LONGLEAF PINE
AN UPDATED BIBLIOGRAPHY

Forestry Departmental Series No. 15
Alabama Agricultural Experiment Station
School of Forestry
Auburn University, Alabama
Lowell T. Frobish, Director
LONGLEAF PINE:
AN UPDATED BIBLIOGRAPHY

This is the final report of cooperative agreement 19-94-045 between the Auburn University School of Forestry and the USDA Forest Service, Southern Research Station, Vegetation Management and Longleaf Pine research project at Auburn, Ala. An electronic format is available via the Internet (http://www.forestry.auburn.edu) and will be updated periodically. To access the database, click on the web page menu item entitled Longleaf Alliance in the Cooperative/Special Program section.

First Printing 3M, April 1996

Information contained herein is available to all without regard to race, color, sex or national origin.
The longleaf pine (*Pinus palustris* Mill.) forest figured prominently in the cultural and economic development of the South. What was once one of the most extensive forest ecosystems in North America has now become critically endangered (6). At the time of European settlement, this ecosystem dominated as much as 92 million acres throughout the southeastern United States (2). Acreage declined dramatically, largely due to human use, to 20 million acres by 1935 (9), then to 5 million acres by 1975, and 3.8 million acres a decade later (5). A 1994 update places the figure at 3.2 million acres (7).

Longleaf pine ecosystems are among the most species-rich plant communities outside the tropics (8). The extreme reduction of the longleaf pine ecosystem is the main reason for the precarious state of at least 191 taxa of vascular plants (3, 10) and key wildlife such as the red-cockaded woodpecker (RCW), gopher tortoise, and southern fox squirrel.

The continuing loss of longleaf pine forests has prompted a concerted effort to restore and manage the longleaf pine ecosystem to ensure its future as part of the region's natural and cultural heritage. In 1993, the USDA Forest Service Southern and Southeastern Forest Experiment Stations (now consolidated as the Southern Research Station) initiated a Longleaf Pine Ecosystem Restoration research program. Clearly an array of restoration, rehabilitation, regeneration, and management activities would be needed to reverse the decline of this southern forest ecosystem. The first year of this five-year research program was aimed at building partnerships and conducting surveys and assessments. A vital component of the initial planning year was to develop an updated bibliography of published work associated with the longleaf pine ecosystem. This was to be accomplished in cooperation with the Auburn University School of Forestry.

Three excellent sources of longleaf pine literature already existed. The first is Wahlenberg's book, *Longleaf Pine*, which had 637 citations (9). Croker picked up where Wahlenberg left off with an annotated bibliography from 1946-1967 (1). These two works formed the basis for Hu and Burns bibliography which spanned from 1858 to 1984 (4).

This bibliography represents a compilation of references not present in the works mentioned above or which have been published since 1984. A search was conducted for publications from 1984 to the present using INFOSouth, which is a southern forestry information service operated by the USDA Forest Service at the University of Georgia Science Library in Athens, Ga. Databases searched by INFOSouth included: AGRICOLA, 1970-1993; CAB ABSTRACTS, 1972-1993; BIOSIS, 1969-1993; DISSERTATION ABSTRACTS, 1861-1993; CURRENT CONTENTS; CRIS/USDA; FS INFO; and NTIS. In addition, other groups and individuals assisted in the search. Every effort was made to include relevant works from the ecosystem, community, and restoration ecology fields as they pertained to the longleaf pine ecosystem.

A chronological order was used for the bibliography, similar to that used by Hu and Burns. Each reference is listed by its year of publication in alphabetical order by author (e.g. FS 33001). The “FS” was used to recognize the USDA Forest Service for funding this effort. The “33001” indicates the publication year was 1933 and the 001 is the publication number within that year. Additionally, the bibliography is indexed by author. However, due to the size of the undertaking, the references are not annotated as was done by Croker, nor has a subject-matter index been provided similar to that of Hu and Burns. If a DESCRIPTOR field follows the location of the reference, these are keywords (phrases) that were included by the INFOSouth search.
and occasionally from other sources.

This bibliography is available in two formats. The first is this printed format which contains exactly 500 citations. The second is available on the Internet through the World Wide Web home page of the Auburn University School of Forestry (http://www.forestry.auburn.edu). This and other databases are accessible for full text searches over the Internet or to be downloaded for use on individual PCs. To access the databases, click on the web page menu item entitled "Longleaf Alliance" in the Cooperatives/Special Programs. Available databases include:

1. References included in this bibliography (Kush, et al. 1996).


LITERATURE CITED


<table>
<thead>
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<th>BIBLIOGRAPHY</th>
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<tr>
<td><strong>FS 33001</strong></td>
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</table>


Descrip tors: stand; fuel; palmetto; gallberry; understory brush.


