

Alabama's TREASURED Forests



THANKS

FOR HELPING

**PREVENT
FOREST FIRES**

AND

40 YEARS

WITH

Smokey

(1944 - 1984)

WINTER ISSUE 1984

STATE FORESTER'S MESSAGE

by C.W. MOODY



A commitment to an ideal is what has made our country the great nation that it is. Over two hundred years ago, our forefathers were committed to the ideal of freedom — so much so, that, many of them gave their lives to ensure future generations the right of life, liberty, and the pursuit of happiness. Since then, succeeding generations have fought to guarantee our rights—among these the right to own land.

Today, Alabama's forest resources are not fully managed. Seventy-five percent of Alabama's forestlands are owned by private nonindustrial landowners. With proper management, these forestlands provide a tremendous opportunity to improve the general well being of our state.

If you are a private nonindustrial landowner, I challenge you to exercise your right of owning land as a good steward, by managing for all the resource values important to you and your country. If you are committed to this ideal, then I also encourage you to stand up and be counted. One way you can do this is to endorse the TREASURE Forest Landowner's creed. (See page 29 in this book.) This pledge adequately states the belief of responsible forestland ownership and once signed by you can be framed as a testimony for others to see. The creed is sponsored by the Alabama Forestry Planning Committee and can be obtained by contacting any of the appropriate agencies as listed in this magazine.

If you are one of Alabama's 200,000 private landowners, then, I urge you to accept this challenge of principle, purpose and idealism. By doing so, you will provide a testament, not only to present and future generations, but to our ancestry who made possible the rights and freedoms we enjoy today.

A handwritten signature in cursive script that reads "C.W. Moody". The signature is fluid and elegant, with a long, sweeping tail on the final letter.

Alabama's TREASURED Forests

Volume III

Winter Issue, 1984

Number 1

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The Alabama Forestry Commission supports the Alabama Forestry Planning Committee's TREASURE Forest Program. This magazine is intended to further encourage participation in and acceptance of this program by landowners in the state. Any of the agencies listed above may be contacted for further information about the TREASURE Forest program.

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COVER: Smokey Bear will celebrate his 40th birthday on August 9, 1984!

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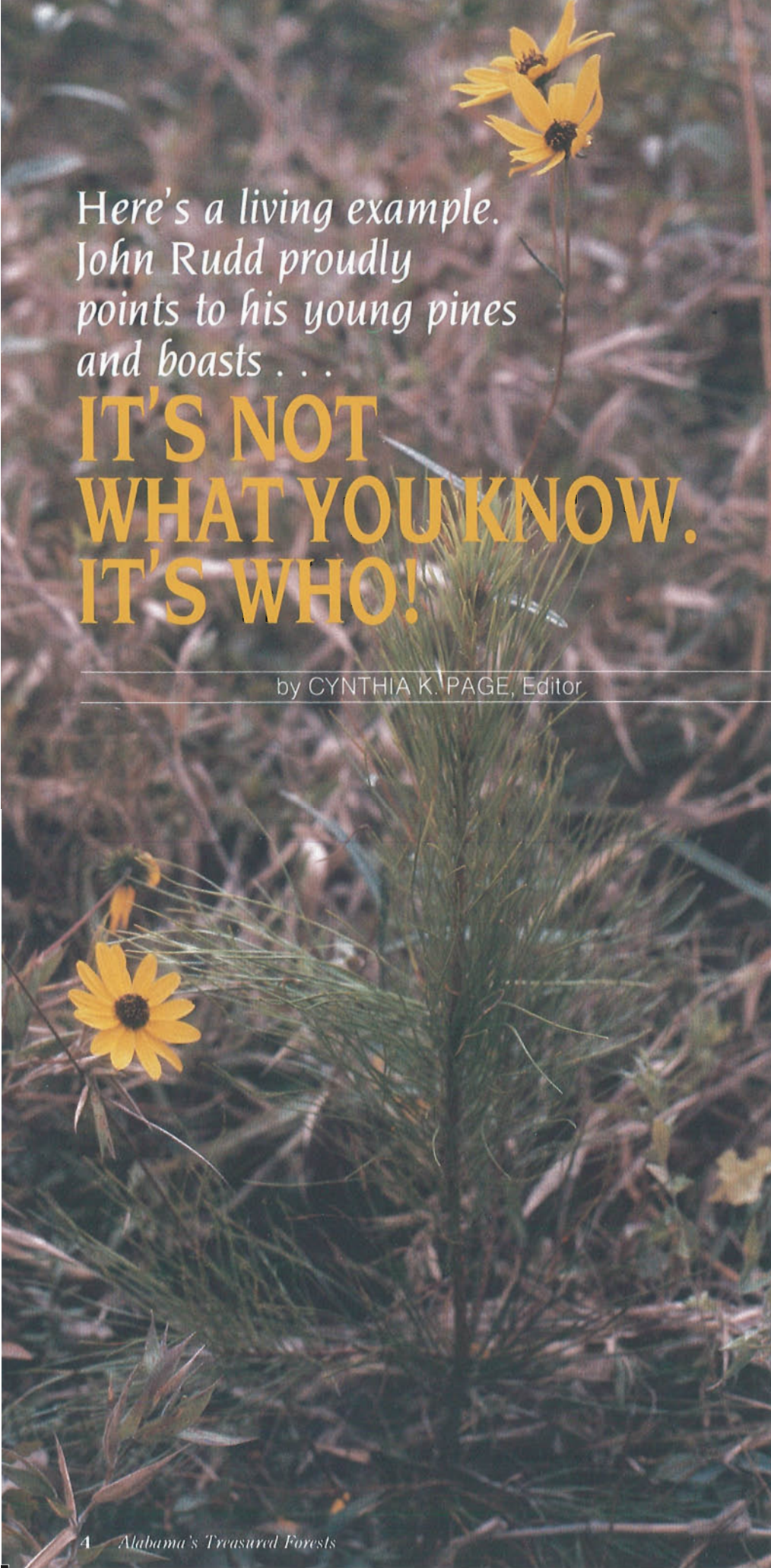
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A young pine tree stands in the center of a field of yellow wildflowers. The pine tree is small and has a dense, conical shape. The wildflowers are scattered around it, some in the foreground and some in the background. The background is a soft-focus field of similar flowers and greenery.

*Here's a living example.
John Rudd proudly
points to his young pines
and boasts . . .*

IT'S NOT WHAT YOU KNOW. IT'S WHO!

by CYNTHIA K. PAGE, Editor

Chest high emerald green pines span 1200 acres in Russell County which only three short years ago looked barren and desolate to an untrained eye. The clearcut which created this appearance was a necessity of nature rather than the whim of the landowner. However, the logical thinking of young John Rudd, a city slicker by most standards and caretaker of the Patterson estate, probably prevented a sizeable loss and even earned a profit!

Family Tradition

The beginning of the Patterson family's claim to this 2000 acre plot dates back to 1832. Since that time generation after generation has accepted a role in its development with slightly altered objectives, but none-theless the same basic philosophy —take care of the land and it'll take care of you!

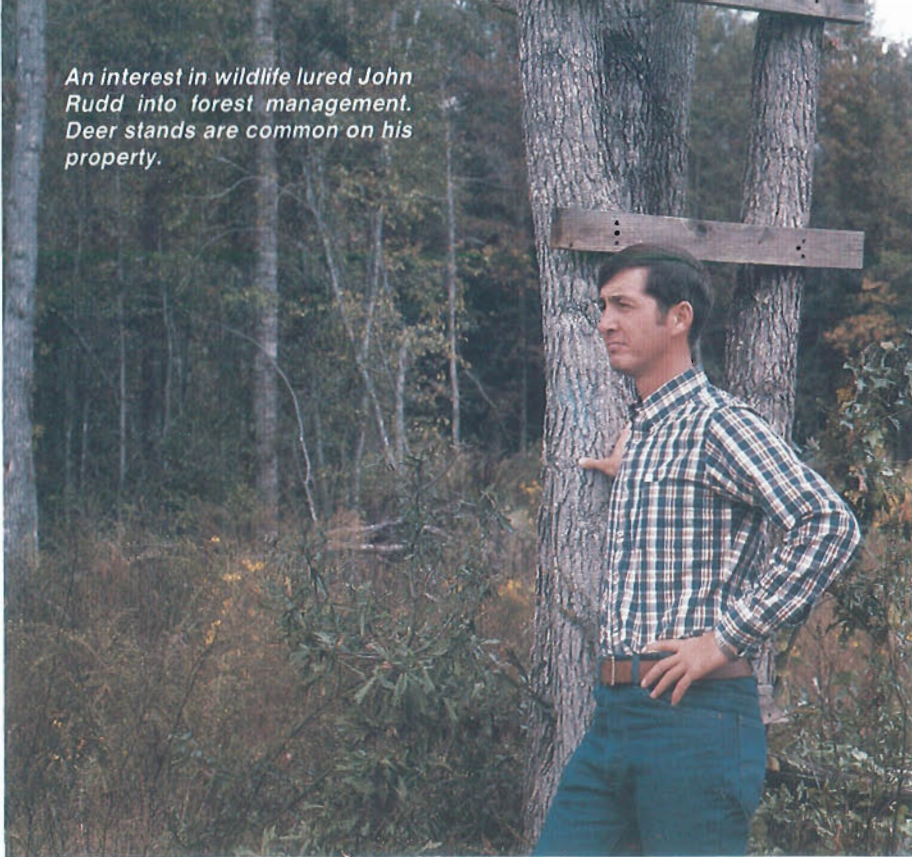
Rudd's father-in-law, W. O. Patterson, passed away in 1977, leaving the care of his property in his son-in-law's hands. While Mrs. Patterson still lives on the estate, she says she "feels comfortable with John's decisions." So it came to be that John and Nancy Patterson Rudd would turn the 2000 acres into a potential thriving forest with many benefits!

Rudd says with modesty, "I didn't know anything about forestry. I work full time with Columbus Tractor & Machinery, and I really never had time to get involved with forest management. After Nancy's father died, I really didn't have any idea what to do." With genuine affection and fondness he adds, "Mr. Patterson really loved this place. He started with a stand of timber and row crops and made his living here. He left us a stand of timber, and I hope to do the same for my children and they in turn can do it for their children. Everything we take from the land goes back into it to perpetuate its productivity.

The First of Many Firsts

W. O. Patterson's TREASUR* Forest sign is a little different from the familiar red, white, and blue acorn. That's because it was one of the first ten TREASUR's certified in the state. His main objective had been timber and quite a good looking

An interest in wildlife lured John Rudd into forest management. Deer stands are common on his property.



stand existed on the property at that time.

After John and Nancy "inherited" its care, it became Russell County's first demonstration forest. Also, the state's first WRAP (Woodland Resource Analysis Program) plan covered practices to be applied on the Patterson forest.

"Firsts" don't stop here, for at 35 John Rudd became the youngest recipient of the Helene Mosley Memorial Award in 1982.

Nature Take Its Toll

Shortly after Rudd became the caretaker of the place, he got a little more than he bargained for — not just littleleaf disease but southern pine beetle as well! Close to 1200 acres had to be clearcut, about sixty percent of the total holdings!

"Mr. Patterson probably turned over," according to John, "but I think he'd be pleased with where we are now." The WRAP plan had called for periodic thinnings, but after the beetle, plans changed. "I've got about 1000 acres the way I want it and about 600 of the remaining 1000 acres need to be replanted."

Replant he has, at an average of 100 acres per year. Utilizing cost share funds from FIP (Forestry Incentives Program) and ACP (Agri-

cultural Conservation Program), close to two-thirds of the tract is now in pines! His routine is to use a K-G blade, drum chop, and burn. This affords the least amount of soil disturbance on the rolling hills covering the property. A new technique — on-site chipping — will be tested this year in an effort to cut costs in half.

The Call of The Wild

"While I didn't know much about timber management," says Rudd, "I always had an interest in wildlife. That's really what got me started. I went to a wildlife seminar and met some folks who pointed me in the right direction."

When the seminar was over, Rudd came home to start developing a demonstration forest. Jokingly he says his WRAP plan was probably the most intensive with about a dozen agency people involved!

"Still, I have a love for the wildlife," he adds. "I'm not really an avid hunter, but I let my friends hunt here. I just like to catch a glimpse of it, that's as good as shooting it."

Rudd has accomplished much in the way of wildlife management. Four chufa plots sustain the turkey and five bicolor plots attract quail.

Additionally, volunteer peanuts are excellent bird food! There's a 15-acre dove field that's the site for many a shoot. Of course, there are also two deer fields!

Fur and feathers can be found throughout the estate. A two-acre duck pond is Rudd's personal contribution to the preservation of the duck habitat supported by Ducks Unlimited.

There's also a one and a half acre beaver pond which to many would be a nuisance. To John it's the starting point for a 4.2 acre lake! The Soil Conservation Service helped to develop a plan which calls for a dam to be built next spring. If you can't beat 'em, join 'em!

Lack of Knowledge No Barrier

Even though John Rudd knew nothing about forestry, the 2000 acre Patterson property has potential! "I just know who to call," he explains. "There's the Cooperative Extension Service, Agricultural Stabilization and Conservation Service, Soil Conservation Service, and the Forestry Commission, just to name a few. Also, I can say that one of the best things I ever did was hire a consultant forester. That's how I kept from losing on the clearcut. Believe me, it will bring you greater returns in the long run."

Rudd also has additional advice:

1. Know your boundary.
2. Develop access to your property.
3. Put in fire lanes when you plant.

Laughingly he tells about surveying his property after he planted. It ends up that part of his trees were on his neighbor's land! "That's okay," says John. "He's a good neighbor."

The Future's Bright

What's ahead? Rudd says, "In ten years I want it to be in pretty pines, the bottom in oaks and hardwoods. I want the quail and turkey to stay, and I want the deer to be better. These trees can help my children, Justin and Vicky, to get what they need."

Someday, the Patterson tract will be split between Nancy Rudd and her brother. When that happens, there will be mature emerald green timber stretching skyward. ♠

SMOKEY BEAR



After 40 Years . . . Still the Same Message

by DON BURDETTE, Staff Forester, Information & Education

Who stands out as the most famous advertising symbol in the world? Whose name is protected by federal law? Who has his own private zip code, his own legal counsel to insure his safety, and his own private committee to make sure his name is used only on properly licensed products? Why, Smokey Bear of course!

The need for fire prevention in America has always existed but grew in the early days of World War II when all available resources, especially timber, were needed to support the American military effort. Also, most of the experienced able-bodied men and heavy machinery used to fight fires were serving in the armed forces overseas leaving the home communities to deal with forest fires as best they could.

