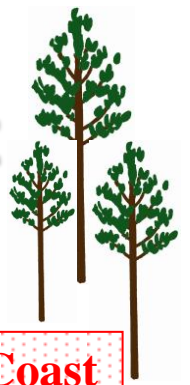


Loblolly Pine *PRS*TM Spec Sheet

Version 2010 V2



Family Code: **38-xyz** Deployment Region: **Upper Gulf Coast**

PRSTM Ratings – Predicted Family Performance (open-pollinated or OP family)

Productivity Rating **30**

Rust Resistance Grade **A**

Stem Form Grade **B**

The **PRS**TM Ratings indicate that compared to the local unimproved loblolly pine checklot for the Upper Gulf Coastal Plain, open-pollinated (OP) progeny of family **38-xyz** are projected to be:

P = 30 → Approximately 30% more productive (have greater stem volume) at age 6 years as an OP family compared to unimproved local check

R = A → Excellent for resistance to fusiform rust disease

S = B → Above Average for stem straightness

Family **38-xyz** has been tested by members of the NC State University Cooperative Tree Improvement Program and is adapted to grow in the Upper Gulf Coastal Plain Deployment Region*.

* The Deployment Region is based upon adaptability guidelines developed by the USDA Forest Service (see Schmidting 2001, *Southern Pine Seed Sources*, available at:

http://www.srs.fs.usda.gov/pubs/gtr/gtr_srs044.pdf

The gray shaded area on the map indicates the natural range of loblolly pine.



Loblolly Pine *PRS*[™] Spec Sheet - description

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

Volume Rating and **Height Rating** are predicted progeny performance of open-pollinated (OP) families expressed as percentage deviations from the local unimproved loblolly pine checklot for the Upper Gulf Coastal Plain (e.g. family 38-xyz is predicted to be 12% taller and have 30% more stem volume at age 6 years compared to the unimproved check trees).

R-50 % of 19 indicates that this family is expected to have 19% of the trees infected with fusiform rust galls at a site where unimproved loblolly pine would have 50% rust infection.

Straight % score of 41 indicates that this family has 41% straighter stems compared to the unimproved check trees.

Forking (F-50 %) of 26 indicates that this family is expected to have 26% of the trees with forked stems or major ramicorn branches at a site where unimproved loblolly pine would have 50% forked stems or ramicorn branches.

Test Data

Each family² is tested in one or more Testing Regions that are compatible with the listed Deployment Region. The standard progeny test design for the NC State University Cooperative Tree Improvement Program is to test each family in a minimum of 4 test environments with a minimum of 144 seedlings total per family. The following traits are measured after 6 years in the field: total stem height, diameter at breast height (DBH), the presence or absence of fusiform rust galls, the straightness of each tree relative to the stand average, and the 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.

Use of the *PRS*[™] Ratings

We encourage all customers to fully understand what the *PRS*[™] Ratings mean, and we are committed to full disclosure of information. **Version 2010.2 *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 genotype depends upon how the seedlings are grown in the nursery, the quality of the planting site, the silvicultural practices imposed before, during, and after planting, and the climatic and environmental conditions throughout the life of the stand.

Rotation Age Projections

The ideal productivity rating would be to have per acre volume and value estimates for each family. This can be done using growth and yield models where the height and volume gain 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.

For a detailed description of the proper interpretation and limitations of the *PRS*[™] Ratings, go to <http://www.TreeImprovement.org/>.

The Tennessee Division of Forestry is a licensed user of the Loblolly Pine *PRS*[™]. The **Tennessee Division of Forestry** verifies that the seedlings being sold are of the family 38-xyz. 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.

² A family refers to open-pollinated (OP) progeny from a selected parent that has been established in a loblolly pine seed orchard along with other selected parents. Family 38-xyz is an OP family where the seeds were collected from the same mother tree (selection 38-xyz), but the pollen came from other parents in the orchard as well as from trees outside the orchard.

6-Year Progeny Test Data

Family: 38-xyz

Volume Rating	30
Height Rating	12
R-50%	19
Straight %	41
Forking (F-50%)	26