



TEXAS A&M
FOREST SERVICE

Tree Improvement

Forest Health, Productivity & Value

Devastating plant diseases — like fusiform rust in the southern pines — decrease forest vitality and cause economic loss through degradation and mortality.

Because pathogens are continually changing, the only way to effectively counter them is through the continual breeding, selecting and planting of disease-resistant varieties.

It is important to have existing seed stock from locally selected and tested tree species to ensure rapid recovery following droughts, hurricanes and wildfires.

Well-adapted trees directly impact the quality of life for all Texans.

Enhanced forest productivity returns value to the landowner with more frequent harvests and higher value products. This resource, in turn, supports all follow-on components of the associated forest industry, which must be both regionally and globally competitive.



TFS Response

- The agency has led the way in regional tree improvement programs since the 1950s, pioneering a model that utilizes commercial partnerships to help develop and deliver continually improved planting stock for East Texas forests.
- Since the 1970s, nearly 100 percent of pines planted in East Texas were genetically improved to boost disease resistance and increase growth.
- Foresters maintain orchards to supply seed from select native hardwood trees for use in urban landscapes.

Economic Impact

- Current pine planting stock will grow 35 percent faster than wild seed from the 1950s, resulting in a marginal net present value returned to the landowner of \$350 for each acre planted (calculated as the discounted value of future harvests).
- Planting 60,000 new acres of forest each year results in an enhanced resource with a direct marginal value to landowners of \$21 million. Follow-on value added accrues to the state and local communities from a more vibrant forest-based economy and enhanced tax base.
- The Lost Pines seed source was preserved off-site in a TFS drought-hardy loblolly orchard and is now providing source appropriate seed to aid in the Lost Pines Recovery Effort.
- Seed orchards designed to supply genetically diverse populations of trees for the urban forest are currently coming online.