The Cooperative Forest Fire Prevention Campaign (CFFP) was organized by the U. S. Forest Service to encourage average citizens to participate personally in fire prevention. As the fire prevention movement gained momentum, animals were used to

capture the public's attention. Bambi was used successfully while on loan from Walt Disney, but the CFFP campaign felt the need to develop a new character all their own.

Eventually, a bear was selected to represent fire prevention because people were familiar with them, they looked natural standing on their hind feet, and they were a convincing symbol of strength and confidence. The American public was introduced to and became endeared with Smokey, "the fire fighting bear," on August 9, 1944.

On paper Smokey was complete with forest ranger hat, blue jeans, shovel, and fire fighting slogans — but there was more. In 1950, an actual bear cub, terrorized by a New Mexico forest fire, became lost and wandered near a fire fighting crew. Badly burned, he was picked up and taken to Dr. E. J. Smith for medical care. The little bear was nursed back to health by Game Warden Ray Bell and his family at their Sante Fe home. People wrote or called from all over the United States to check on

the bear's progress.

From the moment the cub was found, it seemed natural that he should become the first living symbol for Smokey Bear. With a great deal of fanfare, the bear cub was presented to the U. S. Forest Service and transported by air to his new home at the National Zoo in Washington, D.C. There he was given special outdoor quarters with displays that told the story of the living Smokey Bear.

Now, with a live counterpart to its already successful advertising symbol, the Cooperative Forest Fire Prevention Campaign continued in full swing, assisted by personal appearances (volunteers in costume), television programs, parade floats, and a heavy advertising campaign.

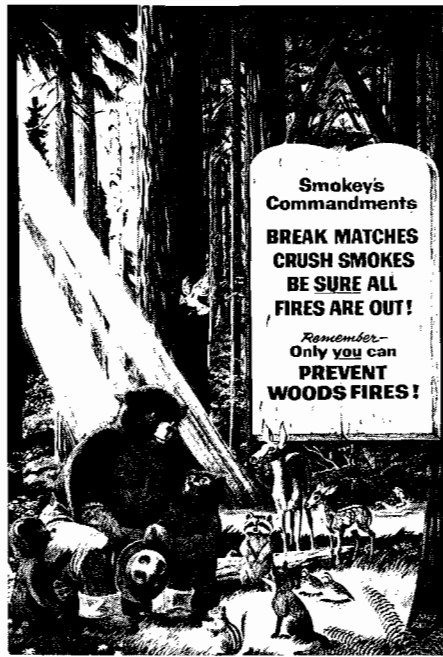
One of the most popular ways in which Smokey Bear has received recognition has been through a cartoon series entitled "Smokey Says." As the name indicates, each one presented some pertinent remark by Smokey in the interest of fire prevention.

The "Smokey Bear Act" was

passed in 1952 to guard the fire prevention bear from unfavorable publicity and undesirable commercial use. By federal law, the manufacture, reproduction, and other use of the Smokey Bear character must first be authorized by the Secretary of Agriculture, who must consult with the Association of State Foresters and the Advertising Council. Through the years, hundreds of licenses have been approved to produce an amazing assortment of Smokey Bear products, most of them appealing to children.

His young admirers sing Smokey songs, listen to Smokey records, or read Smokey books. They wear Smokey wrist watches, necklaces, ties, neckerchiefs, hats, belts, jackets, or pants. In their rooms they use Smokey lamps, banks, desk pen sets, wall plaques, and light-switch plates. At mealtime they eat from Smokey dinnerware, use Smokey salt and pepper shakers, or get a treat from a Smokey cookie jar. They find playtime amusement in numerous Smokey toys, balloons, games, puzzles, and coloring books. For school each one can carry his noon meal in a Smokey lunch kit (with thermos) and cover his books with Smokey book covers. For an overnight trip, Smokey Bear knapsacks and sleeping bags are available. If the family wants to cook out, they may choose from such useful Smokey items as grill liners, charcoal briquettes, hickory chips, charcoal lighter, and Smokey match folders (complete with fire prevention message). And last but not least, for adults who insist on smoking, there are Smokey ashtrays and cigarette snuffers.

Smokey's message is directed at all ages, but his greatest appeal is to



children. In 1952, the Junior Forest Ranger Program was started to commit youngsters to the whole concept of fire prevention and make them a real part of it. They became the ones whose mission it was to see that no members of their families were guilty of carelessness that might start accidental fires.

Young people may still become Junior Forest Rangers today by sending a personal request to be appointed, along with his or her home address and zip code to: Smokey Bear Headquarters, Washington, D.C. 20252.

Every request is answered promptly in an envelope bearing Smokey's picture, proclaiming: "Hi, Ranger! Here's Your Junior Forest Ranger Kit!" The envelope contains a letter from Smokey (signed with paw-print), Smokey's photograph (with his true story printed on the back), a shiny metal Junior Forest

Ranger badge, a pledge card, a membership card, four fire prevention stamps, a bookmark, and a song sheet of "Smokey the Bear."

Children sympathize with the bear that almost died in a forest fire, and they feel he has an excellent reason for wanting to prevent fires. Here are two comments from letters to Smokey:

A California mother writes: "If anyone loves Smokey, the Bear, it's my son. He loves the trees and he says if you don't do what Smokey says it'll start a fire and burn all the trees, and the deer and bears and chipmunks, etc., won't have a home."

From a girl in North Dakota: "I read in our 'Young Citizen' that it cost billions of dollars every year to pay for the damage done by fires so I am contributing five cents to help pay for the damage."

Although Smokey Bear has done an enviable job of educating the public about the menace of fire for many years, we now learn that some people wish his success hadn't been as high! As more research on the effects of fire in pine forests indicated that prescribed burning is actually beneficial, these folks felt that Smokey's efforts had become too successful for the good of the forest. It is true that Smokey has done such a convincing job of stopping wildfires that some people who should be practicing prescribed burning in their pine stands today will not even consider it.

Actually, Smokey has no quarrel with the responsible application of fire in a specific manner, under proper conditions to achieve a described and planned result (see "Tame Fire Can Aide Our Forests," Spring, 1983 issue of *Alabama's TREASURED Forests*). Smokey is a wildfire prevention specialist. His job will continue to be to discourage the careless and malicious use of fire that results in the destruction of valuable timber, wildlife, soil, water, and forage resources of our great American forest.

By the way, "Remember, only YOU can prevent wildfires!" ♣



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Morrison, E.E. *Guardian of the Forest: A History of the Smokey Bear Program*, New York.

Stocking And Managing Ponds In Alabama

A "REEL" ADVENTURE

by LARRY JOHNSON
District Fisheries Biologist
Fairhope

Each year the Game and Fish Division hatcheries in Marion and Eastaboga rear and distribute more than three million bream (bluegill and redear sunfish) and bass for stocking privately-owned ponds in Alabama. Since 1951 the Fisheries Section has stocked more than 36,178 fish ponds totaling 125,820 surface acres. These ponds provide 30 percent of the fishing in Alabama waters, or about eight million fishing trips annually.

Obtaining Fish

Pond owners may obtain fish applications by writing directly to the nearest District Fisheries Office or to the Game and Fish Division Office of the Alabama Department of Conservation and Natural Resources in Montgomery. District offices are located at Decatur, Eastaboga, Tuscaloosa, Fairhope and Enterprise. A charge of \$30 per acre is presently required for all pond stocking services.

The pond owner is sent an application for stocking, along with instructions for completing the application. All ponds for which fish applications have been received are visited by the fisheries biologist for a pre-stocking check between October 1 and the



first week in February. All applications must be in the district office by February 1 to receive fish for that stocking season. During the pre-stocking visit the fisheries biologist checks the pond for correct size, presence of fish, and the feasibility of fertilization. Fish delivery, stocking procedure and general pond management are discussed with the pond owner during the visit.

Ponds less than one-fourth acre will not produce good fishing for bream and bass; therefore, no ponds under one-fourth acre are stocked by the Game and Fish Division. The stocking rate for fertilized ponds is 1,000 bream and 100 bass per surface acre. For unfertilized ponds the stocking rate is 500 bream and 50 bass per acre.

The approved application is forwarded to the fish hatchery by the district biologist. The hatchery supervisor will notify the applicant several days in advance of the fish delivery.

Fertilizing Fish Ponds

An important aspect of small pond management is the proper application of fertilizer. All too often, pond owners fail to fertilize their ponds properly. An unfertilized pond originally stocked at the fertilized stocking rate will produce poor fishing; whereas, a properly fertilized pond normally produces three to seven times more pounds of fish than an unfertilized pond. Properly fertilized ponds have fewer weed problems than unfertilized ponds because of the shading effect created by the dense growth of microscopic plants and animals called plankton. Plankton also serves as the primary food for insects, worms and other aquatic animals eaten by fish. To achieve a dense plankton growth or "bloom," the proper fertilizer must be applied in the correct amounts on a regular schedule. For example, one 40 pound bag of 20-20-5 fish pond fertilizer should be used for each application in one surface acre of water.

The time to start fertilizing a pond is about the middle of February or when the water temperature reaches 60°F. The first three applica-

tions should be made at two week intervals. Additional applications should be applied when the water clears to a depth greater than 12 inches. Discontinue fertilization when the water temperature falls below 60°F, usually in November. Ponds normally will require 10 to 12 applications of fertilizer each year. One recommended method for applying fertilizer is to place the bags of fertilizer in the upper end of the pond or along the side opposite the dam in water 12 to 18 inches deep. With the bag on the bottom, tear off the side of the bag in contact with the water. The remaining portion of the bag will separate the fertilizer from the bottom muds and will allow fertilizer to dissolve in the water currents.

Fishing

Begin fishing your pond in June, one year after the largemouth bass are stocked. No fishing should be done before the bass have spawned. Largemouth bass will not spawn until they are one year old. They spawn once a year when the water temperature reaches about 70°F. Fishing before the bass are one year old may cause pond failure.

March and April are usually the best months for bass fishing in ponds. At this time the bass are feeding heavily in the shallow areas prior to spawning time. During the summer months, fish the deeper water when there is daylight; but at night switch to a good noisy surface lure of dark color. There are many artificial lures for bass. In Alabama, the plastic worm probably takes more pond bass than all other lures combined. Artificial flies, frogs, spoons, and plugs are also suitable. Spinner baits and spoons are often improved by the addition of a pork rind attached to the hook.

The present state record largemouth bass, 14 pounds, 8½ ounces, was caught in February, 1983 from a well-managed lake in Alabama.

Bluegills are easiest to catch during their early spawning periods. Bluegills spawn throughout the summer when the waters remain about 80°F. Redear (shellcrackers)

spawn when the surface water warms to about 75°F. Everyone who has fished freshwaters has probably caught a bream. During spawning season large numbers of bream congregate together to form "beds." Often these "beds" are very large and in shallow water. If the bedding bream are feeding, the action can be fast and furious. Bluegills prefer crickets and earthworms, whereas pinkworms are excellent for large redbreast. Use a number 8 or 10 hook with a small split shot weight attached about four inches above the hook. Normally a small float is used. Fish the worm near the bottom, since the bluegills feed on wormlike larvae which live there. Crickets may be fished at various depths until the right depth is found.

The present world's record bluegill weighed 4 pounds, 12 ounces, and the previous record weighed 4 pounds, 8 ounces. Both were caught in small impoundments in Alabama. A former world's record for redbreast, 4 pounds, 4 ounces, also was caught in an Alabama pond.

Efforts should be made to harvest an optimum yield of fish from a pond just as a landowner strives to obtain an optimum yield of timber from his land. Overfishing for bass should be prevented. Overfishing occurs most often during the first few days or week after the pond is first opened. It may occur at any time when excessive fishing pressure is exerted. Some restraint is usually necessary to prevent overharvest. In a well-fertilized pond the annual harvest per acre should be limited to about 145 pounds of bream and 30 pounds of largemouth bass. Harvest rates in unfertilized ponds should be no more than one half the fertilized harvest rates. The annual harvest in any pond should not occur during a one or two month period but should be evenly distributed over the entire stock.

A properly stocked and managed pond is an excellent place for a family outing. Children can learn the basic techniques of fishing and have an excellent chance of catching fish in the process. Next time you think about going fishing, consider visiting a pond in your area and enjoy a great experience. ♣

LANDOWNERS' LEGISLATIVE ALERT



NATIONAL by J. KENNETH MYERS, Legislative Affairs Staff, Forest Service, U.S.D.A.

With Congress headed toward adjournment of the first session of the 98th Congress, most of the effort of recent weeks has involved appropriations legislation. Departments and agencies of the Federal Government which have not yet received their fiscal year 1984 (which began October 1, 1983) appropriations are kept operating through passage of continuing resolution, allowing those units of government to "continue" with funding at levels not exceeding the fiscal year 1983 level. About half the Federal Government is thus affected.

Fortunately, however, appropriations for the cooperative federal state forestry assistance programs have been approved and these programs will

continue uninterrupted. The cooperative programs, providing the federal share of such activities carried out by the Alabama Forestry Commission as forest protection and landowner and forest product operator assistance, will receive slightly less federal funding than last year. The forest management and forest product utilization programs will be reduced while the forest pest control program will be increased. Funding for the Forestry Incentives Program (FIP) will remain at the same level as last year—\$12.5 million.

The Senate continues work on a bill reported on in the last issue of **TREASURED FORESTS** that would encourage the diversion of cropland prone to erosion into long-term

conservation uses. Payment to the landowner would be in the form of surplus USDA commodities. No formal hearings have been held yet, however. The Senate Agriculture Committee has approved full Senate action legislation to prohibit payment of certain USDA agricultural incentives, such as price supports, crop insurance and disaster payments, to farmers who produce agricultural commodities on highly erodible land.

A bill by Congressman Ronnie Flippo that would designate 27,500 acres of the Bankhead National Forest as additions to the existing Sipsey wilderness has passed the House of Representatives and awaits Senate action. ♣

STATE by FRANK SEGO, Legislative Liaison, Alabama Forestry Commission

Never before (and probably never again) have Alabamians been ushered through the experience they had in choosing a new Legislature in the Fall of '83.

The November election, mandated by a three-judge federal panel, ended a one-year term for some legislators and began a three-year term for others. Voters were confused, frustrated and bewildered. Machines malfunctioned throughout the states.

Nobody knew whether the newly-elected legislators would take office the day after their election or at midnight December 31 as the federal panel seemed to indicate. The governor waited for a State Supreme Court decision. He wanted to call a special session to deal with prison reforms, but didn't know which bunch to call to Montgomery.