Descrip tors: early flowering; seed source.


Descrip tors: germination; germination value; mean daily germination; peak value; germination value.


Descrip tors: mesic uplands; dominance; hardwood; forest climax.


Descrip tors: prescribed burning; flood; fire.


Descrip tors: fire; regeneration; canebrakes; seedling; germination; stand; vigor; foliage production.


Descrip tors: light intensity; wood-destroying fungi; decay.


Descrip tors: pinestraw.

DESCRIPTORS: canopy drip; iron; aluminum; podzolization; pedogenic process; soil organic matter; polyphenol; reducing-sugar; organic acids.


DESCRIPTORS: stand density; mortality; stratification.


DESCRIPTORS: prehydrolysis.


DESCRIPTORS: cell-wall; intertracheid membranes; pit membranes; alkali extraction; latewood.


DESCRIPTORS: Kershaw soil; Troup soil.


DESCRIPTORS: tracheid; pits; parenchyma.


DESCRIPTORS: taxonomy.


DESCRIPTORS: grafting; scions; orchard.


DESCRIPTORS: fumigation; DD; DBCP; nematicide.


DESCRIPTORS: Bottom-land hardwoods; deer habitats; upland hardwood; loblolly-shortleaf pine hardwoods; longleaf-slash pine.


DESCRIPTORS: silviculture.

FS 70002

FS 70003
DESCRIPTORS: brown-rotting fungi; decay; resin.

FS 70004
DESCRIPTORS: annual rings; tracheids; auxins.

FS 70005
DESCRIPTORS: radiation-resistant; fire-resistant; annuals; perennials.

FS 71001

FS 71002

FS 71003
Fatzinger, C.W.; Asher, W.C. 1971. Observation of pupation and emergence behavior of Dioryctria abietella (Lepidoptera; Pyralidae (Phycitinae)). Annals of the Entomological Society of America. 64(2):413-418.
DESCRIPTORS: Dioryctria abietella; pupation; larvae; pupae; moths.

FS 71004
DESCRIPTORS: ordination gradient; water-table depth; soil-surface gradient; soil pH.

FS 71005
DESCRIPTORS: periderm; bark.

FS 71006

FS 71007
DESCRIPTORS: regeneration.

FS 71008

FS 71009

FS 72001

FS 72002

FS 72003

FS 72004

FS 72005

FS 73001
DESCRIPTORS: fire; shelterwood; sandhills.

FS 73002
DESCRIPTORS: slash pine; loblolly pine; shortleaf pine; longleaf pine; Ocala sand pine; Choctawhatchee sand pine.

FS 73003
DESCRIPTORS: fuel; weather; wildfires; moisture content; relative humidity; rainfall deficiency.

FS 73004
DESCRIPTORS: point density.


DESCRIPTORS: seed production; flowering.


DESCRIPTORS: germination.


DESCRIPTORS: infection; susceptibility; inoculation.


DESCRIPTORS: seed yield; cone; germination; immature cones; maturity; sugar content; x-rays.


DESCRIPTORS: ground cover; burning treatments; herbage yield.


DESCRIPTORS: weight; volume; prediction equations; biomass.

DESCRIPTORS: comparative evaluations; experimental data; plant growth; productivity; soils; survival curves.

FS 80006

DESCRIPTORS: pruning; thinning; stocking rate.

FS 80007

FS 81001

DESCRIPTORS: inventories; industries; removal; structural; timber; forest land; growth; tables (data).

FS 81002

FS 81003

FS 81004

DESCRIPTORS: fire; ecosystem; southeast; Coastal Plain; landscape; fuel production; moisture condition.

FS 81005

DESCRIPTORS: reforestation; forest trees; containers; planting; plant diseases; morphology; plant growth; automation; survival; greenhouses.

FS 81006

DESCRIPTORS: fungicides; seedlings; biological effects; experimental data; inoculation; mycorrhizae; survival curves.

FS 81007

DESCRIPTORS: natural resources; coasts; inventories; flood plains; vegetation; forest trees; swamps; birds; sites; mammals; plants; protection; bays.

FS 81008

FS 82001

FS 82002
Goodwin, O.C. 1982. Fertilization of longleaf pine stand increases straw production and tree growth yields up to three years. For. Note No.56. Raleigh, NC: North Carolina Forest Service, Division of Forest Resources. 5 p.

DESCRIPTORS: fertilization; straw production; growth; yields; plant nutrients; soil nutrients.

FS 82003

DESCRIPTORS: container-grown seedlings; bare-root seedlings; nursery; planting cost; site preparation.

