

Additional Materials

Supplemental Methods

The study site from which loblolly data were collected was established at the Louisiana State University Agricultural Center Hill Farm Research Station in northwestern Louisiana, USA (32°45' 19.1" N, 93°04' 32.0" W). Prior to the study, the site was managed as pasture for approximately 50 years. In 1998, the site was planted by hand with loblolly pine and sweetgum bareroot seedlings. Stand type treatments consisted of loblolly pine (PINE) and sweetgum (GUM) planted as single species and a mixture of loblolly pine and sweetgum (MIXED). Stand density was 988 trees ha⁻¹; in the MIXED treatment, there was an equivalent number of loblolly pine and sweetgum trees established. Three replicates of each stand type treatment were conducted. Experimental units for PINE and GUM treatments were plots 0.03 ha in size; 0.02-ha plots were the experimental units for the MIXED treatment.

Tree dimensions were used to model stand yields. In 2000 and 2007, height and DBH were measured on all trees within each plot. These data, the increment in height and DBH between these measurement years, site index on a 50-year basis (26 m for loblolly pine, 24 m for sweetgum), plot area, and elevation of the site (91 m) were used as inputs in Forest Vegetation Simulator (FVS) to estimate stand yields. Yields were determined for a 30-year rotation. For the PINE and GUM treatments a thinning to a residual density of 494 trees ha⁻¹ at age 15 was included in the management scenario. For the MIXED treatment, three different thinning scenarios were tested: (1) thinning to a residual density of 494 trees ha⁻¹ with no species preference for tree removals, (2) removal of all loblolly pine in the thinning, and (3) removal of all sweetgum in the thinning. All thinning scenarios for the MIXED treatment were conducted at age 15. Thinning irrespective of species is a more common protocol for mixed-stands in regions with forest product markets for small and large diameter hardwood and softwood trees. Thinning to remove all pine would be a preferred scenario for mixed stands within regions that have markets for small-diameter softwood, no markets for large-diameter softwood, and markets for large-diameter hardwood. Thinning to remove all sweetgum would be a preferred option for mixed-stands located in regions with availability of larger-diameter softwoods and smaller-diameter hardwoods and a lack of large-diameter hardwood markets.

Table S1. Cash Flow Assumptions and Cash Flow Activities.

Variable	Year	Activity	Values	Unit
IRR	----	<i>Discount Rate (nominal)</i>	8.0	%
GPWPrice	15/30	<i>Mixed HW Pulpwood Price¹</i>	11.74	\$/ ton
GCNSPrice	15/30	<i>Mixed HW Chip-n-Saw Price²</i>	18.00	\$/ ton
PPWPrice	15/30	<i>Pine Pulpwood Price</i>	10.62	\$/ ton
PCNSPrice	15/30	<i>Pine Chip-n-Saw Price</i>	16.58	\$/ ton
PSAWPrice	30	<i>Pine Sawtimber Price</i>	27.69	\$/ ton
ThinYear	15	<i>Thinning</i>	15.00	Yrs.
FinYr	30	<i>Final Harvest</i>	30.00	Yrs.
SitePrep	0	<i>Chemical Site Preparation³</i>	60.79	\$/ac
Seedlings	0	<i>Bareroot, Loblolly</i>	20.55	\$/ac
Seedlings	0	<i>Bareroot, Sweetgum</i>	102.75	\$/ac
Planting	0	<i>Seedlings by hand (Loblolly/Sweetgum)</i>	23.84/41.00	\$/ac

¹ Source: Timber Mart South Quarterly Price Reports

² We used the 7-year averages (2012-2018) for all prices included in the analysis. No inflation adjustment is made to either the costs, prices, or discount rate. We also used the low value of HW Sawtimber prices to proxy for CNS prices for this species.

³ Costs and Cost Trends for Forestry Practices in the South. Forest Farmer. 31st Manual Edition. 2016.

Tax	Annual	<i>Yearly property taxes</i>	2.50	\$/ac
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