Three days after the general election the State Court handed down a

decision declaring that those just elected were eligible to take their seats immediately. The decision further gave authority for their organizational process to take place during the governor's special session and that the regular session would begin the first Tuesday in February, 1984.

Everyone breathed a sign of relief. The air was clear. Legislators could get down to business with some sense of direction.

What is the profile of this new legislation? A record number of Republican and Independent candidates who had been rejected by the Democratic selection process won 24 seats, but insiders feel the results will mean little when the legislators get down to business in 1984.

Leadership Unchanged

Leadership in the House and Senate remained virtually unchanged. Only one glaring change is noted, and the House leadership has a ready replacement for their lost team member.

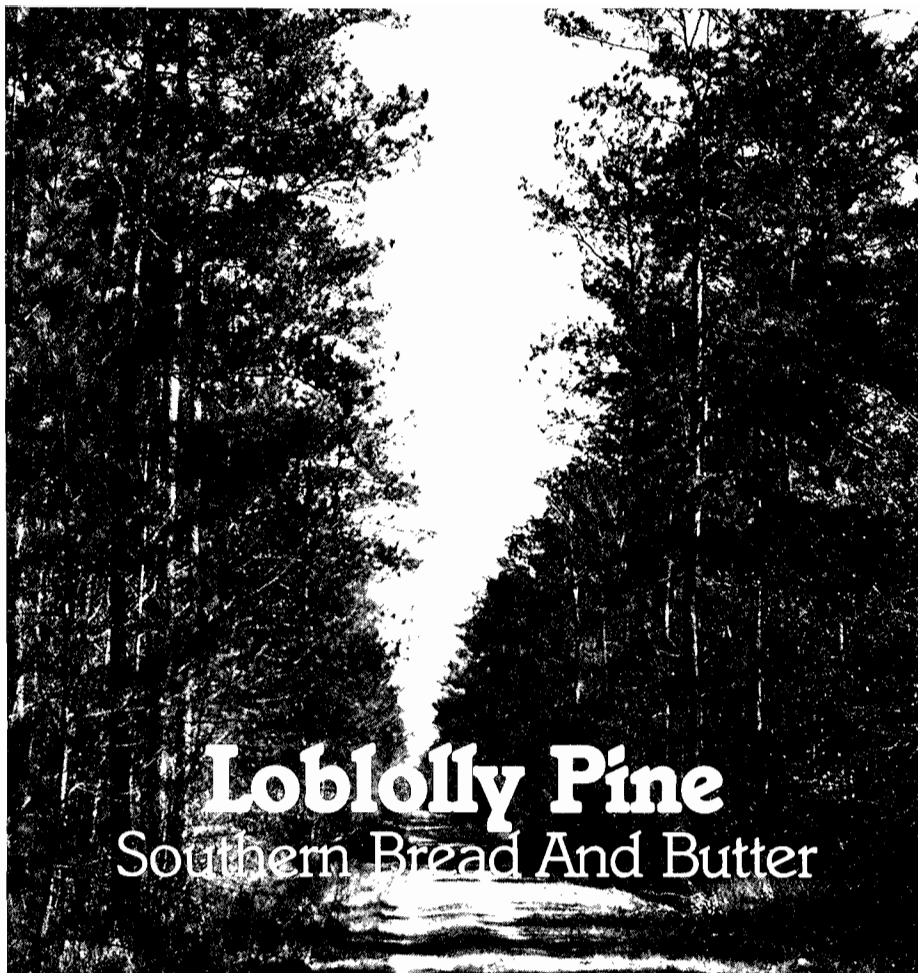
John Casey of Heflin, a Democrat and chairman of the lower chamber's powerful Rules Committee, was unseated in his bid for the Senate by a former House leader, Gerald Dial of Lineville, who ran as an Independent. Former Senator Jimmy Clark of Eufaula, a veteran legislator who sat out state politics for the past nine years, was elected to the House in November and is target for the Rules chairmanship.

Write-in Wins for Barron

Lt. Governor Bill Baxley, who presides over the Senate, did not have to face re-election but his leadership remained intact. Senators back for the new three-year term are John Teague of Childersburg, as president pro-tem; Charles Bishop of Jasper, chairman of the Rules Committee; and Hinton Mitchem of Albertville, chairman of the Finance and Taxation Committee.

In the House, Speaker Tom Drake retained his seat without opposition. Representative Roy Johnson survived a savage Republican challenge to return to his post as speaker pro tem. Representatives Tom Coburn of Tusculumbia and Jimmy Holley of Elba, chairman and vice-chairman of the Ways and Means Committee, did not face opposition.

In the most astounding race of all, Senator Lowell Barron of Fyffe, who lost the nomination to Representative David Stout of Fort Payne, turned around and won the election with an unheard-of write-in campaign that rocked the hills of northeast Alabama. Barron, by the way, was a very effective spokesman for forestry in his first year as a senator. ♣



Loblolly Pine

Southern Bread And Butter

Westernmost U.S. loblolly-shortleaf stands in East Texas. Pictured road was first utilized as access for petroleum exploration but is now used for timber management.

by J. STEPHEN NIX, Randolph County Forester

Southern forestry, fast becoming a principal producer of world fiber and construction materials, is increasingly dependent on a single species of tree - the loblolly pine. If this tree were on the verge of extinction, a non-renewable resource, hard to produce and depended on a single product to espouse its worth, prospects for a sound future in forest management would be slim in Alabama and throughout Dixie.

But all is well! Loblolly has the second largest natural range (shortleaf is first) of any southern yellow pine. The tree grows prolifically from sea level well into the lower Appalachians.

You most probably use some form of it daily if you live on the North American continent. Western Europe, heavily committed to the use of wood and paper products, is reliant upon imported fiber. Southern loblolly is an important tidbit, helping to satisfy a European appetite for a scarce

commodity. It is planted and harvested by large companies as far west as the Big Thicket territory in East Texas.

Half a nation away, the same species is now competing with Georgia row crop farming, agribusiness land reclamation, and North Carolina's Dismal Swamp. The Great Dismal Swamp continues to coexist with forestry and agriculture, rejuvenated by projects sponsored with both government and corporate help. They have insured the dwindling wetland a future that was once vocally questioned by many environmental champions.

"Sweet Home" Alabama is certainly in the thick of things with her dominant loblolly stands. Increasingly strong attention for forest resource managers is nudging Alabama into a leading fiber basket state and world supplier of wood products. Although Alabama is second only to Georgia in total private forest acreage, she still

holds a decisive first place in tree growth potential with over eight million acres capable growing more than a cord of wood fiber per acre per year.

This Southern forest, sandwiched between the Texas plains and the Atlantic Ocean, depends on the loblolly pine, now regarded as the foremost commercial timber species in the Southern United States. The wood products industry, while denying any Southern invasion, obviously acknowledges the value of all southern yellow pines and is expanding operations and land procurement. Several of those showing interest in rebel investments have historically operated in other regions of the United States.

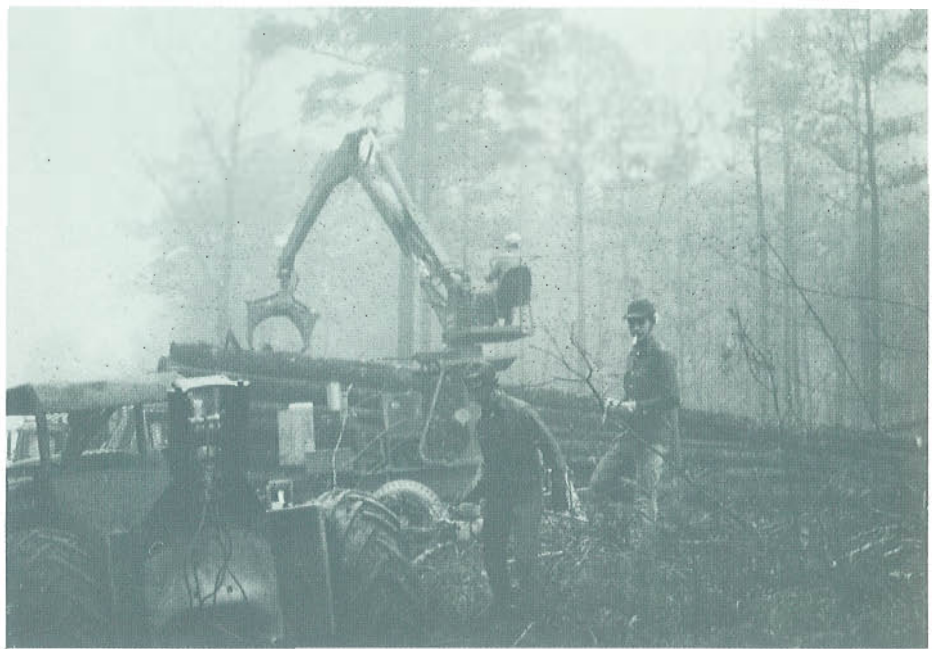
Botanically insignificant and silviculturally unimportant is the name given to this native conifer. However, it does have historical significance and can offer some insight into how many other trees obtain their common names. *Pinus taeda* L. was named by a group of European colonists who noticed, with some annoyance, that the tree readily seeded back on new ground. This new ground was usually cratered with a multitude of mud holes, oftentimes associated with primitive settler clearing.

On the long, unsettling voyage to an undeveloped American wilderness, many travelers were taken with nausea and many other indescribable ailments. The assistant to the ship doctor, better known as "loblolly-boy," concocted a lumpy gruel as a cureall. He supposedly got this name from the sound of gruel bubbling in his pot.

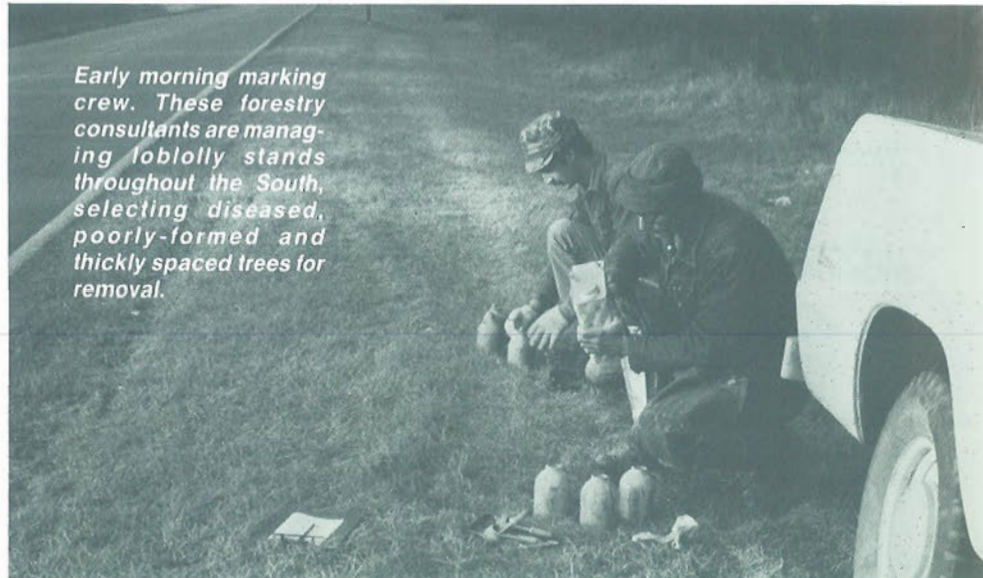
Newly settled colonists associated the bubbling gruel with wet, new ground and mud holes (*calling them loblollies*), in some way linked the abundant tree growing on the cleared land to the soupy mud, and a southern pine was named.

This aggressive pine acquired another common name on cutover land, abandoned fields, and old roadways during the Southern depression of the 1930's. It seemed to be the species always forming pure stands on old fields, hence the local name of "old field pine." You constantly hear this term being used by local landowners.

The loblolly stands as tall as a seven story building when mature (*around 70 years*) and will exceed 24 inches in diameter. Many old trees



Tree length logging of loblolly on Weyerhaeuser Company lands in Arkansas.



have been known to pass the three-century mark. Botanical features include mostly three needles per bundle, cones without stalks, a leaf that sheds every second autumn, and buds which are covered with reddish brown scales.

The aggressiveness of this woody plant, coupled with an increased need for a fast growing timber species to meet predicted wood demands, enhances loblolly pine attractiveness. Its prolific seeding ability makes managing for natural regeneration a "viable alternative" to the dependable but expensive methods of site preparation and planting.

A task force headed by the U.S. Forest Service and cooperating in-

dustry researchers concludes that "loblolly, Virginia, and shortleaf are the most dependable seeders. Trees with adequate growing space usually can be depended upon to produce an adequate seed crop at least every two or three years." Due to limited desirable shortleaf site conditions which tend to influence disease and growth factors and the unattractive range and market for Virginia pine, loblolly fills a tremendous requirement when regenerated through existing seed tree methods.

Another plus for natural loblolly management is its ability to express dominance in a thickly-seeded stand on a fertile site. Many pine species tend to stagnate, particularly in dense stands, because of an inability



All-age loblolly management on a private estate near McComb, Mississippi.

AFC seedlings being planted near Malone, Alabama. Millions of loblolly seedlings are being planted in just this manner each year throughout the South.



to compete with other seedlings. However, naturally seeded stands have a tendency to be either too thick or too thin.

Artificial regeneration, the preparing and planting of a forest with nursery grown seedlings, is still more effective and widely used throughout the South. This is especially true on highly productive, fertile soil with little or no adverse terrain that could prevent the use of planting and clearing equipment.

A goal on most commercial holdings belonging to large fiber farming companies including Weyerhaeuser, Kimberly-Clark, Georgia-Pacific, Georgia Kraft and others, is an almost fanatical quest for the quickest, easiest way to grow a

taperless, knotless cylinder wood as tall as possible. Thanks to genetic manipulation, improved silvicultural techniques, and a stubborn native pine, all things seem possible.

One of many developments that might brighten the picture is an addition of carefully selected *mycorrhizal mycelia* to planting stock root systems. Mycorrhizal fungi expedites early contact with the soil. If certain fungal strains are developed which will speed and improve this early resumption of water and nutrient absorption, a healthier and faster growing tree will result. Other loblolly improvements such as the development of seed source orchards that will produce superior seedlings are being pursued by both industry and

government.

Most seedlings produced in Southern nurseries for reforestation are either slash pine or loblolly pine. Slash tends to be planted along the lower coastal one-third of the state while loblolly serves the central and northern range of the yellow pine. Resistance to wind, ice, and many diseases within this extensive range makes loblolly pine best suited in most areas. Thus, an increased production of loblolly seedlings is justified in most state and corporate nurseries. Proof of loblolly's versatility shows up in plantation stand composition throughout the South.

