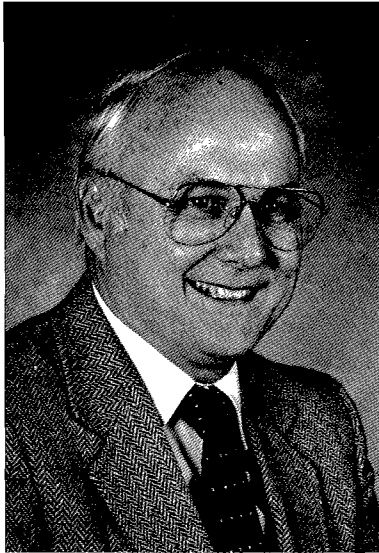


**Alabama's
TREASURED
Forests**

Winter · 1990

STATE FORESTER'S MESSAGE

by JAMES A. HUGHES



As a break in tradition, we are allowing a TREASURE Forest landowner to address the readers in this issue of "Alabama's TREASURED Forests." James Hughes lives in Houston County and is a member of the TREASURE Forest Advisory Board.



Everyone needs an example to follow, and we as Alabama landowners have one of the finest. What a joy and inspiration to watch Governor Hunt place an Alabama Reunion Spirit Award around the neck of our Bill Moody—an expression of appreciation for his service and work beyond the call of duty for our state during its year of Reunion Celebration.

This special recognition occurred at the dedication ceremony and ribbon cutting on the boardwalk at Meaher Park in Mobile on October 20, 1989, as part of the Alabama Forest Resources Center Meeting. Again, this event was the result of foresight and planning on the part of our state forester, Senator Ann Bedsole, and others in the forestry community. More than 300 people sat spellbound as they listened intently to George Landegger, chairman of Parsons and Whittemore, Inc. as he told why his company chose Alabama and Monroe County to invest \$1.1 billion. He and the bankers who will finance this project have confidence in the private landowners of Alabama to supply the timber needed to repay a loan and make a profit. Do you realize that is a \$4,921.70 investment, plus interest, for each of the 223,500 private forest landowners? What a challenge!

With continuing help from the Alabama Forestry Planning Committee and the private sector, we as landowners must continue to work and manage our portion of God's creation that has been placed in our trust under the TREASURE Forest concept. We must ensure that the resource **will** be productive in a manner that will contribute toward a balanced environment.

Each of us faces the challenge to live up to our example. We must become leaders, too. It's not enough simply to own a TREASURE Forest; we must **encourage** our friends and neighbors to do likewise.

James A. Hughes
James A. Hughes

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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 Photo: Along with cooler temperatures, winter also brings beauty to Alabama. Photo by Coleen Vansant.

Alabama's TREASURED Forests

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A PURPOSE FOR

by KIM GILLILAND, Editor



A great deal of emphasis has been placed recently on improving our environment. People have come to realize that if we're going to continue living on this earth, we have to take care of it and use its resources fully—but also carefully—to maximize their potential.

The concept of TREASURE Forest also carries this philosophy. Don't just manage for one purpose, but for multiple purposes.

TREASURE Forest landowner Bealie Harrison is one person who uses things to their fullest. Harrison has acquired approximately 300 acres near Grove Hill in Clarke County which once belonged to his father. The property has not only been certified as a TREASURE Forest, but also as a Tree Farm.

From Farmland to Forestland

Once farmland, the property is now managed for timber production. Other objectives include enhancing the forest for wildlife and improving recreational opportunities, as well as teaching. Harrison's six grandchildren come to visit and go camping, while local ag students also learn to mark timber by making field trips to the property with their teacher. Several forestry tours have been held on the property over the past 10 years.

The wagon roads that ran throughout when his father farmed were present when Harrison inherited the land. These had to be improved on very little to create a good road system.

Harrison started planting trees on a regular basis in the late 1970s and cut his first timber in 1984. Eighty percent of the land is in pine. Of the four species of pine which grow there—loblolly, slash, Virginia and spruce—Harrison finds that loblolly grows the best. "If I was going to plant today, I'd plant all loblolly." Several acres of slash and loblolly were planted at the same time and Harrison can see a difference between the two. "They're growing," he says of the slash, "but their resistance is not as good."

