



Longleaf Leaflet

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THE ECONOMICS OF LONGLEAF PINE MANAGEMENT

The longleaf forest is noted for its aesthetic beauty and a rich diversity of plants and animals. But longleaf has many unique wood properties and biological characteristics that make it economically competitive, with other timber species. Longleaf pine naturally grows straighter, tapers less, and produces a stronger, heavier wood than loblolly pine. The superior wood quality brings top dollar for poles, pilings, and grade sawtimber. And while longleaf trees grow slow at first, they can catch-up on nutrient poor sites. Longleaf lives longer than other trees. Its long needles are preferred landscape mulch. It is resistant to disease and insect injury and wind damage from hurricanes. Longleaf pine makes dollars and sense for many landowners.

“Longleaf pine grows value faster than it grows wood”

Longleaf Alliance

Superior Timber

Longleaf pine has the potential to return more profit compared to loblolly pine, thanks to its superior wood qualities. Through improvements in planting and growing longleaf seedlings, issues of slow growth rates and difficulty of regeneration have been solved. These trees grow as well as other southern yellow pines on most sites after height growth is initiated (usually 2 to 3 years). On poor sites, longleaf pine often out grows loblolly in 7 to 8 years. On better sites, longleaf pine does take a few years longer to reach commercial size, but it can grow a more valuable product. Longleaf pine produces poles, the highest valued timber product, in proportions far exceeding other pine species. By age 40 and 50, half of all trees in a longleaf stand may meet the standards for utility poles. In one study, 72 percent of the longleaf pine trees were of pole quality. Typically, stands of loblolly contain less than 15 percent pole quality trees. Longleaf pine wood is stronger, straighter, and produces more growth rings per inch than other pines – characteristics favored for high grade sawtimber. Because of its higher wood density and less taper, longleaf pine weighs more than loblolly pine, bringing higher value at harvest. To realize its greatest value, longleaf stands are better managed on long rotations.

Pole prices are 40% higher and maintain their value better than sawtimber

Pine Straw

The sale of pine straw provides a valuable and consistent source of income. Longleaf pine needles are considered the premium landscape mulch because of their superior characteristics. Longleaf pine's longer needles are easy to bale, retain a distinguished reddish color, and deteriorate slower than other mulches. Longleaf pine straw's earthy texture and color is attractive in many landscapes and aesthetically pleasing to homeowners. A pinestraw raking schedule of every 2-3 years can generate \$100-\$200 of income per acre.

Potential Profits

Can a landowner make money if they plant and manage longleaf pine on a long rotation? The following table is an example of potential gains from a longleaf stand. It represents a longleaf plantation that is intensively managed for pine straw and high value poles and grade lumber. Forestry investments have high upfront cost, greater risk, and realize late returns on investment. Financial returns are improved with cost share establishment programs and annual rental payments available for longleaf. The analysis shows that longleaf is a profitable investment and generates consistent and frequent income.

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Longleaf Pine Plantation Financial Analysis		
Management Scenario	Net Present Value @ 4.5%	Internal Rate of Return
Timber only	\$197	6%
Timber + 50% cost-share (@ establishment)	\$282	7%
Timber + pinestraw	\$894	11%
Timber + CRP rental payment	\$787	29%
Timber + pinestraw + CRP rental payment	\$1317	30%

Adapted from "The Economics of Longleaf Pine Management: A Road to Making Dollars and Sense", Longleaf Alliance publication

- We used the following assumption in the analysis:**
- Stand grown on a good quality site-site index of 55 (base age of 25 years)
 - A discount rate = 4.5 %
 - Thinned at age 19, 29, and 39.
 - Final harvest: Shelterwood
 - Establishment costs include herbicide treatment and periodic prescribed burns.
 - Pine straw costs: clean-up, fertilization(twice)
 - A 60/40 pole to sawtimber ratio at final harvest using the shelterwood method
 - Stumpage prices: for pulpwood at \$17/cord, sawtimber at \$287/MBF, and poles at \$450/MBF (Scribner).
 - Pine straw raking schedule-- rake, rake, rest.
 - Pine straw income= \$75 -\$125/acre

Supplemental Sources of Income

Wildlife leases, mitigation opportunities, and carbon trading all have potential to become profitable for longleaf forests. Opportunities to mitigate adverse impacts on threatened or endangered species in return for additional revenue streams are in development at this time. Emerging markets in ecosystem services, such as open space, clean water, clean air and biodiversity maintenance favor managed longleaf pine forests.

Risk Aversion

Longleaf pine is more resistant to loss from natural disasters, damaging insects, or harmful disease than other southern pines. This is an undervalued and underappreciated aspect of longleaf pine stands. Longleaf pine’s deep root system, sparse crowns, and strong wood reduces the amount and type of damage caused by hurricane winds. A survey after Hurricane Katrina documented a majority of longleaf trees were not damaged and far fewer snapped off compared to loblolly pine. Due to a strong resin flow longleaf is resistant to southern pine beetle infestation, seldom suffering significant losses. It is less likely to succumb to fusiform rust disease. And lastly, longleaf tolerates fire allowing the tree to withstand catastrophic damage during most wildfires.

Cost Share

A wide range of cost-share funding sources are available to private landowners to reduce costs and/or provide early income from longleaf establishment, management, and restoration. The federal Conservation Reserve Program, or CRP, reimburse landowners for up to 90 percent of the cost of planting longleaf on cropland and provide an annual rental payment. The NRSC programs EQIP and WHIP reimburse landowners for establishment and management costs and favor longleaf. The Partners for Fish and Wildlife program of the U.S. Fish and Wildlife Service provides funds for longleaf establishment and management. Check with your local forest ranger for potential cost-share opportunities as well as the Private Landowner Network at www.privatelandownernetwork.org/grantprograms.

Reference

The Longleaf Alliance (2011) *The Economics of Longleaf Pine Management: A Road to Making Dollars and Sense*.



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