



The Value of Pine Production

An Analysis of Investment

Forestry Topic 21

www.dof.virginia.gov

June 2014

Virginia's forests are productive in lots of ways – they produce wood for lumber, paper, energy and warmth. Trees hold soil in place and keep our waters clean. They provide homes for wildlife; clean the air; store carbon, and are beautiful. Trees provide timber for income, local jobs and are a large part of Virginia's economy. Many landowners count on timber for income. Both pine and hardwood have good potential for income production. Your local forester can help guide you in what's best for your land, and to meet your goals.



Start With A Plan

Even fast-growing trees take years to grow, so it's important to plan well to meet your goals, which may be income, hunting, setting or something to pass on. Utilize a professional forester – either the Virginia Department of Forestry (VDOF) or a private consulting forester can provide this service. If a timber harvest is recommended, part of that recommendation should include steps needed to begin a new forest, either through tree planting or natural means. The forester can help you determine if growing pines, hardwoods or some of both is best, based on your objectives and the particular nature of your land. This publication will now focus on pine production specifically.

Growing Pines

Pine trees, often called evergreens, grow statewide and the wood is used for building homes and decks; for paper bags and boxes, and even for fuel pellets. There are several varieties of pine that are native to Virginia and thrive here, including loblolly, white, shortleaf and longleaf pine. Pines grow quickly, straight and tall when good management practices are used.

Pines are often the trees that "start" the forest so, by nature, they need lots of light and space to grow. Recently harvested areas or open fields are the best places for new pine forests. Preparation of the site the season prior to planting is the best way to ensure good survival and much faster growth of seedlings. This is most often done the year before planting with methods recommended by the forester. Examples are herbicide treatments to control other vegetation, prescribed burning or mechanical methods like bulldozing. Pine seedlings are produced at VDOF or other nurseries from "improved" seed, the result of more than 50 years of selecting and breeding the best trees. Today's improved seedling produces 25 percent to 60 percent higher yield than trees from unimproved seed, and are straight and disease-resistant. Seedlings are planted in the winter or early spring months by planting crews, or in the case of old fields, by a tractor-pulled seedling planting machine. **F o l l o w - u p** vegetation control with herbicides is needed to give the new seedlings freedom to grow.



Hand Planting

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Pine Is An Investment

Reforestation should be viewed as an investment in the future of your property. There are initial costs associated with reforestation followed by revenues as the trees grow to marketable size. Initial costs include work to prepare the site, tree seedlings, tree planters and follow-up weed control. The cost for these practices varies depending upon the type and amount of work, tract size and contractors but can range from \$70 per acre to more than \$200 per acre. A VDOF or consulting forester can provide a specific recommendation for your land and an estimate of the cost for the work.

Virginia is home to many wood-using industries, providing ready markets for landowners. Pine plantations begin to produce merchantable-sized trees for pulp (paper) or bio-fuel chips around age 15 to 18. Thinning is often recommended at this age to remove the smaller trees and allow the larger trees to grow to size large enough to be sawed into lumber. Thinning also promotes the health of the remaining crop trees by giving them more sun and moisture, as well as providing some income. Timing of the final harvest will depend upon landowner goals and market conditions, but can range from 20 to 50 years or more.

There are many factors that affect the profitability of an investment in reforestation – initial costs, timber prices, timing of harvest revenue and the time value of money. Research, financial models and real examples have proven reforestation to be a good investment, and doing a good job from the start ensures more timber volume and value in the future. Figure 1 models some typical pine management treatments in Virginia. Initial costs and future timber revenues are discounted back (the opposite of compound interest) and expressed in present dollars or net present value.

- ◆ Planting and managing pine will provide more returns, earlier, and more frequently than natural means, but there are up-front costs.

- ◆ Site preparation before planting yields better growth and higher value than planting, followed by weed control (release) later.
- ◆ Other practices like fertilization and using the best quality seedlings add more volume and value.
- ◆ Cost share assistance lowers initial cost and makes the investment even more profitable.



Thinning Operation



Plant Only Treatment
(lots of competition)

Site Preparation Before Planting
Treatment (little competition)

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Getting Started

Growing pine can be profitable for you. Contact the VDOF or a private consulting forester to help you with specific

recommendations for your property; to assist you with implementing your project, or to guide you on cost-assistance programs.