FS 82004

DESCRIPTORS: fungicides; population density; seedlings; biological effects; experimental data; mycorrhizae; survival curves.

FS 82005

DESCRIPTORS: soil fertility; weathering; calcium; nitrogen; burning; chemical constituent; sand; silt.

FS 82006
DESCRIPTORS: grazing; management; controlled burning; fire effects; ecology.

FS 82007
DESCRIPTORS: diets; nutritive value; cattle; forest land; concentration (composition); range grasses; sampling; forage grasses; animal nutrition; digestion (biology); proteins; vitamins; calcium; phosphorus; tables (data).

FS 82008

FS 82009

FS 82010
DESCRIPTORS: fire history; fire suppression; prescribed burning

FS 83001

FS 83002
DESCRIPTORS: May burns; survival; growth.

FS 83003
DESCRIPTORS: fuel consumption; fires; spreading; moisture content; estimation; regression analysis; humidity.

FS 83004
DESCRIPTORS: wiregrass; community types; species diversity; fire frequency; savannas; soil moisture; North Carolina.

FS 84001
DESCRIPTORS: container grown plants; seedling culture.

FS 84002
DESCRIPTORS: range management; cattle; reproduction.

FS 84003
DESCRIPTORS: fungal diseases; disease resistance; plant breeding; breeding programs.

FS 84004
DESCRIPTORS: grasses; forbs; bluestem; wiregrass; marshes; prairies; bottomland hardwoods; upland hardwoods.

FS 84005
DESCRIPTORS: seedlings; fungicides; growth; mycorrhiza.

FS 84006
DESCRIPTORS: slash; controlled burning; planning; ecology; forest fires.

FS 84007
DESCRIPTORS: rotation; birds; conservation; management; economics; ecology.

FS 84008
le of Forestry:222.

DESCRIPTORS: benomyl; survival.

FS 84009

DESCRIPTORS: pedoturbation; soil movement; mammals.

FS 84010

DESCRIPTORS: biomass energy research; growth regulators; plant physiology.

FS 84011

DESCRIPTORS: mycorrhizae; culture techniques; inoculation; fungi; specific taxa; woody plants; techniques.

FS 84012

DESCRIPTORS: herbicides.

FS 84013

DESCRIPTORS: TAPPI research; vegetative propagation; tissue culture; leaves; anatomy.

FS 84014

DESCRIPTORS: seedling physiology; reforestation success; planting stock; containers; nursery management; quality.

FS 84015

DESCRIPTORS: nurseries; seedlings.

FS 84016

DESCRIPTORS: lumber; drying; kilns; temperatures; automatic control; moisture content.

FS 84017

DESCRIPTORS: wood testing; simulation methods; strength of materials; wooden beams.

FS 85001

DESCRIPTORS: seeds; radicles; sugars; vigor.

FS 85002

DESCRIPTORS: stand characteristics; increment; volume; structure; site preparation; mechanical methods.

FS 85003

FS 85004

FS 85005

DESCRIPTORS: plant competition; weed control; cutting.

FS 85006
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FS 85007

FS 85008

DESCRIPTORS: stems; volume determination; crown cover.

FS 85009

DESCRIPTORS: volume; prediction; yields; tree age; stand density; stocking density; computer software; basal area.

FS 85010

FS 85011

DESCRIPTORS: insect traps; baits; turpentine; insect attractants.

FS 85012

FS 85013

DESCRIPTORS: ammonium sulphamate; usage; dalapon; glyphosate; 2,4,5-t; 2,4-d; hexazinone paraquat; picloram; simazine; triclopyr; weed control; chemical vs. cultural weed control.

FS 85014

DESCRIPTORS: cultural methods; seedlings; performance.

FS 85015

DESCRIPTORS: wildlife; wildlife conservation; abandoned land; citrus; orchards; habitat improvement.

FS 85016

DESCRIPTORS: scirrha; disease control; benomyl; survival; root treatment.

FS 85017

FS 85018
Lewis, C.E.; Monson, W.G.; Bonyata, R.J. 1985. Pensacola bahiagrass can be used to improve the forage resource when regenerating southern pines. Southern Journal of Applied Forestry. 9(3):170-173.

DESCRIPTORS: agroforestry; direct sowing; nutritional value; digestibility; fertilizers.

FS 85019

DESCRIPTORS: land reclamation; field tests; plant growth; sewage; sludge; solid waste disposal.

FS 85020

DESCRIPTORS: oleoresins; 2-chloroethylphosphonic acid; sulfuric acid.

FS 85021

DESCRIPTORS: biology; ecology; fire.

FS 85022

DESCRIPTORS: plant ecology; fire ecology; limestone soils; sandy soils.