Occasionally, dark shadows are cast over the loblolly forest. Man's ability to manipulate a cantankerous environment has its limitations. Man can also become the destructive agent.

Southern wildfire, primarily caused by man, consumes millions of productive loblolly acres each year. State forestry agencies coordinate a sometimes frustrating effort to control the fire devastation.

According to the former Southern Pulpwood Conservation Association, insects and disease take a greater toll on Southern woodland than fire. The Southern Pine Beetle has reached epidemic proportions in several states. Since the first new outbreaks were noticed in 1979, the beetle buildup has destroyed loblolly, shortleaf and slash pine by the thousands of acres. This has contributed to a deficit timber inventory in many counties. After a short lag in beetle activity, a new cause for concern has forest managers looking closely at their loblolly stands. Control programs are presently being funded.

Pessimistic predictions warn of a pending invasion by the pine wood nematode, the resulting symptoms resembling stress related problems. This microscopic worm seems to have acquired a taste for loblolly cambium, but its potential destruction in the South is only conjecture and some believe not a problem.

Saw flies, tip moths, root rots, soil fungus, bole rusts—weak-hearted harbingers of calamity describe a doomsday account that brings visions of a pine apocalypse. Monoculture, industrial pillage, diseases and insects—the list grows — all designed to eliminate the last green needle. Better judgement says the prolific loblolly pine will still be standing when the smoke clears. ♣

Planning Structures On A Wooded Site

WHICH TREES DO I SAVE?

by LARRY E. BILES, Urban and Multiple-Use Forestry Specialist, U.S.D.A. Forest Service



FIGURE 1. An excellent HQ site when considering the tree cover. These trees will not pose a safety risk in the foreseeable future because they are healthy and vigorous and will adapt to moderate disturbances.

More and more, people are buying tracts of rural land for purposes of investment, recreation, and escape from the tensions of the work-a-day world. Quite often, the first order of business on newly acquired property is locating a headquarters site, a place from which to direct future operations on the property. The headquarters site may range from nothing more than a convenient place to park a few vehicles, to a relatively manicured spot for a cottage or cabin.

Effectively locating the headquarters site requires some knowledge and appreciation for conservation and natural resources. Likely questions to consider include: How's the access, where are the high and low points, is there a water supply, is the land steep and rocky, are you going to be forced to negotiate a north facing slope, and what's the vegetation like?

After consciously dealing with these and many other issues, a headquarters site can be chosen and clearing begun. The clearing may be as simple as positioning a fire ring, or as complex as constructing an A-frame or larger cottage or cabin.

During clearing one must often choose between individual trees and species of trees. "I like this one, but will it survive soil compaction? Maybe this one would be better." Fortunately, research and years of observa-



FIGURE 2. An undesirable HQ site. This site was developed under unhealthy, mature trees. Usage of the area has speeded their decline so they are now unsafe and must be removed, thus destroying its aesthetic quality.

tion can help take the guesswork out of these decisions.

In 1962, the Southeastern Forest Experiment Station published a document entitled "Tree and Shrub Response to Recreation Use." The document was based on ten years of research in Tennessee and North Carolina, where the impact of recreation on camping sites was carefully monitored. The leaflet listed in descending order a species' ability to withstand the impacts of recreation. The species ranking from this research effort is as follows:

Species Ranking

Hardwoods

- | | |
|------------------|--------------------|
| 1. Hickories | 12. Red Maple |
| 2. Persimmon | 13. American Holly |
| 3. Sycamore | 14. Sourwood |
| 4. White Ash | 15. Black birch |
| 5. Beech | 16. White oaks |
| 6. Sassafras | 17. Black walnut |
| 7. Buckeye | 18. Red oaks |
| 8. Yellow-poplar | 19. Black locust |
| 9. Dogwood | 20. Magnolia |
| 10. Blackgum | 21. Black cherry |
| 11. Yellow birch | 22. Blue beech |

Conifers

1. Shortleaf pine
2. Hemlocks
3. White pine
4. Pitch pine
5. Virginia pine

The bulletin went on to say:

"Not reflected in the listing are important group difference between conifers and hardwoods. Conifers were clearly more susceptible to disease and insect attack than were hardwoods—with the possible exception of shortleaf pine and hemlock. Apart from the disease and insect problems, the dense shade produced by conifers apparently induced greater site degradation. White pine had serious disease problems (Fomes annosus) that greatly limit its usefulness in recreation areas. Among the hardwoods only sassafras appears unrealistically ranked. A short-lived species, this tree rarely reaches a position of dominance or codominance and frequently succumbs quickly, and is a poor risk in wooded recreation areas."

Unfortunately, this research work was discontinued so a scientific update is not available. However, Dr. Bill Sites, Forest Pathologist with the U.S. Forest Service in Asheville, N.C., recently shared his impressions and observations, based on years of advisory work on public and private campgrounds.

Dr. Sites cautioned that there's danger in making rankings of this type because of the many variables (i.e. age and condition of trees when campgrounds or headquarter sites are installed, extent of construction damage, etc.). Taking this into consideration, he said that the only

real challenge he would raise regarding the 1962 document is the high ranking of hickories. Because of root rot, wood brashness and other peculiarities common to hickory, he said he feels that hickories are a "poor risk" in campground and high people impact areas.

He went on to say that his experience suggests that sweetgum, an unranked species in 1962, is "one of the more tolerant species to people and people impacts," and thus recommended it be favored in campground and other high impact areas.

Sites' ranking, based on observations and experience, is as follows:

Tolerant: Sycamore, Sweetgum, Persimmon, American Holly, Red Maple, White Oak, Magnolia, Blackgum, Hemlock.

Intolerant: Hickories, Red Oak, Black Locust, Virginia Pine.

Sites said he would classify most of the other native species as "moderately tolerant." In conclusion, he noted that "regardless of the species, many tree problems can be avoided if healthy trees are initially selected and if care is taken to prevent unnecessary trunk and root injury during construction and subsequent recreation use. You just can't expect trees to survive for lengthy periods when they are physically abused by recreationists, property owners, and other users of the forest." ♣

The forestlands of Alabama are quickly becoming the prime areas for marijuana growers to cultivate their crops. Domestic marijuana, once considered a minor problem, is rapidly becoming a major concern of Federal, State, and local law enforcement officials. With increased emphasis being placed on smuggling activities, those involved in marijuana trafficking are turning to domestic production to meet the demands for the product.

Many rural areas of the country are ideal for the cultivation of marijuana. Over the past decade, the marijuana growers have become so sophisticated that they are now producing a product which, in many cases, is superior to imported marijuana.

Marijuana is adaptable to almost any area, provided it receives a minimum amount of care, cultivation, and fertilization. Fortunately, for those charged with locating and destroying the illegal substance, marijuana needs sufficient amounts of sunlight to flourish. Because of this characteristic, the airplane has become an indispensable enforcement tool.

In the past, the detection of growing marijuana has been mainly dependent upon intelligence information from confidential sources and "plain luck." Even after receiving information, it is often difficult, if not impossible, to locate the plants, the reason being both logistical and legal. In rural areas, the logistical problems become especially apparent with vast expanses of forest, fields, and swamp land. The airplane provides a method of covering such areas that may otherwise prove inaccessible.

The ability to detect growing marijuana is attributed to three factors—color difference, location, and anything that appears "out of the ordinary." However, in most cases, marijuana plants will be detected not by a single factor but by a combination of all three.

The color difference is the most difficult of the three factors to explain, although it is usually apparent between marijuana plants and surrounding vegetation. "Shade variation" is actually a better term to explain this difference, since we

THERE'S AN "ILLEGAL GREEN" CROPPING UP IN OUR FORESTS

are usually referring to green marijuana plants surrounded by other green vegetation.

The rational explanation for this variation in color is that growing marijuana commonly enjoys certain attention that the surrounding vegetation does not receive, such as irrigation, fertilization, and cultivation, resulting in new growth and a healthy appearance.

What is meant by a different color of green? Is it a lighter shade of green or a darker one? These are different questions to answer since in some areas the marijuana will be of a lighter shade while in other areas it will appear darker. Experience will help the observer to detect plants based on color difference, which is responsible for the majority

of marijuana sightings made.

The discovery of a "garden" in an unlikely area will generally demand closer scrutiny. Marijuana plants are often found in areas that have been cleared out of a thicket of trees. The obvious reason for this is to conceal the plants from detection on the ground. However, while this method may be very successful for that purpose, it is a welcomed sight to the aerial observer.

Although the location factor and the out-of-the ordinary factor are sometimes closely related and overlapping, there is a distinction between the two. For example, on several occasions, flower pots had been spotted in a wooded area some distance away from any residence. It was subsequently determined that the pots contained growing marijuana plants. In each case, it was the appearance of something out of the ordinary that first drew attention to the location. On subsequent passes over the area, growing marijuana was observed in gardens in the woods. In one case, 1,049 growing marijuana plants were found in 10 different locations on the property. Yet, it was the flower pots that first caught the observer's attention.

The morning hours are the best time of the day for identifying marijuana. The plants have a fresh, radiant appearance in the morning as opposed to a wilted appearance that often occurs on hot afternoons. The growing season of a particular geographic area will be important in determining when to look for growing marijuana plants. The most productive months are generally July and August. By then, the plants are maturing and are much easier to detect and identify.

Landowners who locate growing marijuana plants on their property should not attempt to destroy the plants. It is possible that the location is being guarded by the grower or has been "booby trapped." In many cases the immediate area around the plants has been booby trapped to kill or injure anyone tampering with the plants. A landowner who finds marijuana growing on his property should call the nearest law enforcement agency such as the Sheriff's Office, Alabama Bureau of Investigation, or the Alabama Forestry Commission. ♣

Machines Have Replaced People And Now Chemicals Are Replacing Machines

Chemical Site Preparation

by TOMMY PATTERSON, Chief of Forest Management

Most landowners who face the need to reforest their land find some form of site preparation is usually required whether they intend to plant seedlings, direct seed or use natural seed fall. Site preparation is a necessity, at least on cutover forestland, to guarantee seedling survival and growth.

The primary objective of site preparation is to eliminate brush and trees that will directly compete with the seedlings for sunlight, water, and soil nutrients. Other objectives of site preparation are to prevent soil loss from erosion and to make planting easier.

Breaking Tradition

Traditionally, much of the site prep work in Alabama has been accomplished mechanically by using a bulldozer to push the competition out of the way. This pushing process is very expensive due to the high cost of machinery and labor. Mechanical site prep can have a very negative impact on the forest soil since the process disturbs much of the topsoil, decreasing fertility and decreasing tree growth. Drum choppers that are pulled behind dozers or skidders have been developed that reduce the negative soil impact, if properly used, but continue to necessitate the use of expensive equipment and labor.

Up until a few years ago, however, these were about the only site prep options available and were better than doing nothing.

In recent years forest researchers and chemical producers have been developing a host of chemicals that may be used for site preparation. Various methods of applying these chemicals have been developed, such as injectors, sprayers, and spreaders. The costs of using these chemicals have proven very competitive with mechanical site prep and in most

cases caused little or no soil disturbance. Chemicals have been produced in a range that completely eliminates all vegetation on the site to those that are very selective in their control of various plant species. There is the need for this variety since a variety of site prep conditions exist.

Choosing the Chemical

Two new site prep products and methods of application have recently become available to forest landowners that seem to cover a wide spectrum of needs. These new products are **PRONONE 10G** granular brush herbicide and **VELPAR L** applied with a spotgun. The active ingredient is hexazinone.

The **PRONONE 10G** granules are designed to be distributed in a broadcast pattern on forest lands or applied by hand to individual stems for control of undesirable woody and herbaceous plants. Rainfall dissolves the active ingredient from the granules carrying the herbicide into the soil to be absorbed by the plant roots. Herbicidal activity, in the form of leaf browning and defoliation, is



generally seen four to eight weeks after application depending upon rainfall, temperature and other conditions. The granules should be applied when hardwood leaves are about 50 percent developed (early spring), but no later than mid-June. The amount of granules to be applied depends upon the soil types or texture. Generally speaking, a dry sandy soil would need 25 pounds per acre, sandy clay soils need 30 pounds per acre, and soils of high clay content may need 35 pounds per acre. **PRONONE 10G** is not recommended on poorly drained soils or swampy sites. The most efficient method of application is by helicopter, using a simplex seeder flying in a cross-hatched pattern. Ground spreaders, even a cyclone seeder, may be used as well. Because this herbicide is in a granule form, no drift problem should occur.

VELPAR L is a liquid form of hexazinone ingredient that lends itself well to site preparation purposes as applied with a spotgun. The spotgun is a pistol-shaped device with a nozzle that allows the user to apply a precise amount of the chemical to the ground. The chemical is carried in a backpack container and delivered to the spotgun through a tube.

For site preparation using the spotgun, a grid pattern of application is recommended. The size of the grid, which is the spacing of the spots you deliver from the gun, is determined by the soil texture. A closer spacing, of course, delivers more chemical than a wider spacing. The spotgun has an adjustable rate, but the most widely used setting is two milliliters (ml) per squirt. At this two mil setting for sandy soils, a spot spacing of 4'x4' (.7 gal./acre) is recommended. For sandy soil to silty clay soils use a spot spacing of 3'x3' (1.3 gal./acre), and on high clay soils use a 2.5'x2.5' (1.8 gal./acre) spacing. It is advised that a fluorescent dye be placed in the chemical so that the user can more easily monitor his progress. These dyes are available from spotgun dealers.

Spotgun treatments should not be made on water saturated soils. The timing and results of this process is almost identical to that described for the granular application described previously.

Both of these methods lend themselves well to being followed by a prescribed fire as the leaf drop and

vegetation browning will increase burnable fuel. The prescribed fire will make the site much easier to plant particularly by hand crews.

Advantages of Chemical Site Preparation

One particular advantage that occurs with these two products is the fact that normally, mature pines, yellow poplar, American beauty berry, and vaccinium are resistant to these herbicides. Their retention can provide wildlife cover and food.

Anytime that site preparation is carried out, the landowner must consider the needs for other forest uses, such as wildlife, water quality, aesthetics and others. Certain areas such as acorn-producing trees and strips along streams need to be omitted from site prep treatments.

Several advantages exist with these two methods of site preparation. The cost is very competitive with other methods. Soil disturbance and loss of fertile topsoil is almost non-existent. Tree snags and resistant plant species are retained for wildlife. The chemicals mentioned here are relatively low in toxicity, and the landowner may perform the work himself (particularly the spotgun method) without the need to invest in heavy machinery.