EVERYTHING



This cable bridge above the creek is one of two found on the Harrison TREASURE Forest.

On areas that have been damaged by the southern pine beetle, Harrison salvages the wood and uses it in several different ways. The best lumber is used to build utility sheds or woodshops. What is left over can be used for firewood. Harrison salvages the timber himself with help from one of his sons and a portable sawmill. However, he says, this year the southern pine beetle has not been the worst enemy. "More trees have been killed by lightning this year than ever before."

Learning Through Experience

Harrison learned about forestry practices by "watching and doing." "The best teacher in the world is experience," he said. Originally, representatives from the Alabama Forestry Commission, Soil Conservation Service and the Extension Service convinced Harrison he needed a manage-

ment plan. Through working with these agencies and on his own, he became certified as a Tree Farm in 1977 and was awarded TREASURE Forest No. 60 in 1979. He was recertified in 1984.

Several years ago, using **TORDON**, he became the first person in the area to use a Hypo-Hatchet® tree injector. This way he can selectively kill the undesirable trees without harming the trees nearby. "It not only kills the tree trunk but the roots, too," he said.

He prescribes burns all the land himself, with the help of family members. He has a tractor which is used to plow a line around the area to be burned and uses his own drip torch to start the fire. Harrison has put his property on an every other year prescribe burn schedule, something he believes is needed to clear away the fuel that accumulates on the forest floor. Because hunting is a favorite pastime of his and other family members, he always burns during the month of February—after deer season.

Recreational and Economic Opportunity

Since other family members own adjoining land, Harrison has access to hunt on 400 acres. Walking along the edge of one of his five food plots, deer tracks are abundant. Harrison plants wheat, oats, ryegrass and clover in the food plots.

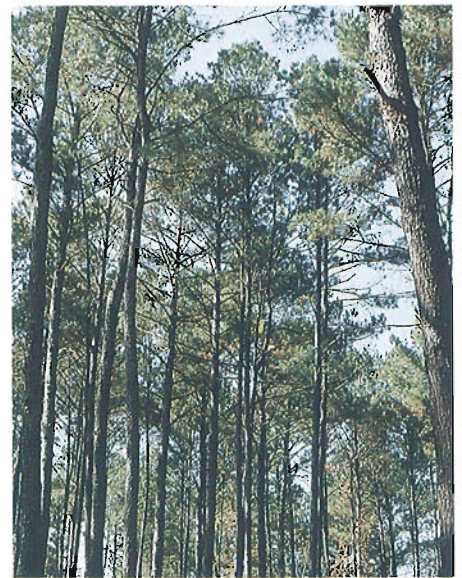
A creek runs through the property, over which Harrison has built two cable bridges. Made of heart white oak, they span 25 feet above the creek bottom. Naturally, they are a favorite of the grandchildren—as well as visitors—to walk across.

Harrison believes he lives in one of the best areas in the state because the opportunities to sell timber are excellent. Forest industry is abundant and prosperous in Clarke County. "We're glad they're here, because we're getting more for our stumpage." Timber, Bealie Harrison says, is his "ace in the hole."

A variety of hardwoods grow on Harrison's TREASURE Forest, includ-

ing some cypress in the wet areas, and he wants to start managing more for hardwoods now since the market for them is increasing. He recently had a hardwood specialist come and look at the property. He was told the red oak, white oak and ash are of a very good grade, and some of the undergrowth should be taken out for pulpwood. Some of the larger trees are ready for commercial sale now, and the rest he will let grow to maturity and they can be harvested when he wishes.