FS 85023
Myers, R.L. 1985. Fire and the dynamic relationship be-

**DESCRIPTORS:** sand pine scrub; soil; fire; scrub oaks.

**FS 85024**


**DESCRIPTORS:** seedlings; growth rate; height; tree diameter/girth; herbicides; weed control; fungal diseases; blights.

**FS 85025**


**DESCRIPTORS:** direct sowing; seedlings; planting; hill sites; sand.

**FS 85026**


**DESCRIPTORS:** forest influences; bird; wildlife management.

**FS 85027**


**DESCRIPTORS:** weeds; ecology; allelopathy.

**FS 85028**


**FS 85029**


**DESCRIPTORS:** mycorrhizae; inoculation; nursery management; containers; planting stock; quality; roots; growth; development; cupric carbonate; copper carbonate.

**FS 85030**


**DESCRIPTORS:** fertilizers; nitrogen; phosphorus; potassium; cultivation.

**FS 85031**


**DESCRIPTORS:** plant establishment; survival; performance; productivity.

**FS 85032**


**DESCRIPTORS:** hybridization; embryos (plant); shoots; development; tissue culture; f1 hybrids; ontogeny.

**FS 85033**


**DESCRIPTORS:** birds; forest ecology; tree cavities.

**FS 85034**


**DESCRIPTORS:** forest plantations; soil moisture.

**FS 85035**


**FS 85036**


**DESCRIPTORS:** lumber; wood preservation; wood preservatives; drying; mechanical properties of wood.

**FS 86001**


**DESCRIPTORS:** seedlings; greenhouse culture; susceptibility; rust diseases; screening tests.

**FS 86002**


**DESCRIPTORS:** seedlings; containers.

DESCRIPTORS: speed of germination; germination value; product of mean daily germination; peak value.


DESCRIPTORS: bark; diameter; prediction; mathematical models.


DESCRIPTORS: fungi; plant pathogens; taxonomy; new taxa.

Gibson, M.D.; McMillin, C.W.; Shoulders, E. 1986. Moisture content and specific gravity of the four major southern pines under the same age and site conditions. Wood and Fiber Science. 18(3):428-435.

DESCRIPTORS: moisture content; specific gravity; site factors.


DESCRIPTORS: seedlings; disease control; blights; forest nurseries; plant density; seedbeds; benomyl; thiophanate-methyl; mancozeb; benodanil; mulches.


DESCRIPTORS: disease resistance; susceptibility; epidemics; brown spot disease; dieback; mixed conifers; varietal reactions.


DESCRIPTORS: seedlings; forest nurseries; growth; survival; height; inoculation; seedbeds; plant density; root pruning.


DESCRIPTORS: birds; ecology; management; conservation.


DESCRIPTORS: bibliography.


DESCRIPTORS: identification; forest surveys; multispectral imagery; reflectance.


DESCRIPTORS: conifer needles; brown spot disease; fungi; histology; plant pathology; tissue analysis.


DESCRIPTORS: seedlings; root treatment; benomyl; growth rate; survival; soil texture; infection.


DESCRIPTORS: benomyl; root treatment; planting stock; disease control; survival.

DESCRIPTORS: brown spot; fungus control; benomyl; root treatment; disease resistance; plant breeding.


DESCRIPTORS: seed germination; seed weight; seed characteristics.


DESCRIPTORS: conifer needles; brown spot disease; provenance; disease resistance; breeding aims; progeny testing.


DESCRIPTORS: root rot; heterobasidion annosum; assessment; regeneration.


DESCRIPTORS: prescribed burning; grazing effects; habitat destruction; feed grasses; wildlife management.


DESCRIPTORS: seedlings; growth rate; stand establishment; rooting.


DESCRIPTORS: seed dispersal; islands; revegetation; plant density; plant community analysis; models; ecosystems.


DESCRIPTORS: silviculture; computer software.


DESCRIPTORS: forest litter; nutrients; soil chemistry; site types; site preparation; mechanical methods; chemical treatment.


DESCRIPTORS: plant breeding; genetic gain; heritability; disease resistance; selection differential.


DESCRIPTORS: weed control; forest nurseries; herbicides; structure activity relationships; tolerances.


DESCRIPTORS: forest nurseries; weed control; herbicides; cost benefit analysis.


DESCRIPTORS: fertilizers; ecology; ground vegetation; underwood; soil types.


DESCRIPTORS: cattle; diets; competition; range-lands; seasons; grazing; burning; foraging.


DESCRIPTORS: fermentation; butanediol; biomass; inhibition; wood extractives; mannose; inhibitors; wood sugar.