As is the case with most chemicals used in forestry, both of these chemicals mentioned are registered by federal and state agencies for certain uses only. Specific directions for their use are incorporated into the product label that must appear on the product container. Violation of these directions is in violation of federal and state laws. If chemicals are handled, applied or disposed of improperly, they can harm humans, domestic animals, desirable plants, pollinating insects, fish, or other wildlife, and may contaminate water supplies. Use chemicals only when needed and handle with care. Store chemicals in the original container under dry, well-ventilated and secured conditions.

The use of trade names in this article does not imply endorsement, but is used solely to identify materials. Information concerning suppliers of the products and equipment mentioned can be obtained by contacting your local Alabama Forestry Commission forester or ranger. ♣



DOING IT NATURALLY

Converting Pine-Hardwood Stands to Pure Pine

by ROBERT J. FOSTER, Larson & McGowin, Inc.,
Forest Managers & Consultants

All foresters in Central and South Alabama have seen it—those once productive pine sites which have reverted to mixed pine and hardwoods because of years of improper cutting techniques and failure to use prescribed fire. At first glance, the landowner may think that the conversion of these sites to pine would be too expensive, but there are alternatives, “naturally!”

The Pine Overstory

A distinction should be made between pine stands that have a history of high grading and those that have been cut to promote the production of sawtimber. High graded stands with only formerly suppressed pine remaining in the overstory have little or no chance of being regenerated by natural means. On the other hand, stands that have been cut with a reasonable amount of foresight in growing pine sawtimber, while varying considerably as to stand density, normally have more than enough

overstory to make natural regeneration a reasonable alternative in establishing a new stand. The one characteristic common to most of these stands is the concentration of volume in large diameter stems with a narrow range of diameter distributions, and a definite need for younger growing stock.

A judgement call is necessary to determine whether there is a sufficient number and quality of the desired species to produce adequate seed once work is started to control hardwood competition. A rule of thumb is to make sure there is at least enough volume in the overstory not only to produce sufficient seed, but to contribute substantially to site preparation and planting costs in case natural regeneration is considered inadequate following your final assessment. The ideal situation is a heavy enough overstory to allow the removal of poor quality or over-mature pine either as a separate sale or in conjunction with an all-merchantable hardwood sale, and still leave five to ten good seed

producers per acre. The pine sale, however small, will add to the proceeds from the hardwood sale, if any, and will expose additional bare soil for a more receptive seed bed.

The Hardwood Understory

Once the pine overstory has been favorably evaluated, the diameter distribution of stems in the hardwood understory is the next consideration. Hardwood stems may vary from mostly merchantable, to mostly pre-merchantable, to a mixture of both. Merchantable stems should of course be sold if the volume is operable. Pre-merchantable stems come in two size classes with respect to effective control measures: 1) One to three inch stems that can be reduced to sprouts with a single well-planned fire, and 2) Four to seven inch stems that will in most cases require more than one burn, possibly combined with other control methods to get complete control. The mixture of understory hardwood stems will determine whether natural regeneration can be realistically anticipated within three years to ten years, which could be in itself the basis for considering other means of regeneration.

Once the decision is made to consider natural regeneration as a real possibility, the most favorable condition of a given pine-hardwood stand would be a reasonably good volume of both species (2 to 4 MBM/acre of pine, Doyle scale, and 3 to 10 Cords/acre of hardwood), with very few pre-merchantable hardwood stems. Such a stand condition would promote a hot fire and exposure of bare soil logging operations, both of which contribute to a good seed bed.

The other extreme in stand condition would be a barely operable volume of pine sawtimber (1 to 2 MBM/acre, Doyle scale) and a heavy understory of four to seven inch hardwood stems. Obviously several controlled fires over a period of years or some means of chemical control would be needed under these conditions to effectively reduce hardwood competition. Whether these prolonged efforts or increased costs in hardwood control can be justified in a stand with a sparse overstory is a decision that should be based on the needs, objectives, and financial capabilities of the owner. The best management decision in this situation could very well be to clearcut and plant.

A wide spectrum of stand conditions can be found between these two extremes. Each condition will require some variation in treatment, including in some instances the use of chemicals as a justifiable expense in reducing hardwood competition. The first step under any stand condition should be the application of whatever method of hardwood control you choose whether it be fire, chemicals, or a combination of both.

The Regeneration Cut

Keep in mind that you have made a firm decision that younger growing stock is needed, and plan your regeneration cut accordingly. As opposed to a selective thinning in a stand that is to be managed for future growth to achieve a certain end-product, a regeneration cut should be the heaviest possible cut, leaving good large-crowned seed producers with at least an operable volume for future harvest (normally not less than 1 MBM/acre, Doyle scale). Any regeneration cut (pine and/or hardwood) should be postponed until pre-merchantable hardwood stems have been effectively controlled (i.e. reduced to sprouts).

There is more than one strategy in timing your last scheduled fire and regeneration cut. A stand burned during the spring of 1983 and logged during 1984 will benefit from 1983 seed already on the ground prior to logging, and from 1984 seed that will fall on exposed soil after logging. One disadvantage of this schedule is that it allows hardwood sprouts one season's growth before the 1983 seed crop. A schedule that would reduce competition from hardwood sprouts would be to burn during late summer or early fall of 1983 followed by 1984 logging. Almost any schedule will allow the benefit of at least two seed crops, and on exceptionally clean seed beds, three or four. While timing your last fire and logging operation ahead of forecasts for heavy seed crops is certainly a good idea, it does not seem to be absolutely necessary.

Evaluating Results

Two to three years following the logging operation seems to be the ideal time for making a final assessment of the new stand. At this age, seedlings originating from first-year seed are normally large enough to

give you a feeling of confidence that they are well established. On exceptionally clean seed beds you may find several size classes of seedlings, all the way down to recently germinated seed. Extremely young seedlings should probably be eliminated from any final determinations of seedlings per acre, since their survival is uncertain. Any systematic line plot sample can be used to determine the level of stocking, with a minimum of one plot per acre recommended for a reliable sample. One-hundredth acre circular plots can be accurately tallied by one man. The number of seedlings per acre and their general dispersement should be the final considerations in making a decision to carry the new stand to rotation age.

Natural pine regeneration has for the most part always been considered as "happening by chance" and as a result, a "free" bonus to the landowner, thanks to nature's unpredictable behavior. Deliberate work to increase the possibility of getting natural regeneration cannot be considered cost-free. In addition to the expense of one or more prescribed burns, more careful supervision of any logging operation is a necessary expense to insure the protection of seed trees, and a final expense will be incurred with the seedling survey. These combined expenses could run as much as \$20 per acre and should be considered the cost of establishing the new stand, even though these costs may be off-set by a pine and/or hardwood sale in the beginning.

In your final assessment, if an inadequate stocking of seedlings brings on the need for some means of artificial regeneration, several direct benefits of your work should help justify the waiting period and expense: 1) Lower site preparation costs due to reduced hardwood stems, 2) Better internal access to the stand which may lower logging costs and increase stumpage prices, 3) At least some increase in volume and value due to growth of the pine overstory.

Forestry may be broadly defined as the art and science of man's helping to improve what nature has always done alone, that is, regenerating and growing crops of timber. A little expense and effort directed toward making natural regeneration a good probability rather than a chance happening can result in good well-stocked pine stands with minimum costs to the landowner. ♣

WAR AGAINST WEEDS!

by BILL PADGETT, Nurseries Supervisor

The objective of all nurserymen is to produce quality seedlings economically. Prior to 1947, southern nurseries depended primarily on hand weeding for weed control. The objective was to remove the weeds while they were small to reduce possible damage to the seedlings and before the weed made extensive growth. The larger the weeds the more damage was caused to the seedlings upon removal. Also, a number of good seedlings were removed simply because they could not be separated from the weeds. This lowered the seedling density per square foot of seedbed space and caused an unevenness in the size of the planting stock. Nurseries with high weed population had a corresponding increase in hand labor and produced seedlings of lower quality and reduced production goals.

Weeds compete with seedlings for light, water, and nutrients and reduce seedbed densities. All of these are reflected in the cost of producing seedlings. This points out the need to have a preventive weed control program for every nursery. This program should be in effect year-round and not just during the growing season. The old adage, "an ounce of prevention is worth a pound of cure" is certainly appropriate when it comes to weed control. Prevention is accomplished through (a) making sure new weeds are not introduced into the nursery through contaminated mulches used on the seedbeds; (b) obtaining certified cover crop seed without noxious weed seed; (c) controlling weeds in the cover crop; (d) preventing weeds in the nursery from going to seed; (e) preventing mechanical spread of weeds, and (f) mowing weeds adjacent to the nursery to prevent seed from moving into the nursery.

Production of seed varies with the weed species. It has been estimated that a single yellow nutsedge can produce 2,242 seed, one purslane plant 52,000 seed, and a single redroot pigweed 117,000 seed or more if allowed to reach maturity. It cannot be overemphasized what an

Every person who has ever put a crop in the ground knows the battle involved!



Uncontrolled nutgrass

aggressive weed control program can do to enhance seedling quality.

Nutgrass is perhaps the most difficult weed to control in forest tree nurseries. This weed occurs as a problem in more than half of the southern nurseries. Prompt treatment at the first sign of this weed is one of the best means of control. If left uncontrolled, severe damage can be caused to seedlings. Cultivation is one means of spreading nutgrass throughout a nursery. Care to prevent this from happening is repaid in eliminating nutgrass from a nursery. Individual plants may be dug up and removed. Small areas can be treated with ROUNDUP to attain good control even though repeat may be necessary in some instances.

Weed control in hardwoods is difficult since chemical control has

some limitations because of the sensitivity of the species to chemicals. However, new developments in the chemical control show promise in hardwoods.

METHYL BROMIDE and mineral spirits (STODDARD SOLVENT) are two of the chemicals that have been widely used for weed control in southern nurseries. METHYL BROMIDE fumigation has been effective when a high population of nutgrass occurs. However, some tubers seem to escape and new plants develop. The new plants need to be controlled promptly to prevent reoccurrence of the problem. The cost of METHYL BROMIDE application, approximately \$1000 per acre under contract, has reduced the use of this chemical for nutgrass control alone. Mineral spirits came into use in the early 1950's and was effective as a foliar spray on weeds in early growth. However, once the weeds became too large or were resistant to the chemical, they had to be removed by hand. The cost of mineral spirits and labor involved in application has reduced its use for weed control in southern nurseries.

The establishment of the Southern Forest Nursery Management Cooperative at Auburn University, to which the Alabama Forestry Commission along with other states and industries belong, has contributed significantly toward better weed control in southern nurseries. The Cooperative has established efficacy for several herbicides for controlling weeds in nurseries. The Cooperative has provided data to the Alabama Department of Agriculture and other state departments of agriculture as well as the U.S. Environmental Protection Agency to register herbicides for weed control in nurseries. For information on available herbicides and projected savings, contact any of the above mentioned agencies.

Nurserymen must develop and adhere to a comprehensive weed control program that prevents introduction and spreading of weeds in the nursery. The success of such a program is reflected in high quality seedlings at a lower cost.

STUMPED?

ASK US ABOUT IT!



Q. *What are the differences between selling timber on a lump-sum basis and on a unit basis?*

A. When selling timber on a lump-sum basis, all the designated timber is sold for a total fixed price.

A unit sale means that payment is based on a price per unit such as cords or board feet with the amount paid equal the amount cut. Lump-sum timber sales are generally better for the average landowner, providing he or she has a good estimate of the volume of timber involved in the sale and has a good idea of local market values.

Q. *What is the life span of a pine?*

A. The life span of any tree depends on many factors, including species, site conditions, environmental stresses and man-related activities. Under the right conditions, longleaf, loblolly and slash pine (all of commercial interest to most Alabama landowners) can live to 150 years with some references claiming that in rare cases trees of these species

can survive into the three-century mark.

Q. *What are the factors that determine how much timber will grow on my land?*

A. For a given acre of land, there are four factors which determine how much timber can be grown in even-aged stands. They are (1) the species of trees growing on the land (e.g., loblolly pine, yellow poplar, etc.); (2) the number of trees per acre; (3) the age of the trees (volume increases with age, up to a point); and (4) the quality of the site or the fertility and moisture conditions of the soil. A fifth factor—timber mortality—will cause the actual timber volumes to be less than the theoretical maximum amount. Mortality may be caused by

any number of naturally occurring factors, including suppression from overcrowding of trees, insects, diseases, storms, etc. We recommend you seek out a forester—either a service, industry, or consultant forester—to prescribe the management conditions best for your particular land. Your forester will also have research information available to provide estimates of the timber volumes you may expect to place on the market at the prescribed time of harvest.

The article entitled "Timber Sale — the Ultimate Forest Management Decision" which appeared in the Winter, 1983, issue of **Alabama's TREASURED Forests**, was taken almost entirely from Circular 608, May, 1980, written by Guy E. Sabin, Forestry Extension, Clemson University, Clemson, South Carolina. Our apologies for failure to include this documentation with the article.

SAVE THE LAND

Find out how Conservation Trees can help you. For your free brochure, write: Conservation Trees, The National Arbor Day Foundation, 100 Arbor Avenue, Nebraska City, NE 68410.



The 1982 edition of the **Alabama Forest Landowner List - 500 Acres or More** is published and ready for distribution. The book contains names and addresses by county of those landowners with 500 acres or more of forest land.

Attached is an order blank for the book. Payment must be included with the order. Send checks or money orders made payable to the Alabama Forestry Commission. Do not send cash.

ALABAMA FOREST LANDOWNER LIST - 500 ACRES OR MORE
@ \$25 per copy

NAME _____

ADDRESS _____

CITY _____ STATE _____

NO. OF COPIES _____

AMOUNT OF CHECK _____

Make check payable to Alabama Forestry Commission.

Return form with payment to:

Alabama Forestry Commission
513 Madison Avenue
Montgomery, AL 36130

CALENDAR*

January 12 - Marion County, 2:00 p.m., Rural Development Committee meeting. Contact Tony Avery, 921-3843.

January 13 - 15 - Alabama Forestry Association Midwinter Meeting, Mobile. Contact Rei Boyce, 265-8733.

January 14 - Shelby/Tallegada Counties, 12:30 p.m. AFOA Mill Tour.

February 7-8 - Montgomery, Workshop on Federal Income and Estate Taxation. Designed for foresters, landowners, and others. Use of micro-computers for timber tax accounting will be demonstrated. Registration fee of \$150 will cover cost of all course materials and two lunches. Sponsored by Auburn University Department of Forestry, Forest Farmers Association, Resource Management Services, and others. Contact Dr. Warren Flick, (205) 826-4050.

