

**MISSISSIPPI STATE UNIVERSITY
AGRICULTURAL EXPERIMENT STATION**

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MISSISSIPPI

SOIL SUITABILITY FOR FOREST TREES IN THE THIN LOESS AREA

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The Thin Loess soil belt lies east and adjacent to the Deep Loess area. Soils in the area's uplands developed in wind-blown silty deposits less than 4 feet thick. The terraces and bottoms are derived principally from sediments of the nearby loess hills, and mixed alluvium from loess and Coastal Plain sands and clays.

Table 1 shows the suitability of the principal soils within the Thin Loess belt for native, commercially important hard-

woods and—on some sites—baldcypress and pine. Solid black blocks indicate species that occur frequently and should be favored in managing natural stands. Grey blocks indicate common species that should be managed for harvest at the first profitable opportunity, but not favored as a component of future stands. Dots show species occurring only occasionally on a particular soil; here again, black means "favor" and grey indicates "manage, but do not favor."

Pines are listed in the table because they are often better suited to eroded soils than

are hardwoods. Also, when pines are on poorly drained pan soils, they should be favored over the hardwoods; pan soils become too dry in the summer for good hardwood growth.

The table is based on observations of natural stands; other growth relations may be true for plantations.

¹Stoneville Research Center, maintained by the Southern Forest Experiment Station in cooperation with the Mississippi Agricultural Experiment Station and the Southern Hardwood Forest Research Group.

Table 1.--Soil suitability for forest trees in the Thin Loess area

Important commercial species ^{1/}	Shallow loess (uplands)							Terraces from loess and mixed materials						Bottom land from loess			Bottoms from mixed loess and Coastal Plains sands		
	Lexington, Atwood, Brandon		Providence Franklinton Dulac, Lax, Tippah		Couparle Lewiston Falkner Bude	Tickfaw Hurricane	Lintonia Dexter		Freeland Richland Pearson		Hatchie Olivier Brittain	Calhoun Carroll Almo	Vicksburg Collins	Falaya	Waverly	Shannon Hymon	Ina	Beechy	
	Ridge, upper and middle slope		Lower slope	Non-eroded ^{2/}		Non-eroded ^{2/}	Non-eroded	Eroded ^{2/}	Non-eroded	Eroded ^{2/}	Non-eroded	Eroded ^{2/}	Non-eroded	Eroded ^{2/}	Non-eroded	Eroded ^{2/}	Non-eroded	Eroded ^{2/}	
	Non-eroded	Eroded ^{2/}																	
Ash, white or green																			
Baldcypress																			
Basswood																			
Beech, American																			
Cherry, black																			
Cottonwood, eastern																			
Elms, slippery and Am.																			
Hackberry																			
Hickories (exc. water)																			
Honeylocust																			
Magnolia, southern																			
Maple, red																			
Oak, cherrybark																			
Oak, laurel																			
Oak, Nuttall																			
Oak, overcup																			
Oak, Shumard																			
Oak, swamp chestnut																			
Oak, southern red																			
Oak, water																			
Oak, white																			
Oak, willow																			
Pecan																			
Persimmon, common																			
Pines																			
Sassafras																			
Sweetgum																			
Sycamore, American																			
Tupelo, black																			
Tupelo, water																			
Walnut, black																			
Yellow-poplar																			

^{1/} Common names are those found in Agriculture Handbook 41, U.S. Department of Agriculture, 1953.

^{2/} Soils with less than 6 inches of topsoil.

POST AND SPECIALTY SPECIES: Black locust and flowering dogwood on well-drained soils; mulberry on all soils.

SPECIES LIMITED COMMERCIALY OR IN OCCURRENCE: Boxelder, river birch, American holly, post oak, black oak, catalpa, chinkapin oak, northern red oak, sumac, and chinaberry on well-drained soils; cedar elm, swamp cottonwood, and black willow on poorly drained soils; winged elm, eastern redcedar, and buckeye on all soils.

WEED SPECIES: Eastern hophornbeam, American hornbeam, and blackjack oak on well-drained soils; planertree, swamp-privet, and buttonbush on poorly drained soils; hawthorn on all soils.



Occurs frequently; favor for management.

Occurs occasionally; favor.



Occurs frequently; manage, but do not favor.

Occurs occasionally; manage, but do not favor.