The minimum winter temperature "origin" of Family **SCFC-P1** is 11.67°F (0° line). Planting in the green shaded areas on the map up to 5°F colder (-5° line) has minimal risk of cold damage[1]. Planting in the yellow-orange area on the map (-10° line) will increase the risk of cold damage. The area in red is too cold for this family, and planting is not advised.



Family **SCFC-P1** has been tested by members of the *NC State University Cooperative Tree Improvement Program*.

[1]These adaptability guidelines were developed by the USDA Forest Service (Schmidtling 2001), Southern Pine Seed Sources, available at: http://www.srs.fs.usda.gov/pubs/gtr/gtr_srs044.pdf

Loblolly Pine PRS™ - description

Progeny test results of measurements at age 6 years are listed in the box to the right.

6-Year Progeny Test PRS™ Data
Family: **SCFC-P1 over CC7**

Volume Rating	100
Height Rating	23
R-50%	15
Straight %	43
Forking (F-50%)	46

Volume Rating and **Height Rating** are predicted progeny performance of open-pollinated (OP) families expressed as percentage deviations from a local non-improved loblolly pine checklot from the **Georgia and South Carolina Piedmont** (e.g. CC7). Family **SCFC-P1** is predicted to be **23%** taller and have **100%** more stem volume at age 6 years compared to non-improved check trees.

R-50 % of **15** indicates that this family is expected to have **15%** of the trees infected with fusiform rust galls at a site where non-improved loblolly pine would have 50% rust infection.

Straight % score of **43** indicates that this family is expected to have **43%** straighter stems compared to the non-improved check trees.

Forking (F-50 %) of **46** indicates that this family is expected to have **46%** of the trees with forked stems or major ramicorn branches at a site where non-improved loblolly pine would have 50% forked stems or ramicorn branches.

Use of the PRS™ Ratings

Customers are encouraged to fully understand the PRS™ Ratings. For a detailed description and limitations of the PRS™ Ratings, go to www.TreeImprovement.org . Version 2013.V1 PRS™ Ratings can be used to compare the genetic potential of different families at age 6 years and not the absolute performance of a family at the time of harvest. **These PRS™ Ratings are no guarantee of performance but are indicative of how this family is predicted to perform compared to non-improved loblolly pine if grown in the same environment.** The actual performance of any loblolly pine family depends upon on nursery protocols, the quality of the planting site, the silvicultural practices imposed before, during, and after planting, and the climatic / environmental conditions throughout the life of the stand.

Test Data

Each family[2] is tested by members of the NC State University Cooperative Tree Improvement Program. Standard progeny tests evaluate each family in a minimum of 4 test environments with a range of 60 to 144 seedlings total per family. The following traits are measured at 4 to 6 years in the field: total stem height, diameter at breast height (DBH), presence or absence of fusiform rust galls, straightness of each tree relative to the stand average, and presence of forks or major ramicorn branches. Individual tree volume is calculated for each tree using a standard volume equation. The 6-Year Progeny Test Data reported are the means of individual trees and not per acre estimates.

Rotation Age Projections

The ideal productivity rating is a rotation-age per acre volume and value estimate for each family, calculated using growth and yield models where the height, volume, and quality trait gains at 6 years of age are modeled to predict rotation age values. At this time, these projection systems are too variable and are dependent upon which growth and yield model is used. In future PRS™ versions, we hope to have more reliable estimates of rotation age volumes and values.

South Carolina Forestry Commission is a licensed user of the Loblolly Pine PRS™. **South Carolina Forestry Commission** verifies that the seedlings are of the family **SCFC-P1**. Apart from verification of family identity, Company/Agency makes no representation or warranty of any kind with respect to the rating system or seedlings sold, and expressly disclaims any warranties of merchantability or fitness for a particular purpose and any other implied warranties with respect to the capabilities, safety, utility, or commercial application of the seedlings.

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[2]A family refers to progeny from a selected parent or a cross of selected parents that have been established in a loblolly pine seed orchard along with other selected parents from the Atlantic Coastal or Lower or Upper Gulf regions.