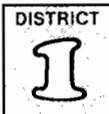
February 14-15 - Tallahassee. Same listing as for February 7-8 above.

February 21-22 - Mobile. Same listing as for February 7-8 above.

March 4-7 - ISA Southern Chapter Conference, Huntsville Hilton. Covers eight Southeastern states and is of interest to urban, commercial, and utility arborists.

**Any member agency of the Alabama Forestry Planning Committee may be contacted for information on calendar listings.*

ACTIVITIES



DISTRICT 1—A field trip including tree identification and general forestry was conducted on the **Martin Farm** by **Calhoun County** in conjunction with the **Etowah County 4-H Club**. Calhoun County has also been working to develop a city park at **Pelham Heights** in Anniston.

Philip Smith, Etowah County Ranger, is working through the **CRD Committee** to develop a hiking trail extending from the **Falls** in Etowah County to **Lookout Mountain** in Tennessee.

Huntsville was the setting for the **Society of American Foresters'** Convention in October.

DeKalb and **Cherokee** Counties held a field trip for the **Cub Scouts** at Camp Comer.

Another hiking trail is being developed by **Stanley Anderson** in **Cherokee County**. This trail will extend from **Noccolula Falls** to **Desota Falls**.

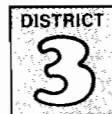
Chuck Weber is pleased with the results of a small woodlands management course which he taught September through November at **Alabama A & M**.

The **Allen Bragg Farm** just north of Huntsville was chosen as the demonstration farm for Operation Facelift on November 19.

Dr. W. H. Bell's farm in **Marshall County** was used for a field day on October 13. Specialists from the **Alabama Forestry Commission**, **Auburn University** and the **Soil Conversation Service** presented the program aimed at timberstand improvement on small acreage. The program ended with a tour of **Bo-water Hiwassee Sawmill** in

Albertville.

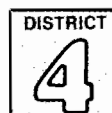
In September, a prescribed burning course for landowners was conducted by **Larry Parker**, **Marshall County**, in cooperation with the **Cooperative Extension Service**.



DISTRICT 3—The **Tuscaloosa County Forestry Field Day** was held on September 18 at the **Floyd Hughes** farm. Topics highlighted on the tour included prescribed burning, site preparation methods, soil surveys and financial analysis of forestry investments. **State Forester C.W. Moody** recognized the outstanding forestry work of **Barry Hughes** in a presentation following the free barbecue lunch. Barry, recipient of the first **Junior TREASURE FOREST** award in the state, was awarded the **Helene Mosley Environmental Award**.

A **pin oak** at the **University Club** was recognized as the state champion of its species in a ceremony held on October 26. **UA Forester George Wood** accepted the award for the **University of Alabama**.

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DISTRICT 4—**Guy Slayden**, **Tallapoosa County Forester**, made the **TREASURE Forest** presentation to **Mr. and Mrs. John Johnson** of "Wildwood" near **Jacksons Gap**. He also conducted a class in canoeing in late August for the **4-H Club** camp. **Dadeville** became **TREE CITY, U.S.A.** under **Slayden's** guidance and **Sylacauga** is nearing the same goal with his assistance. **Guy** attended the **Huntsville meet-**

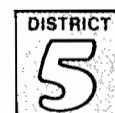
ing of the **Society of American Foresters**, October 5-7.

John P. Tyson, Jr., **RC&D Forester**, organized a **Wood Energy Seminar** which was held on September 27 at **Cheaha State Park**. It was well attended by landowners, educators, and industry representatives.

Steve Nix, **Randolph County Forester**, has nominated **Mr. Edward Allen** for the **Helene Mosley Award!** Mr. Allen is the owner of a **TREASURE Forest** and also **Demonstration Forest** with the **Alabama Cooperative Extension Service**. The **AFC** personnel in **Randolph County** have assisted in the organization of the **Volunteer Firefighters Association**; they have also taught classes to the forestry students of the **Randolph County Vocation School** in firefighting.

Steve Nix presented **Champion Tree** markers to **W. R. Gay**, **Wadley**, for the **champion Black Willow** which is located in **Tallapoosa County**, and to **Burrell C. Jones, IV**, of **Roanoke** who owns the **champion Honey Locust**.

M. W. Tucker presented a **Champion Tree** marker to **Mr. and Mrs. J. D. Gooden** of **Camp Hill** who own the **champion Staghorn Sumac**. **Tucker** also notified the **City of Sylacauga** that their **Persimmon** tree in the **municipal park** is again **champion**.



DISTRICT 5—October **TREASURE Forest** certification recipients were **Bobby Bearden**, **Chilton County**; **Gates Shaw**, **Bibb County**; and **Gaston Wilson**, **Chilton County**.

On October 7 **Helene Mosley TREASURE Forest Award** recipient, **Bruce Owens**, hosted a "get together" luncheon and discussion of his farm in **Dallas County**.

On October 27 **District Five**

held a **Forest Industry Cooperator's** meeting in **Autauga County**.

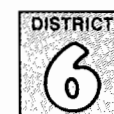
The **Autauga County CRD Committee** and **County Forestry Planning Committee** sponsored the second annual **Autauga County Forestry Tour** on October 19. The tour included programs on site preparation, tree planting, insect and disease control, road construction, thinning operations, prescribed burning, use of the hypo-hatchet and a visit to **Champion Timberland's** nursery located in **Autauga County**.

Governor Wallace presented the **Bibb County Rural Development Council** the **Recognition Award** for **Outstanding Committee** in **Region Three** on August 31.

On October 20 the first of several planned meetings was held in **Marengo County** to discuss the forestry related problems of minority landowners. Twenty-five black landowners met to discuss multiple use forestry and plan a **landowner forestry tour**.

The **Auburn University Area** forestry tour of the **University's Lower Coastal Plains Substation** in **Wilcox County** was attended by approximately 55 landowners and others on September 6. A tour the **R. L. Lambert Demonstration Forest** was held the same day. **Landowners** from **Wilcox, Clarke, Choctaw, Monroe** and **Butler Counties** were present.

On September 22 **Pine Apple** and **Oak Hill Fire Departments** had 25 members graduate from the **Basic Structural Firefighters Training Course**.



DISTRICT 6—Two new **Champion Trees** have received certification, a **Southern Red Oak** in **Pike County** owned by **Hunter J. Flack** and a **Sparkle-**

berry in Dale County owned by **Gerald Bruggnick**.

The new TREASURE Forests were certified by the Services Subcommittee recently: **H. C. Jordan** in Dale, **Kathleen Capps** in Henry County and **Tom Pinson** in Pike County.

The **Houston County Forest Landowners Association** met August 16 and **District Forester Jack Monk** presented TREASURE Forest certificates to **Elanor Gordy** and **Charles McNair**. A Pine Investment Potential slide show was given by RC&D Forester **Brian Bradley**.

The first week in October was the **Pike County Fair** and **Supervisor Wayne Craft** and **Ranger Mike Stinson** thrilled the kids (and some adults) with "talking" Smokey Bear in their booth on fire control.

On September 28, **Pike County** hosted a social get-together for all county RCFP units, industry fire-fighting units and city fire departments as a means of promoting cooperation. Door prizes (including a refurbished fire flap) were given along with barbecue chicken sponsored by **Great Southern and Southwest Forest Products**. A smoke management program was presented by Staff Forester **Barry Lawrence**.

Geneva County Supervisor Ronnie Hickman conducted a meeting on September 8 for the local **Forestry Commission** using the forest regeneration slide show. Also, two TREASURE Forest certificates were presented. One was to **Dr. & Mrs. Hoyt Childs** and one for the **F. M. Fleming** estate.

A slide show detailing the economic potential of planted pines was presented to the **Barbour County Farm Bureau** by RC&D Forester **Brian Bradley**. County Forester **Don VanHouten** conducted the meeting and Staff Forester **Barry Lawrence** presented a TREASURE Forest certificate to **Henry Gray, III**.

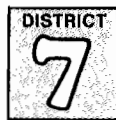
Houston County Forestry Commission members with help from **Geneva County** sponsored an exhibit at the **National Peanut Festival** during the week of October 17-21 with "talking" Smokey Bear as the featured attraction.

Dale County Rangers held a 4-H Field Day for 60 children the last week of August. Tree identification and wildlife were topics discussed.

Houston County and the **District Office** worked together to get a newspaper supplement published in the **Dothan Eagle** entitled "Wiregrass Forestry '83."

RCFP units in **Dale, Barbour, Coffee, Geneva, Houston, and Henry Counties** re-

ceived grants totaling \$18,676 with which to buy needed equipment.

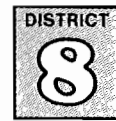


DISTRICT 7—On October 13th **Union Camp** forestry personnel and **Alabama Forestry Commission** personnel from the State Office and District 7 & 10 held a meeting at **Camp Co-hassett** to discuss mutual problems and objectives. **Union Camp** provided a barbecue supper.

The **Conecuh County Forestry Committee** held a forestry tour on October 19, 1983. Landowners were shown two sites, one that was naturally regenerated and one that was site prepared and planted to show a cost per acre comparison. They were also able to see a forestry energy operation on **T. R. Miller Mill Company land**.

On October 20, **District Forester Larry McLennan** and **Ranger Brandon Burkett** presented a training seminar at **Chapman** for **Union Camp** personnel, **RCFP** personnel and several other landowners. The session covered fire weather and forestry communications.

The **Monroe County Forestry Committee** held a forestry tour on October 20. **Regional Forester Alvin Downing** and **State Representative Jimmy Warren** made a TREASURE Forest presentation to **Colonel John Bowden**.



DISTRICT 8—A demonstration forest tour was conducted in **Clarke County** on September 15, by **Alabama Forestry Planning Committee** agencies. Approximately 70 people attended. Lunch was furnished by local forest industry.

On September 21, a TREASURE Forest Field Day was held at **Mr. J. R. Crosby's** farm in **Baldwin County**. Approximately 85 people attended from **Baldwin, Mobile, Washington, Clarke** and **Choctaw counties**. The **Baldwin County chapter of Alabama Farm Bureau** provided a delicious lunch. **State Forester C. W. Moody** presented three newly certified TREASURE FOREST landowners with their TREASURE FOREST certificates.

Volunteer Fire Departments in **Washington** and **Choctaw counties** recently formed a Chief's Association in both counties. All counties in District 8 now have Fire Chief's Associations.

Congratulations to **Mike Hinson** and the other **AFC personnel** in **Clarke County!** AFC personnel had a TREASURE FOREST display in the **Clarke-**

Washington County Fair (Oct. 4-8) which won "First Place" for an agency exhibit. This is the second year in a row that **Clarke County** personnel have won "First Place" in the agency category.

Otis Evans, Washington County Supervisor, participated in the **Fire Prevention Week** parade in **Jackson, Alabama**. **Otis** had **Smokey Bear** and a truck-tractor unit in the parade, which was held October 12.

A demonstration forest tour was held on **Mr. Robert Pace's** property in south **Baldwin County** on October 25. Lunch was provided by **St. Regis Paper Company**.

The **Alabama Forestry Commission, Ron True** with **Alabama River Woodlands** and several other industries have been working with **Channel 5, WKRG-TV**, in **Mobile** on a documentary showing the economic importance of forest industry in **Southwest Alabama**. The first segment was at 4:30 p.m. on October 29, with two more segments in **November**.

The **First Annual Southwest Alabama Forestry and Wildlife Festival** was held in **Jackson, Alabama** on **November 5**. A good time was had by all!

The **Baldwin County Fire Chief's Association** held a fire fighter competition on **November 19**, at the **Silverhill Fire Department**.



DISTRICT 9—The **Morgan County Fair** was held September 12-17, 1983. The **Alabama Forestry Commission, Soil Conservation Service** and the **Alabama Department of Natural Resources** displayed exhibits in the **Charles Nichols Forestry and Conservation Building**. The **Volunteer Fire Department Association** showed video taped interviews of each of the 21 rural fire departments in **Morgan County**. **Champion Paper Company** and **Tennessee River Pulp and Paper Company** set up displays for the fair.

Lawrence County Volunteer Firefighters Association competition was held on **September 17**. Trophies were awarded to first place winners in each event and a trophy for overall winner. **Rangers Howard Swanner, Greg Woods** and **Larry Lee** were judges for the competition.

Dorsey Taylor and **Thurston Nix's** **Treasure and Demonstration Forests** were featured in an article in the **Progressive Farmer Magazine**, **January, 1984** issue.

The **Lawrence County Fair** was held in **Moulton** **September 6-10, 1983**. In addition to a

forestry display and slide show, the **Lawrence County Supervisor, Larry Lee**, was on hand to answer questions from the public.

The purchase of two new base stations by the **Alabama Forestry Commission** has completed the **RCFP** communications system in **Marion County**. **Ray Tucker, Chief of RCFP**, was guest speaker at the last meeting of the **West Alabama Fire Chief's Association** in **Marion County**.

Louise Bone, I & E Coordinator, Hammie Stamps, and **Lorene Frederick** with the **Times-Daily Newspaper** were among the **W. Kelly Mosley Environmental Award** winners attending a luncheon held in **Auburn** on **November 3**. The luncheon was in honor of **Dr. Mosley**. **Dr. Mosley** was presented with an oil painting commissioned by **Auburn University**. Signed, numbered prints of the painting were presented to past winners of the **Mosley Environmental Award**.

Marion County has seven new **Champion Trees**. Presentations and placement of signs were completed in **November**.

District 9 has received a support grant from the **W. Kelly Mosley Awards program** to fund a "Forestry Career Camp" to be held in the **Spring of 1984**. The two-day camp will be held at the **Bear Creek Educational Center** near **Hodges, Alabama**.

TVA has announced that a newly formed regional forestry institute, whose mission is to promote better forest management through the use of computers will move to the **Shoals** in early 1984. **Tim Cooney** will be the **Program Director** for the **Forest Resources Systems Institute**.

The **Weeping Mulberry** located at **Trinity Parrish Church** in **Florence** has been designated a "Historical Tree."

The **Franklin County Forestry Planning Committee** held a **Forestry Field Tour** on **October 6**. **Richard Cumbie**, **Regional Forester**, **Gerald Steeley**, **District Forester** and the **District 9 County Supervisors** were among a group of landowners and industry representatives touring demonstration sites showing various methods of thinning, chemical site prep and prescribe burning.

