



FORESTRY Leaflets

September 2012

FM-12

Loblolly Pine Performance Rating System (PRS®)

The Loblolly Pine Performance Rating System (PRS®) allows the buyer of loblolly pine seedlings an easy way to assess the genetic potential of specific loblolly pine seedlings available to them. This customer-friendly rating system helps landowners, forestry consultants, tree planters and others to select seedlings of known field performance. With PRS®, you now have a tool to help you select loblolly pine seedlings that are most appropriate for your sites and forest management objectives.

The PRS® was developed by the N.C. State University Cooperative Tree Improvement Program and its members using over 50-years of genetic performance data from intensive field testing throughout the natural range of loblolly pine. This rating system allows the public to compare the potential genetic gains they can expect from improved loblolly pine seedlings available from various nurseries throughout the south. Note that the values presented in the ratings are for seedling comparison purposes only and do not indicate an absolute performance level of a selection on any particular site or under any particular silvicultural practices.

PRS® ratings consist of four parts:

1. Deployment region where the selection was tested.
2. Productivity (**P**) of that selection in that deployment region.
3. Rust (**R**) resistance rating of the selection.
4. Stem straightness (**S**) rating.

Productivity, rust and stem straightness are based on the performance of specific selections when compared to wild, unimproved commercial seedlings collected from the same deployment region and which were included in the same field tests conducted by the Cooperative Tree Improvement Program and its members.

There are two deployment regions for North Carolina: Coastal (“Coastal NC”) and Piedmont (“Piedmont NC”). Seedlings from other deployment regions can be planted in North Carolina but there is more assumed risk in doing so.

The Productivity (**P**) rating estimates the percent of potential genetic gain in tree volume compared with wild seedlings. Estimating a tree’s productivity by means of a volume rating can be valuable for a landowner, since most timber is purchased according to the volume or corresponding weight of that timber.

The Rust (**R**) rating uses an alphabetic code comparing an estimated forest stand rust infection rate to the wild commercial seedlings. The rating is similar to grades in school: “A” is better than “B,” which is better than “C,” which is better than “D,” which is better than “E.” The higher the score, the less likely the tree will be susceptible to rust infection.

The Stem straightness (**S**) rating estimates the percent of expected improvement compared with wild commercial check seedlings. The same alphabetic grading system is used, ranging from “A” for best to “E” for least improved.

Two examples of PRS® ratings for loblolly pine seedlings are shown below:

Coastal NC 60 A B Piedmont NC 57 B A

- ✓ Ask your seedling provider or tree planter to provide the PRS® rating for the seedlings being considered for your land, and compare them in order to obtain the best seedlings to meet your management goals.
- ✓ All loblolly pine seedlings purchased from the N.C. Forest Service have their PRS® rating printed on the seedling packaging label.
- ✓ Landowners should carefully consider the long term financial investment and greater potential for a healthy, productive forest when evaluating which seedlings to plant.
- ✓ Contact the N.C. Forest Service for more information or visit our Web site www.ncforestservice.gov



The North Carolina Forest Service is an equal opportunity / affirmative action employer. Its programs, activities and employment practices are available to all people regardless of race, color, religion, sex, age, national origin, handicap or political affiliation. This is a 'print-as-needed' document available at N.C. Forest Service offices and at ncforestservice.gov.