Although it was ten years ago that Hurricane Frederic came through the area, Harrison remembers it very well. "Hurricane Frederic did more damage to our timber than any other hurricane before. It was a terrible mess." There was a lot of damage done and he had to salvage a great deal of trees that were blown over or snapped off. In fact, he had to clearcut some areas and start over. "The only way I would clearcut again was if we had another hurricane. I expect to keep what I have, keep improving it and have something growing that's profitable." After all, he says, there's no need to waste anything you've got. "It was put here for a purpose." ♣



When Bealie Harrison's father moved from Marengo County to Clarke County in 1901, he was attracted to the land's sandy soil and the chance of prosperous farming. His father never had any schooling, but he was always learning—just by living—until he died at the age of 82. He instilled his values and knowledge in his son, something that Bealie remembers to this day.

When Bealie started building a home for him and his wife, a young water oak no more than four feet high was growing beside the chosen site. Should he cut the tree down, he asked his father? He could do it with one chop. No, his father said, that tree might be needed to shade the house when it grows taller. Some 40 years later, Bealie looks at the tree and remembers his father's advice. The tree is at least 30 inches in diameter and shades the house perfectly.

Bealie and his wife Willie Mae both grew up in Clarke County and went to school together. Bealie was in the army during World War II, and he married his wife in 1946 after returning from three-and-a-half years overseas. They have raised three children—Eddie, Eric and Ann.

After the army Bealie began his career as a farmer, following in his father's footsteps. A minister since 1964, Bealie has pastored three churches. He is currently pastor at Nicholsville Baptist Church in Marengo County.

Harrison's father accumulated 1,000 acres during his lifetime. When his parents passed away in the early 1950s, Bealie inherited 100 acres. Between 1955-60, he acquired the remainder of the 300 acres he now owns. Pieces of his father's original acreage are still with other family members.

Along with the land his father bought in 1901 came a log cabin which was lived in until 1911. It is still standing but has been moved from its original location to a place behind the house where Bealie now lives. Too precious to part with, the cabin stands as a reminder of the craftsmanship of the time in which it was built. The logs that were cut to fit together will probably outlast many of whom stand before it. The old and the new are not far apart. After his father moved from the log cabin, he built another home. It was torn down and rebuilt by Harrison for his sister in 1955 from the same lumber. The 12-foot ceilings were modified to



by KIM GILLILAND, Editor

eight feet. Today, one of the Harrison's sons lives next door to his parents in a more modern home built of lumber from the Harrison property.

Since he started managing his land for timber, Bealie has received special recognition for his efforts. In 1977 he began his Tree Farm and was named Alabama Tree Farmer of the Year in 1982. In 1983 he went on to become the Southeastern Tree Farmer of the Year. He credits Ron True, who was then

chairman of the Tree Farm Committee, for his nominations for those awards.

In 1980 he was honored as the Helene Mosley Memorial TREASURE Forest Award winner for District 3. Harrison owns one of the older TREASURE Forest signs without the last E, which is proudly displayed close to his Tree Farm sign. One gets the feeling, though, that Bealie isn't doing all this for awards. He really cares about careful forest management. He believes, on the whole, that people are managing their land in a better way than 20 years ago. "The land is worth more and people are more educated," he said.

And at age 68, he isn't about to stop working—even after an accident. In the spring of 1986, he was in the woods cutting down sweetgum trees and one of them fell the wrong way. He was hit in the head and his left hip was also broken. Unable to move because of the pain, he laid there for three-and-a-half hours until help came. As he lay there, not totally sure what had happened, he relied on his faith for assurance. "Being a Christian, I prayed and asked the Lord to give me strength and patience." When his wife and nephew found him, he was cool and calm.

He's had to make quite an adjustment after an operation, and even felt he should resign his position at church. "They've been real good. I tried to resign," he said, "but they wouldn't let me." To anyone who's met Bealie Harrison, that doesn't come as a surprise. ♣



Acreage Assessment for Alabama

by L. LOUIS HYMAN, Chief, Information and Education

Fire protection is vital to Alabama's well being. Landowners make rather large investments when they plant trees, and they need the security that their plantation will not be destroyed by fire. Fire protection is not just forest fire control, but also includes Rural Community Fire Protection, a joint effort of the Alabama Forestry Commission (AFC) and the Volunteer Fire Departments of Alabama.