DESCRIPTORS: artificial regeneration; planting; forest nurseries; container grown plants.
FS 86034

DESCRIPTORS: seeds; quality; electrical conductivity; exudates.

FS 86035

DESCRIPTORS: fire damage; prescribed burns.

FS 86036

DESCRIPTORS: fertilizers; deer; management; browse; foliage; responses; plant composition.

FS 87001

DESCRIPTORS: silviculture; water management; nutrients; forest growth; drainage; fertilizers; forestry practices; models; site preparation; thinning.

FS 87002

DESCRIPTORS: longleaf pine; seedling survival; brown-spot disease control; Scirrhia acicola.

FS 87003

DESCRIPTORS: cones; storage; seed germination; moisture content; cone storage; seed quality.

FS 87004

FS 87005

DESCRIPTORS: prescribed burning; growth; hardwoods.

FS 87006

FS 87007

DESCRIPTORS: herbicide application; weeds; survival; growth rate; plant height; tree diameter/girth.

FS 87008

DESCRIPTORS: history; regeneration; logging; silviculture; forest management.

FS 87009

FS 87010

FS 87011

DESCRIPTORS: prescribed burning; sediments; sandy loam soils; silty soils.

FS 87012

DESCRIPTORS: stand measurement; volume determination; prediction; calculation; ratios.

FS 87013

DESCRIPTORS: insect traps; baits; ethanol; turpentine; terpenoids; pheromones.

FS 87014
Frost, C.C.; Musselman, L.J. 1987. History and vegeta-


DESCRIPTORS: oleoresins; monoterpenes; chipping; chemical composition; treatment; sulfuric acid; 2-chloroethylphosphonic acid.


DESCRIPTORS: national forests; wildlife; population density; habitat selection.


DESCRIPTORS: reforestation.

U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station. 34 p.

DESCRIPTORS: seeds.

FS 87028


DESCRIPTORS: seeding culture; growth; survival; seeding size; scirrhia.

FS 87029


DESCRIPTORS: preservative treated wood; guidelines.

FS 87030


DESCRIPTORS: national forests; wildlife; mammals; habitat selection; tree age.

FS 87031


DESCRIPTORS: synecology; fires; land use history; vegetation types.

FS 87032


DESCRIPTORS: gopher tortoise; reptile populations; burning.

FS 87033


DESCRIPTORS: national forests; forest types; vegetation types; botanical composition.

FS 87034


DESCRIPTORS: national forests; amphibians; reptiles; habitat selection.

FS 87035


FS 87036


DESCRIPTORS: artificial regeneration; wildlife management.

FS 87037


DESCRIPTORS: particleboard; bacteria; decay fungi; resistance; testing.

FS 87038


FS 87039


DESCRIPTORS: seedlings; morphology; planting stock; quality.

FS 87040


FS 87041


**DESCRIPTORS:** vegetation types; botanical composition; understory vegetation.

**FS 87042**


**DESCRIPTORS:** seeds; yields; forest plantations; natural distribution.

**FS 87043**


**DESCRIPTORS:** vegetation types; botanical composition; soil types; overstory vegetation; understory vegetation.

**FS 87044**


**DESCRIPTORS:** formicidae; natural enemies; predators; foraging; foraging period; biology; behavior.

**FS 87045**


**DESCRIPTORS:** plant communities; Savannah River Plant; forest ecosystems.

**FS 87046**


**DESCRIPTORS:** national forests; amphibia; reptiles; habitat selection.

**FS 87047**


**DESCRIPTORS:** national forests; mammal; habitats.

**FS 87048**


**DESCRIPTORS:** national forests; intensive forestry; grazing effects; runoff water; infiltration; water composition and quality.

**FS 88001**


**DESCRIPTORS:** seedlings; benomyl; survival; storage.

**FS 88002**


**DESCRIPTORS:** forest surveys; southern states.

**FS 88003**


**DESCRIPTORS:** herbicide application; site preparation; release.

**FS 88004**


**FS 88005**


**DESCRIPTORS:** seeds; viability; diseases; pests.

**FS 88006**

LONGLEAF PINE: AN UPDATED BIBLIOGRAPHY

**DESCRIPTORS:** prescribed burning; herbage; fire effects; biomass; botanical composition; pocket gopher; plant communities; plant succession; dunes.

**FS 88007**


**DESCRIPTORS:** synecology.

**FS 88008**


**DESCRIPTORS:** woodpeckers; population density; forest damage; statistical analysis; tree cavities.

**FS 88009**


**DESCRIPTORS:** biological control; interactions; woodpeckers.

**FS 88010**


**DESCRIPTORS:** fungal diseases; mycosphaerella; planting stock; storage; fungicides; benomyl.

**FS 88011**


**DESCRIPTORS:** cattle; grazing; agroforestry; plantations; silviculture; ecology; site preparation; management; silvopastoral systems; botanical composition.