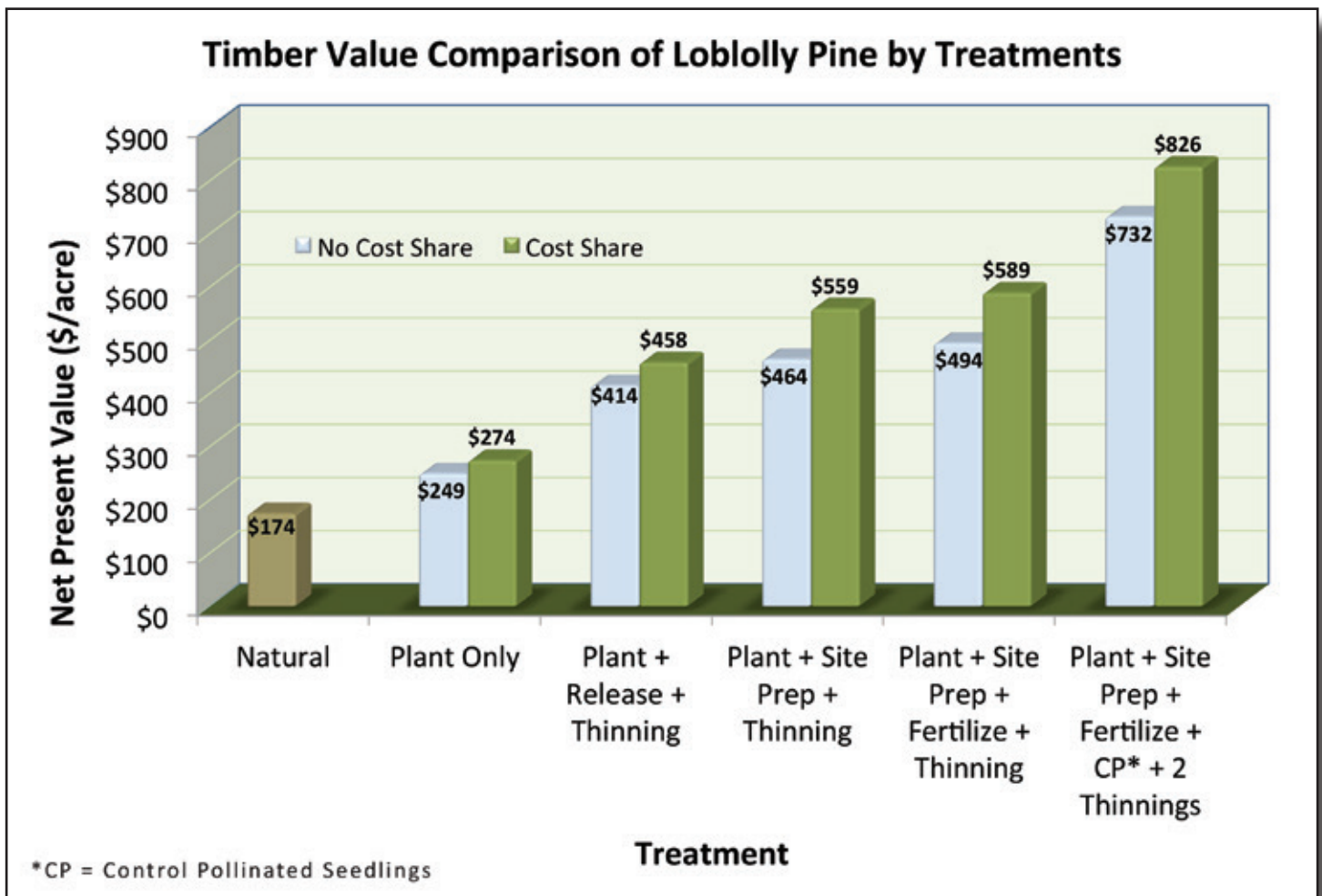



Figure 1. Timber Value Comparison of Loblolly Pine by Treatments. Projections based on the Loblolly Pine Decision Support System (LOBDSS) (Virginia Tech). Criteria for analysis: loblolly pine, Coastal Plain, age 25, 6% interest rate, timber prices from Timber Mart South (University of Georgia), genetically-improved seedlings [*CP seedlings used in final treatment (VDOF Control Pollinated seedlings)].



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VDOF FT0021; 06/2014

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