The **Lauderdale County RD Committee** held a meeting on **October 25**. The **Executive Council** consists of **ASCS, Extension Service, SCS** and **FHA**. **Steve McEachron** presented a prescribed burning program and showed the **AFC** slide program. **Russell Harper, SCS**, brought the group up to date on the **FACELIFT** project **S.O.I.L.**

BICOLOR IS FOR THE BIRDS



by ROBERT E. WATERS,
Biologist, Soil Conservation Service, Auburn, Alabama

Since the early 1940's, bicolor has been planted extensively in Alabama and in other parts of the Southeast to produce quail food. In fact, since the early 1940's, it has been planted more extensively in Alabama for quail food than has any other crop.

Limitations

Bicolor has limitations, of course, as do all plants and animals in one way or another. If your soil is suited, if you can leave the area in quail food production for several years, and if you are going to exclude fire—prescribed and wildfire—bicolor is the best crop you can plant for quail food in Alabama. However, it's easily destroyed by grazing and should not be planted where livestock and dense deer populations will have access to it. Bicolor does not thrive well on wet, poorly drained soils. Three years are usually required for it to

Yes, bicolor is for the birds! Specifically, it's for the bobwhite quail or "quail" as the bird is commonly called in Alabama. Sometimes, it's simply called "bird," especially by quail hunters in the state.

Bicolor's chief value is its abundant production of hard-coated seed which are readily eaten by quail from about Christmas until the end of hunting season. Frequently, that's a time of food shortage for quail in Alabama. By that time, seeds of many grasses and weeds and other quail foods have rotted, sprouted, or otherwise become unavailable.

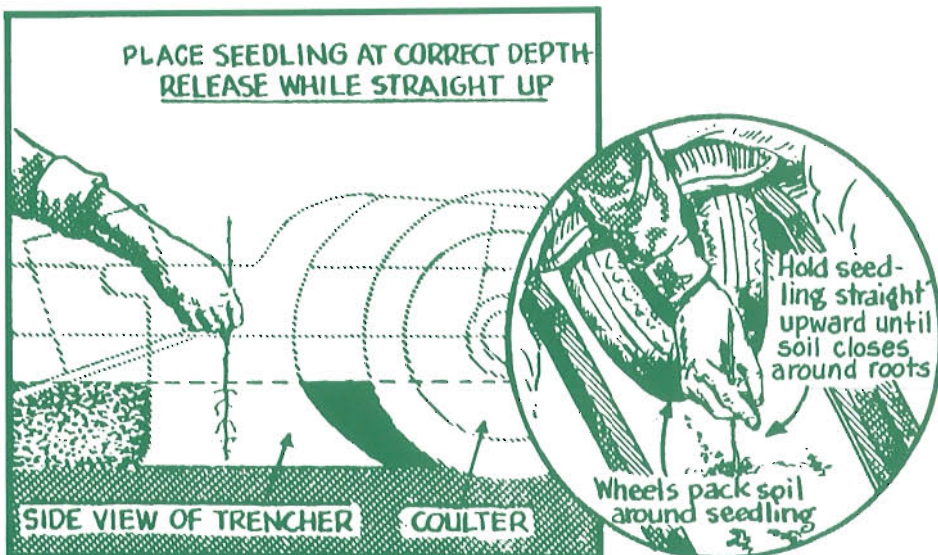
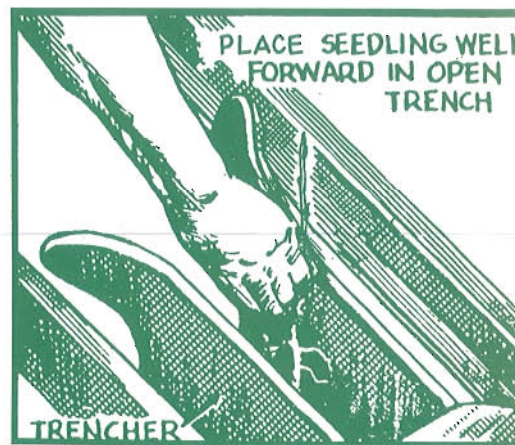
In Alabama, bicolor is of most value to quail in late December and in January and February. In fact, some coveys feed almost exclusively on bicolor seed at that time. That's why many quail hunters and their dogs go from one bicolor plot to another, especially during January and February. They go there because the birds seek out the abundant food supply. It's that simple!

Is bicolor for you and your quail? It may be. Both you and your birds will benefit from it. After your bicolor gets old enough to produce seed which start accumulating on the ground, you will spend less time hunting quail and a good bit more time actually shooting them. After your bicolor starts producing seed, your birds will be better fed, also.

History of Bicolor

The scientific name of bicolor is *Lespedeza bicolor*. It's called "bicolor" because its flowers are mostly two-colored—white and purple. It's a perennial legume—a shrub that usually grows five to ten feet high.

Bicolor was brought into this country from Asia. The exact date of introduction is unknown, but it was listed in nursery catalogs as early as 1888. In 1935, the Soil Conservation Service started planting bicolor for erosion control and for wildlife food.



Planting bicolor seedlings with a mechanical tree planter.

become a dependable producer of seed. It is easily damaged by dry weather, especially during its first two growing seasons. In parts of southeast Alabama, pocket gophers, or "salamanders" as they are frequently called, may destroy it. It usually doesn't grow well on deep sandy soils nor on lime soils of the Blackbelt. It starts spreading after ten to twelve years, especially on areas prescribed burned in winter. You should remember these limitations. You should remember, too, that the desirable characteristics of bicolor far outweigh its limitations.

Even though bicolor has a tendency to spread, it rarely becomes a pest. It doesn't spread into cropland nor into pastureland. You can control the spreading of bicolor by grazing the plant in spring, summer, and early fall. Grazing at that time kills it "graveyard dead"—no "ifs," "ands," or "buts."

If you desire to supplement winter

food for quail on an area that will be prescribed burned periodically, and if you are concerned about the spreading, you should consider planting either partridge pea (*Cassia fasciculata*) or Kobe lespedeza (*Lepidosa striata*), or both. These crops reseed every year, especially if they are prescribed burned in February at least every two to three years. Actually, they reseed better if prescribed burned *every* year in February. Neither of these crops grows nearly as tall as does bicolor, and neither becomes a pest. Both are easy to control—merely discontinue prescribed burning; and after a few years, partridge pea and Kobe lespedeza will disappear.

Information on planting partridge pea and Kobe lespedeza is available from your county agent coordinator, the local office of the Soil Conservation Service, the Alabama Department of Conservation and Natural Resources, the Alabama Forestry Com-

mission, the U.S. Forest Service, and others.

Establishment of Plants

The seed of bicolor ripen in October and early November fall to the ground soon after they ripen. Others remain on the plant and are shed gradually during fall and winter.

Bicolor can be established by transplanting one-year-old seedlings or by planting scarified seed. Both give excellent results when properly planted and maintained.

Seed for planting are usually available from the larger seed dealers. If your local dealer doesn't have seed, he can probably order them for you. In Alabama, seedlings are available only from nurseries of the Alabama Forestry Commission; or it's necessary to order them from distant, out-of-state nurseries. Enough seed to plant an area costs less than do enough seedlings to plant the same area. Usually, seed can be planted in less time than seedlings can. Seed should be planted in spring after the arrival of warmer weather. Seedlings, on the other hand, must be planted in winter when the weather is less favorable for outside work. Seed require a more thorough job of soil preparation before planting than do seedlings, and a good bit of care must be taken at planting time to prevent covering the seed too deeply. Seedlings usually produce a limited amount of seed the first year; and by the second year, they are in significant production. Plots in which seed are planted usually do not produce seed the first year—it's usually the third year before they get into significant production. Also, seedlings seem to survive better during dry summers than do first-year plants from seed.

Regardless of whether you plant scarified seed or transplant one-year-old seedlings, your bicolor should be planted in plots 15 feet wide and 330 feet long. *Hereafter when we refer to a plot, we are thinking of one with those dimensions—15 feet x 330 feet.* That's the ideal size, and that's the size your plots should be.

December 1 to March 1 is the best time to transplant seedlings. For that reason, instructions for planting and managing seedlings are contained herein. The Spring (1984) issue of this magazine will contain instructions for planting scarified seed



Bicolor.

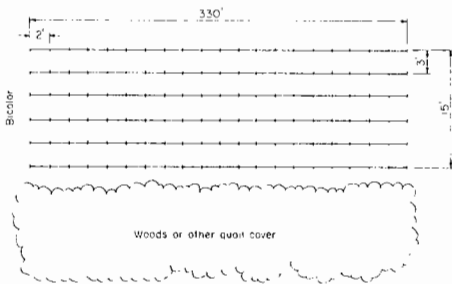
which should be planted between March 1 and April 15.

The current price of bicolor seedlings from the Alabama Forestry Commission is \$15 per thousand F.O.B. at nurseries near Autaugaville and Auburn. The supply is limited. Therefore, get your order in now. When ordering seedlings from the Alabama Forestry Commission, use the same order form as when ordering pine seedlings. Order forms are available from your local forest ranger. They may be available from your county agent coordinator and from the local office of the Soil Conservation Service.

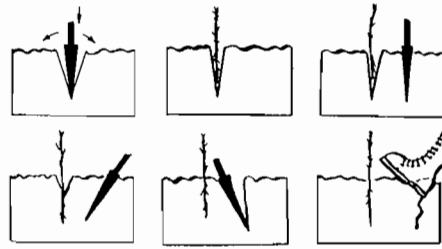
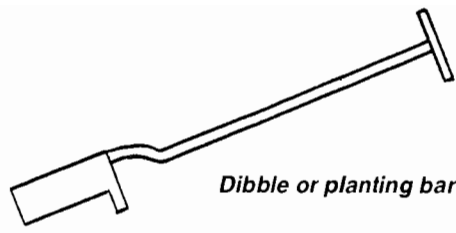
Spacing in Plants

As stated earlier, bicolor seedlings should be planted in plots 15 feet wide and 330 feet long. Plots should contain six rows spaced three feet apart. Seedlings should be spaced two feet apart in the rows. Such a plot requires 1000 seedlings for planting. In other words, you should order 1000 seedlings for each plot (15 ft. x 330 ft.) you plan to plant. If you are going to plant 10 plots, order 10,000 seedlings and so forth. Include the full price of seedlings with your order.

The reason for six rows spaced three feet apart and for placing the seedlings two feet apart in the rows is that such an arrangement gives even ground coverage over the entire plot. Good ground coverage is essential. Why? Because it provides enough bicolor stems for ample seed production and it forms an umbrella covering over the ground. The "umbrella" shades grasses and weeds from under



Bicolor plots should be 15 feet wide and 330 feet long. They should contain 6 rows 3 feet apart. Space seedlings 2 feet apart in the rows. Each plot requires 1000 seedlings. Plant near woods or other natural quail cover.



Use dibble on slopes where there's likelihood of serious erosion.

the inside rows and affords overhead cover for quail. The two outside rows of bicolor usually have grasses and weeds growing under them at all ages. If grasses and weeds grow under the inside rows after the first two and three years, the plot doesn't provide maximum benefit to quail. It produces seed, of course. But the seed fall into the grasses and weeds where they are not available to quail which neglect to scratch through dense vegetation to find them.

Several well distributed plots (15 ft. x 330 ft.) are usually better than one larger planting. One plot for every twelve acres usually supports high quail populations.

From the standpoint of producing quail food, shape of plots makes little or no difference. But from a quail hunting standpoint, shape is very important. Shooting and bird dog work are difficult in plots more than 20 feet wide. Why are they difficult? A dog that's pointing in a wide plot of bicolor, especially one with a dense stand, is difficult to find; and it's practically impossible to swing your shotgun while standing in a mature stand of bicolor. You will recall that it usually grows five to ten feet high.

Location of Plots

Bicolor produces more seed when planted on fertile soils, but it grows well on infertile soils, also, especially if it's limed and fertilized properly. Avoid planting on lime soils of the Blackbelt; on deep, thin sands; on wet, poorly drained soils; on heavily shaded areas; and on areas grazed by livestock or dense populations of deer.

Plant near woods or other natural quail cover. Plant where there's a

shortage of winter food for quail and where it's desirable to concentrate quail for ease of hunting. Remember that bicolor begins to spread after ten or twelve years, especially on areas prescribed burned in winter.

In most instances, bicolor plots can be located where they will not interfere with your other activities. Good locations are field and woodland borders, idle fields, utility rights-of-way, hedgerows, and open areas in woodland.

Methods of Planting

Break and harrow the soil several weeks before planting. This allows rains to settle the soil. The ground should be well prepared but firm.

Apply lime and fertilizer according to soil test recommendations. Apply both at the time of soil preparation. If a soil test is not made, apply 450 pounds of lime and 100 pounds of 0-20-20 fertilizer per plot (15 ft. x 330 ft.).

Ease and method of planting are determined to some extent by size of seedlings. Larger seedlings are usually more difficult to plant. But larger seedlings seem to withstand rougher treatment better than do smaller ones, and a higher percentage of the larger seedlings produce seed the first year.

Freshly dug seedlings give better results. Therefore, have your soil prepared and plant as soon as your seedlings arrive from the nursery. If you can't plant them immediately, store them in a barn, basement, or other cool, dry place until they can be planted. Avoid "heeling in" which may cause a break in dormancy and result in poor survival.

The best dates for planting seedlings are December 1 to March 1. Acceptable dates are November 15 to March 15. Avoid planting after April 1.

The three common methods of transplanting seedlings are furrow, dibble, and mechanical tree planter. All give satisfactory results when seedlings are planted properly and when grasses and weeds are controlled, especially during the first growing season.

Until a few decades ago, the furrow method of planting was most popular in Alabama, but it has become less popular. Why? Maybe it's because fewer suitable plows are

available for making the plantings. Avoid using the furrow method on slopes where there's danger of erosion. Use medium-sized seedlings if they are available.

Plow a rather deep furrow, preferably with a turn plow or moldboard plow. Depth of the furrow will depend to some extent on root length of the seedlings. Place seedlings two feet apart against one side of that furrow—the one that's most nearly vertical. Cover with a second furrow. Cover deep enough for the soil after it settles to be two to three inches above the root collar. Leave the stems uncovered. About four man-hours are required to plant a plot (15 ft. x 330 ft.) by this method.

A dibble is a metal planting bar—the kind commonly used in planting pine seedlings. Dibbles can be bought from the larger hardware stores and from mail-order stores that cater to foresters, lumbermen, and owners of woodland.

Use a dibble on slopes where there's danger of erosion. Small and medium-sized seedlings are best for the dibble method. It takes about twelve man-hours to plant a plot (15 ft. x 330 ft.) by this method. At least two men are needed—one to use the dibble and the other to handle

seedlings.