**FS 88012**


**DESCRIPTORS:** livestock; grazing systems; prescribed burning; grazing effects; plant succession.

**FS 88013**


**DESCRIPTORS:** seedlings; planting methods.

**FS 88014**


**DESCRIPTORS:** remote sensing; lasers; stand characteristics; volume determination; weight determination.

**FS 88015**


**FS 88016**


**DESCRIPTORS:** x-ray photoelectron spectroscopy; copper arsenate; wood preservatives.

**FS 88017**


**FS 88018**


**DESCRIPTORS:** population dynamics; plant communities; forest ecology; habitat selection; dispersion; revegetation; plant succession; colonizing ability.

**FS 88019**


**DESCRIPTORS:** seedlings; thysanoptera; seasonal variation; trapping.

**FS 88020**


**DESCRIPTORS:** allelopath; chemical composition; fires; mortality; scrub; fuel accumulation.

**FS 88021**


**FS 88022**


**DESCRIPTORS:** seeds; cankers; seed treatment; thiabendazole; DMSO; fungicides; seed germination; seedling emergence; survival; disease control.

**FS 88023**


**DESCRIPTORS:** seedlings; bifenox; herbicides; nitrogen; oxyfluorfen; weed control; forest nurseries.
FS 88024
DESCRIPTORS: alpine sand; seedling; irrigation; nurseries.

FS 88025
DESCRIPTORS: tree age; height.

FS 88026
DESCRIPTORS: habitats; pastures; ecology; distribution; environmental factors.

FS 88027

FS 89001
DESCRIPTORS: testing; fungal diseases; rust diseases; resistance; methodology; genetics; variation; tree breeding.

FS 89002
DESCRIPTORS: container grown plants; light flux; shading; seedlings; performance.

FS 89003
DESCRIPTORS: seedlings; container grown plants; site preparation; survival; growth.

FS 89004
DESCRIPTORS: seeds; vigor; testing; aging; seed germination.

FS 89005
DESCRIPTORS: container grown plants; seedlings; site preparation; vegetation management; plant competition; herbicides; survival; growth.

FS 89006
DESCRIPTORS: savanna; wetland; upland; flatwoods.

FS 89007
DESCRIPTORS: historical account; Indians.

FS 89008

FS 89009
DESCRIPTORS: forest economics; species choice; silviculture; statistical methods; profitability; investment; stumpage value.

FS 89010
DESCRIPTORS: wood; fertilizer application; soil cultivation; cultural methods; physical properties; wood anatomy; shrinkage; moisture content; specific gravity; annual rings; correlation.

FS 89011

DESCRIPTORS: intensive forestry; juvenile wood; cultivation; fertilizers; growth; tree diameter/girth; height; wood density.

FS 89012

DESCRIPTORS: wiregrass; Atlantic Coastal Plain; floristic composition.

FS 89013

DESCRIPTORS: pine; hardwood; savanna; woodland; Coastal Plain; Piedmont Plateau; oak; Southeastern Evergreen Region.

FS 89014

DESCRIPTORS: identification; plant disease control.

FS 89015

FS 89016

FS 89017

DESCRIPTORS: seeds; seed germination; seed treatment; vigor; accelerated aging; assessment.

FS 89018

DESCRIPTORS: season of burning; frequency of burning; sandhill pines; flatwood pines; mortality; habitats; recruitment.

FS 89019

DESCRIPTORS: thinning; natural thinning; stand characteristics; mortality; genetics; natural selection.

FS 89020

FS 89021

DESCRIPTORS: wiregrass; rare plant taxa; endangered taxa.

FS 89022

DESCRIPTORS: plant succession; vegetation types; mortality; stand characteristics; forest fires; fire ecology; synecology; species diversity.

FS 89023

DESCRIPTORS: age criteria; disturbance criteria.

FS 89024

DESCRIPTORS: crown cover; growth rate; tree age; diameter; increment.

FS 89025

DESCRIPTORS: birds; wildlife; habitats; wildlife management; habitat improvement; foraging; rotations; volume; yields.

FS 89026

DESCRIPTORS: pests; pigs; feral varieties; natural regeneration; browsing damage; mortality.

FS 89027

DESCRIPTORS: site preparation; survival; mechanical methods; diammonium phosphate; herbicides; vegetation management.

DESCRIPTORS: weed control; picloram; leaching; pesticide persistence; mineral soils; soil solution; stream flow; environmental pollution; aerial application.


DESCRIPTORS: plantations; mortality; height; mathematical models.


DESCRIPTORS: ecosystem; wildflowers; biodiversity.


DESCRIPTORS: copper arsenate; infrared spectroscopy; wood preservatives.


DESCRIPTORS: forest fires; ecology; synecology; fire


DESCRIPTORS: fire; mortality; pyrogenicity; sandhills; turkey oak.


DESCRIPTORS: hardwood component, natural pine stands.


DESCRIPTORS: national forests; natural regeneration; artificial regeneration; site preparation; shelterwood; stand establishment; planting.


DESCRIPTORS: feeding habits; pastures; cattle; deer; diets; browse; seasonal variation; forbs; wild animals; grasses; botanical composition; range management; management; rangelands; grazing.


DESCRIPTORS: seeds; seed morphology.


DESCRIPTORS: plant composition; seeds; chemistry; testas; composition.


DESCRIPTORS: silviculture; grazing effects; interrill erosion; runoff; water quality.


DESCRIPTORS: growth rings; tree age; stand density; prescribed burning; site factors; climatic factors.


DESCRIPTORS: pollution; fluorine; fluoride; deposition; forest litter; soil morphology; habit; defoliation; decomposition; plant composition; aluminum; foliage; chemistry.


**DESCRIPTORS:** vegetation management; prescribed burning; hardwoods; spring burns; summer burns.


**DESCRIPTORS:** weight tables.


**DESCRIPTORS:** remote sensing; thematic mapper; stand characteristics; land use; plantations.


**DESCRIPTORS:** seedlings; nurseries; sowing; seeder cultivators.


**DESCRIPTORS:** vegetation types; synecology; fires.


**DESCRIPTORS:** seed orchards; insect pests; monitoring; cones; yield.


**DESCRIPTORS:** rhizosphere; organic compounds; organic acids; forest soils; soil types (ecological); soil organic matter; soil chemistry.

Harrington, C.A. 1990. PPSITE — a new method of site evaluation for longleaf pine: model development and

**DESCRIPTORS:** site factors; site preparation; computer software; models.

FS 90020


**DESCRIPTORS:** seedling quality; bareroot seedlings; field experiments.

FS 90021


**DESCRIPTORS:** histopathology; foliage; diseases; fungal diseases.

FS 90022


**DESCRIPTORS:** heartwood; wood preservatives; durability; marine structures; marine borers; creosote; penetration.

FS 90023


FS 90024


FS 90025


**DESCRIPTORS:** geographic variation; survival and growth traits; adaptability.

FS 90026


FS 90027


FS 90028


**DESCRIPTORS:** seedlings; inoculation; *Pisolithus tinctorius*; nurseries.

FS 90029


FS 90030


**DESCRIPTORS:** planting stock; quality controls.

FS 90031


**DESCRIPTORS:** site preparation; mechanical methods; fertilizers; weed control; nitrogen; phosphorus; plantations; burning; weed control; plant competition; growth rate.

FS 90032


**DESCRIPTORS:** flame retardant finishes; monoammonium phosphate; organophosphorus compounds; boric acid; wood strength; thermal degradation; weight losses; dehydration; strength testing; temperature; relative humidity; hygroscopicity; acidity; heat; thermogravimetry; calorimetry.

FS 90033


**DESCRIPTORS:** forest management; multiple use; birds; decision making.

FS 90034

 Rudolph, D.C.; Conner, R.N.; Turner, J. 1990. Competition for red-cockaded woodpecker roost and nest cavities: effects of resin age and entrance diameter. Wilson
LONGLEAF PINE: AN UPDATED BIBLIOGRAPHY 25

DESCRIPTORS: tree cavities; birds; biology; ecology.  

FS 90035  
DESCRIPTORS: resins; snakes; tree cavities; birds; biology; ecology.  

FS 90036  

FS 90037  

FS 90038  

FS 90039  

FS 90040  

FS 90041  

FS 90042  
DESCRIPTORS: keys; distribution.  

FS 90043  

FS 91001  

FS 91002  
DESCRIPTORS: nurseries; sowing; lifting; spacing; seedling growth; sowing date.  

FS 91003  

FS 91004  
DESCRIPTORS: weeds; pollen analysis; biology; pollen; production.  

FS 91005  

FS 91006  
DESCRIPTORS: cutting; foraging habitat; habitat fragmentation; Texas.  

FS 91007  
FS 91008
DESCRIPTORS: dendrochronology; climate; simulation; dendroclimatology.

FS 91009
DESCRIPTORS: artificial regeneration.

FS 91010

FS 91011
DESCRIPTORS: juveniles; survival of fire; fuel load.