A dibble is easy to use, and it gives good results when these instructions are followed. Insert the dibble eight to ten inches into the ground. Apply pressure with your foot. Work the handle back and forth to make a V-shaped hole, then remove the dibble. Place the seedling as far downward into the hole as possible. Then pull the seedling upward until the root crown is one to two inches below ground level. If necessary, the roots can be trimmed somewhat to make them fit the hole. Place the dibble three to four inches behind the seedling and again work it eight to ten inches into the ground. As you do so, apply pressure with your foot. Pull backward on the handle of the dibble. This packs soil around the roots. Push the dibble forward to pack soil around the root crown. Firm the soil around the seedling with the heel of your shoe and repeat at two-foot intervals.

Mechanical tree planters are recommended if you are planting a good many plots on land that's level or nearly level. Avoid using a mechanical tree planter on sloping land—the planter creates furrows and increases the likelihood of serious erosion.

Small and medium-sized seedlings

give best results when using a tree planter. At least two men are needed—one to drive the tractor and the other to place seedlings. Actually, two men are needed for placing the seedlings. It takes about two to three man-hours to plant a plot (15 ft. x 330 ft.) by this method.

Tree planters give excellent results when these instructions are applied. Place the seedling well forward in the open trench. Set the seedling so that it will be covered one to two inches above the root crown. Hold the seedling straight upward until the soil closes around the roots and is firmly packed by the wheels. Repeat at two-foot intervals.

When using a tree planter, there is danger of driving the tractor too fast for proper placement of seedlings. Also there's a tendency to space seedlings farther apart than the recommended two feet and the rows farther apart than the recommended three feet.

The second part of this article will appear in the Spring (1984) issue of this magazine and will contain instructions for planting bicolor seed and for managing your bicolor plots to ensure their lasting up to 40 years and more. You may need to retain this part of the article for reference.♠

A "HARE" RAISING ADVENTURE

by THAGARD R. COLVIN, Wildlife Biologist, Alabama Dept. of Conservation, Wildlife Section

Have you ever heard someone say, "multiply like rabbits?" Just ask anyone acquainted with the history of Australia and they can tell you what "multiply like rabbits" means. Early British colonists of Australia discovered there were no rabbits on the island continent. Hoping to improve the countryside and make it more like England, the early English settlers imported rabbits from Europe and released them.

The rabbit population in Australia exploded. So great was the explosion, sheep and cattle herders couldn't raise livestock because the millions of rabbits ate everything green in sight. In an effort to stop the rabbits the Australian government built rabbit proof fences across the entire continent, but all it took was two rabbits across the fence.



Why did the rabbit population in Australia explode? Two main reasons—rabbits are prolific breeders and few natural enemies of rabbits existed in Australia.

Alabama rabbits are also very prolific breeders, raising an average of five litters per year. Litters are normally born from February through October, with April being the peak month. Spring weather, available food, and location within the state affect the beginning of breeder season. The average litter size for Alabama rabbits is 3.5.

Alabama Species

Four species of native rabbits occur in Alabama. The most common and frequently hunted of these is the eastern cottontail rabbit (*Sylvilagus*

floridanus). The cottontail is found statewide and is more commonly found along field borders, brush thickets, young forests, and brooms-edge patches, but can be kicked up occasionally even in deep forests.

The eastern cottontail rabbit has the characteristic ball of cottontail, hence, its name. The fur of a cottontail is grayish to buff-brown and has a rufous (reddish) colored patch behind each ear.

The New England cottontail (*Sylvilagus transitionalis*) is very rare in Alabama. It is limited primarily to upper elevations in the Bankhead and Talladega National Forests. Superficially the eastern and New England cottontail's appearance is very similar. For all practical purposes, cottontails referred to in this article will be eastern cottontails.

The swamp rabbit (*Sylvilagus aquaticus*), also known as "Cane Cutter," are also found statewide, but are not as common as eastern cottontails. This rabbit is more commonly found in swamps, marshes and hardwood bottoms. "Cane Cutters" are the largest wild rabbit in Alabama, one being recorded at 5.8 pounds. The swamper is considerably larger than the cottontail and its fur is darker than that of the cottontail.

The marsh rabbit (*Sylvilagus palustris*) is the smallest native wild rabbit in Alabama, found only in extreme southeast section of the state. Like the swamp rabbit, the marsh rabbit inhabits marshes and swampy areas. It is slightly smaller than the cottontail and its tail is gray.

Rabbits' Role in the Environment

Rabbits have been a popular game animal in Alabama and the United States since Colonial days. During the 1981-82 hunting season, 78,000 Alabama hunters took to the field hunting rabbits. Approximately 500,000 days of effort resulted in 679,000 rabbits being bagged.

Contrary to common belief, rabbits are not rodents. They belong to the order *Lagomorpha*, the same order that hares and jackrabbits belong to.

Rabbits are an integral part of the ecosystem, forming a broad base in the food chain of many predatory animals. Several scientific studies have shown that rabbits are the major food items for bobcats, (*Lynx*

rufus). Foxes, coyotes, (*Canis Latrans*), hawks, and owls also feed heavily on rabbits. Raccoons, (*Procyon lotor*), snakes, crows, (*Didelphis marsupialis*) occasionally prey on rabbits, often young, still in the nest. Unfortunately free-ranging and feral house cats and dogs catch and eat rabbits, too.

A poor hunting trip or season when few rabbits are seen usually results in hawks, owls, and foxes being blamed. The relationship between predator and prey is completely natural and is necessary to hold populations in check. Without predators, rabbits would become pests, especially in farming areas. Predators also remove sick, weak and stupid animals from the population, which helps to maintain healthy vigorous rabbit herds.

Many scientific studies have demonstrated that the legal hunting of rabbits has very little effect on the population. Also, disease, parasites, and imported fire ants are not serious when rabbit populations do not exceed the carrying capacity of their habitat.

Rabbit Habitat

If a landowner or hunting club wants to increase rabbits, the best way is to improve the habitat so that it will grow and support the animals. Except for field trail rabbit clubs and running grounds, intensive management is not necessary to provide good rabbit hunting. The thing to remember is that rabbits need food to eat year-round and a place to easily escape their enemies when rearing young and feeding.

Grasses, herbs, leaves, stems, sedges, and bark are the sustaining food of rabbits year-round. This food must be located near escape cover, otherwise, rabbits will not venture out to eat. If he does, he will become a prime meal for a predator.

Strips along fences, ditches, fields and wood roads and dams should be allowed to revert to weeds, briars, sumac and grasses. Then strips of food can be encouraged along these cover strips. Winter planting can include clover, winter small grain, ryegrass or vetch. Corn planted in summer and knocked down in winter also makes excellent winter food. Summer food can be encouraged by discing, applying fertilizer or mowing adjacent to the cover strips. Mowing and discing will encourage natural

grasses such as Florida pusley, crab-grass, crowfoot grass, and bermuda grass. Early spring is the best time to disc and apply fertilizer. Occasional mowing throughout the growing season will keep grass lush and palatable for rabbits.

Contact your local county agent of the Alabama Cooperative Extension Service for recommended seeding and fertilizing rates, seed varieties, and planting dates.

Areas of the farm or forest that are eroding can be made into prime rabbit habitat by planting lespedeza or Japanese honeysuckle. These two plants will help control soil erosion and also supply good rabbit food and cover.

Another good management practice for rabbits, (also excellent for deer, quail, wild turkey, and squirrels) is to not harvest a few rows of corn or the corner field that lies adjacent to wooded areas, briar patches, or broomsedge fields. The corn should be knocked down during fall and winter so that the smaller birds and animals can use it. Brush piles and thickets will provide even better escape for rabbits by placing 20 feet sections of scrap irrigation pipe or culvert in the piles and thickets. Rabbits can dart into the pipes, which simulate hollow logs and ground burrows, to escape pursuing predators.

Cover and openings should be protected from cattle grazing since cattle will compete with the rabbits for herbage and also eat and trample cover.

Fire should be excluded from brush piles and thickets, but pine forests and mature forests of mixed pine-hardwood will produce better quality of herbage if prescribed burned every three years. The Alabama Forestry Commission should be contacted regarding laws and regulations governing burning and available assistance.

Remember throughout your rabbit management plan the basic fact that rabbits must have an adequate food supply 12 months per year and their food supply must be complemented with adequate nesting and escape cover.

If you keep this in mind and plan and manage accordingly, when your young son eases up to a brush pile to kick it or you stick a sniffing beagle into a thicket, get ready for an explosion!

TREASURE FOREST LANDOWNER'S CREED

by NEIL LETSON, TREASURE Coordinator

Are you one of Alabama's 200,000 private nonindustrial forest landowners? If so, are you interested in receiving all the resource values your land has to offer? If you answered yes to both these questions, then you are one of the very important reasons the TREASURE Forest Program was created.

Forest landowners, like yourself, hold the key to the potential use of this vast resource. With proper management, our forests can produce a plentiful supply of timber, an abundance of wildlife, recreational opportunities, and a clean and aesthetic environment for now and for the future.

The TREASURE Forest Program recognizes landowners who practice this multiple-resource style of management. To help promote this concept, agencies within the Alabama Forestry Planning Committee (sponsors of the TREASURE Forest Program) are working together to help landowners throughout the state.

One of the newest tools of the Alabama Forestry Planning Committee (AFPC) is the TREASURE Forest Landowner's Creed. Quite simply, the creed is a series of statements that express the responsibility of owning land. Landowners in Alabama who believe in the TREASURE Forest concept and would like to attain TREASURE Forest status are encouraged to endorse the creed. This 9"x12" document, once signed by you, can then be framed and displayed as an expression of your belief in being a good steward.

To get your copy of the TREASURE Forest Landowner's Creed, contact your county representative from either the Alabama Forestry Commission, Alabama Cooperative Extension Service, Soil Conservation Service, or Department of Conservation and Natural Resources.

Alabama landowners who endorse the creed will receive the coordinated

services of their local County Forestry Planning Committee and a subscription of the *Alabama's TREASURED Forest* magazine. ♣

TREASURE FOREST LANDOWNER'S CREED

I BELIEVE the right to own land is among the most treasured and most valued rights of all Americans; and

I BELIEVE the ownership of land not only grants me the privilege of pursuing my own goals but that it also carries the responsibility of good stewardship; and

I BELIEVE that good stewardship of this country's precious natural resources is necessary to the strength and well being of our great nation; and

I BELIEVE that good stewardship of my forest lands will help provide this country's needs for forest products, for clean air and water, for healthy and thriving populations of fish and wildlife, and for forest based recreation; and

I BELIEVE further that good stewardship of my forest lands will contribute to the natural beauty of Alabama and will guard against soil erosion and the depletion of soil productivity; and

I BELIEVE that good stewardship also involves protecting my forest lands from insects, diseases, wildfires, and overgrazing.

THEREFORE, I pledge that on my forest lands I will optimize

Timber Production — *To help meet this country's need for forest products, to provide jobs, and otherwise to promote a healthy economy; and*

Recreational Opportunities — *For myself, my family, my friends, and for my invited guests;*

Environmental Quality — *To protect our country's vital soil, water, air; and*

Aesthetics — *For all who visit my forest lands to see and enjoy; and that my efforts will be*

Sustained — *For continuous, multiple benefits by managing all my resources in ways that are compatible with my primary objective so that my forest resources will be*

Useable — *For the enrichment, education, and enjoyment of others; and not only to meet my own*

Resource Needs — *But also to help keep our country strong and free not only for our present generation but also for*

Every Generation of Americans that will follow us.

As evidence of my endorsement and support of the TREASURE Forest Program of the Alabama Forestry Planning Committee, I hereby sign this pledge.

Date _____

EDITOR'S UNDERSTORY

by CYNTHIA K. PAGE

“The youth of America is their oldest tradition. It has been going on now for three hundred years” — Oscar Wilde

A somewhat faded parchment deed affixed to the wall barely reveals the date “1832.” Clearly this is evidence that the “American dream” can survive through generations of progress and industrialization. At least it has in the Patterson family.

W. O. Patterson raised his family here and left them with a love of the land and a stand of timber! His son-in-law, John Rudd, “inherited” the care of the 2000 acre tract along with his wife Nancy Patterson Rudd. For a thirty year old city boy, this was quite a challenge!

As John puts it, “My grandparents raised watermelons and chickens, and I joined FFA in high school, but I didn’t know anything about managing forestland.” He later found out he didn’t have to know; all he had to do was find out who did!

To walk over the Patterson property, one would not get the impression that its caretaker was ignorant of forestry practices. In fact, the complete opposite thought comes to mind! Fields of young pines now stand where only three short years ago, the southern pine beetle and littleleaf forced a 1200 acre clearcut. Close to a third of that has already been replanted, and John doesn’t plan to stop until it’s finished!

“I want to leave my children a

stand of timber just like Mr. Patterson left us, and I hope they’ll leave their children one,” John ex-



plains. Of course, he admits that ten year old Vicky and seven year old Justin don’t quite understand the importance of land management yet, but says he expects they will someday! I rather suspect they will too!

After all, here’s a young man who works full time and still devotes ample attention to his forestland. “I’m lucky,” John says, “that my employer (Columbus Tractor & Machinery) lets me off when I need to be here. Sometimes it’s a demonstration, sometimes something else, but they’re really good to me!”

Could it be that his enthusiasm is contagious? He has always excelled in whatever he undertook. At age 19 he was one of the youngest commissioned officer in the Army, and at 20 he was a company commander under combat conditions in Vietnam. His own feelings probably explain his driving force. “Younger people need to get involved! I can’t stand to see people not do anything. I guess apathy is the worst obstacle we face in the field of forestry.”

No one can say that John Rudd is “not involved,” nor can they say that he is “not doing anything.” For apathy, well, let’s just say that he knows where he wants the Patterson property to be in ten years and does not allow obstacles to get in the way of those goals!

This family is close, very close in fact. It’s not as if John is an “in-law.” He’s very much “kin” to the Pattersons. One can guess from his determination to carry out his father-in-law’s objectives that a special and genuine relationship existed. Mrs. Patterson has tremendous trust in her son-in-law’s management decisions. And Nancy is a devoted wife and mother, supports her husband’s actions, and raises her children according to the “Patterson” tradition.

I visited this tract three years ago when to the naked eye it was open, bare land. Pine seedlings were lost in the brush growth. John greeted us on this interview with “I don’t have a showcase like others you’ve featured.” In comparison to three years ago, it’s more than a showcase, John, it’s progress! I hope that I can see it again in three more years! I expect to see “pretty pines and the bottoms in hardwoods.” I believe the “quail and turkey will stay,” and the “deer will be better.” I, too, suspect that “Mr. Patterson would be pleased.”

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