FS 91012
DESCRIPTORS: ecosystems; groundwater; streams; precipitation; coastal plain soils; transport processes; cations; soil; water; hydrology; water pollution; soil chemistry; ion exchange capacity; leaching.

FS 91013
DESCRIPTORS: fungicides; seed germination; seed treatment; thiram; phytotoxicity; triadimefon; germination; seeds; diseases; triadimefon.

FS 91014
DESCRIPTORS: environmental quality; soil; water; air; biological diversity; ecological process; resource; land.

DESCRIPTORS: increment; basal area; growth models; simulation; stand characteristics; mortality.

DESCRIPTORS: ground-cover; growing season fire; dormant season fire; biomass; fire-tolerant.


DESCRIPTORS: landscape; fire suppression; historical changes; GIS; prescribed burning.


DESCRIPTORS: acidity; cations; pH; prescribed fire.

DESCRIPTORS: soil water movement; infiltration; burning; soil types (textural); erosion; interrill erosion.


DESCRIPTORS: longleaf pine; old-growth; red-cockaded woodpecker; history.

DESCRIPTORS: control; benomyl; metalaxyl; planting stock; diseases; storage; fungal diseases; fungicides.

DESCRIPTORS: national forest management; public land; resource.


DESCRIPTORS: early field performance; seedlings.


DESCRIPTORS: diameter; equations; increment; stand tables.

FS 92014


DESCRIPTORS: reforestation.

FS 92015


DESCRIPTORS: height; stump height; poles.

FS 92016


FS 92017


DESCRIPTORS: control; physical control; mulching; ecology; soil temperature; weeds.

FS 92018


DESCRIPTORS: increment; basal area; growth models; diameter; plant competition; stand characteristics.

FS 92019


DESCRIPTORS: genetics; molecular genetics; chloroplast genetics; biotechnology; restriction fragment length polymorphism; genetic resources.

FS 92020


FS 92021


FS 92022


FS 92023


DESCRIPTORS: sandhill; susceptibility; disease; infection; mortality.

FS 93001


DESCRIPTORS: regeneration; seed storage; stratification; moisture content; seed quality.

FS 93002


DESCRIPTORS: regeneration; artificial means; seed quality.

FS 93004


FS 93005


FS 93006


DESCRIPTORS: wiregrass; sandhill pine; Apalachicola Bluffs; ravine pressure.

FS 93007


DESCRIPTORS: forb cover; wiregrass; ecosystem; species diversity; species richness; species evenness; hexaxinone.

FS 93008


FS 93009


FS 93010

DESCRIPTORS: fusiform rust; fungicide; triadimefon; infection; production.

FS 93011

FS 93012

FS 93013

DESCRIPTORS: old-growth; soil texture; hardwood species; xeric type; mesic type; North Carolina; sandhills; Boyd Tract.

FS 93014

DESCRIPTORS: juvenile; fire; fire temperature; juvenile survival.

FS 93015

FS 93016

FS 93017

FS 93018

FS 93019

FS 93020

FS 93021

DESCRIPTORS: growing season fire; resprouting; shrubs; upland savannas; seepage savannas.

FS 93022

DESCRIPTORS: productivity; yield.

FS 93023

DESCRIPTORS: wiregrass; herbicide; hexazinone; Ocala National Forest; green tissue; biomass.

FS 93025

DESCRIPTORS: Hurricane Kate; fire; old-growth stand; fire.

FS 93026

DESCRIPTORS: benomyl; chlorothalonil; benodanil; triadimefon; diniconazole; SN-84364; RH-3486.


FS 94014


DESCRIPTORS: wiregrass; shade; nutrients; fire.

FS 94015


FS 94016


FS 94017


DESCRIPTORS: slash pine; mortality; stand dynamics; site; lightning; windthrow; fire.

FS 94018


DESCRIPTORS: Southeastern USA; piedmont; coastal plain; ecosystem restoration; old-growth.

FS 94019


DESCRIPTORS: Plant succession; evolution; models; disturbance regimes; plant community dynamics; ecosystem restoration; old-growth.

FS 94020


FS 94021


FS 94022


DESCRIPTORS: bearing tree; community composition; forest history; historical plant ecology; mixed deciduous forest; presettlement; land survey; vegetation; wetland tree species distribution.

FS 94023


DESCRIPTORS: benomyl; root growth potential; Viterra gel; survival.

FS 94024


DESCRIPTORS: rotation; yield; income; economics.

FS 94025


FS 94026


DESCRIPTORS: fire effects; flowering; Florida.

FS 95001


FS 95002


FS 95003


FS 95004


FS 95005


FS 95006

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