The biggest problem in fire protection is money for adequate equipment and salaries, to ensure that there will be someone to respond to a forest fire at three o'clock in the morning. In the past, funding for fire protection was piecemeal and so were our fire control efforts. County level activities were funded by severance taxes, the state general fund, and most importantly, county appropriations. When times were good, county commissions were generous. When things tightened up, the forestry appropriation was cut.

As a result, forest fire control in Alabama was a patchwork. Some counties were well funded and able to do a good job of fire control. Some poorer counties had to make do with a lot less—poorer equipment, less personnel, and problems with their fire load.

Recently, several counties began to pass an assessment on forest landowners to raise money to improve fire control in the county. Today, over half of Alabama counties have some level of acreage assessment (see FIGURE 1).

What Is Acreage Assessment?

Acreage assessment is **not** a tax. It is a user's fee, assessed on forest landowners to pay for fire protection of his forestland. Another way to look at acreage assessment is as an insurance premium for fire insurance on forestland.

The assessment is collected as an addition to the property tax bill that the county sends out each fall. The money is collected by the county tax collector who then forwards it to the AFC. By law, acreage assessments can only be spent in the county from which they are collected.

These monies are used within the county to supplement AFC funds for county foresters, rangers and forestry workers, and to buy, maintain and supply forest firefighting equipment within that county. By law, this money cannot be given to other agencies or groups, or used for other purposes except fire control and forestry assistance.

The value of acreage assessment to the Alabama Forestry Commission is that it gives the agency a stable funding base that enables us to build a strong firefighting organization in that county.

Statewide Acreage Assessment

The problem with the present system is that it is uneven across the state. Landowners in some counties pay while other landowners in adjoining counties do not. Landowners who own land in two counties pay different rates, depending on the county.

To improve the fairness of the system, the Alabama Legislature passed legislation which would set up a constitutional amendment to allow forest landowners to assess themselves a minimum of 10 cents, up to a maximum of 20 cents, per acre for fire protection and similar forestry services. This is an assessment on forest landowners, not the general public.

There will be a statewide constitutional amendment vote at the primary

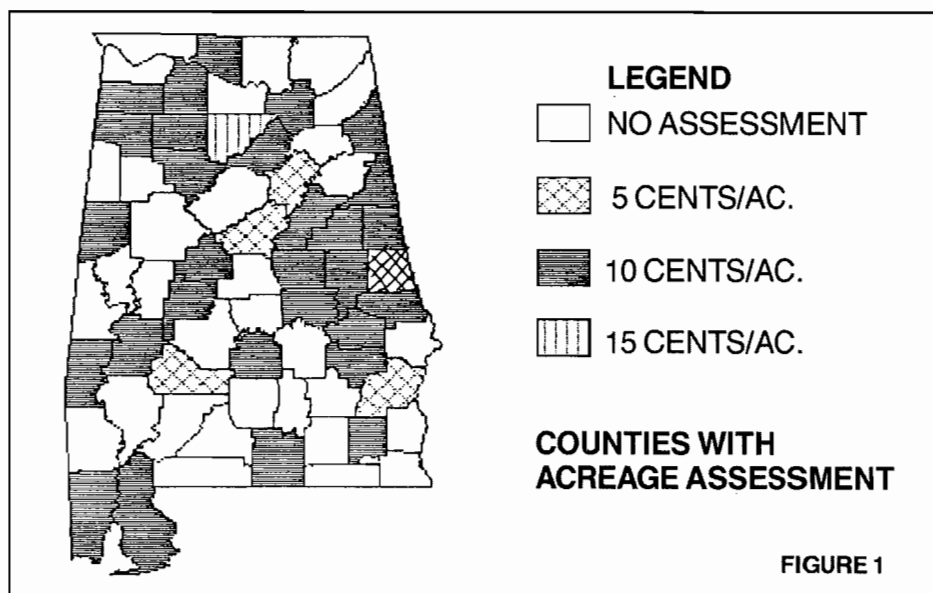
election on June 5, 1990. If the amendment passes, there will be a landowner referendum six weeks later.

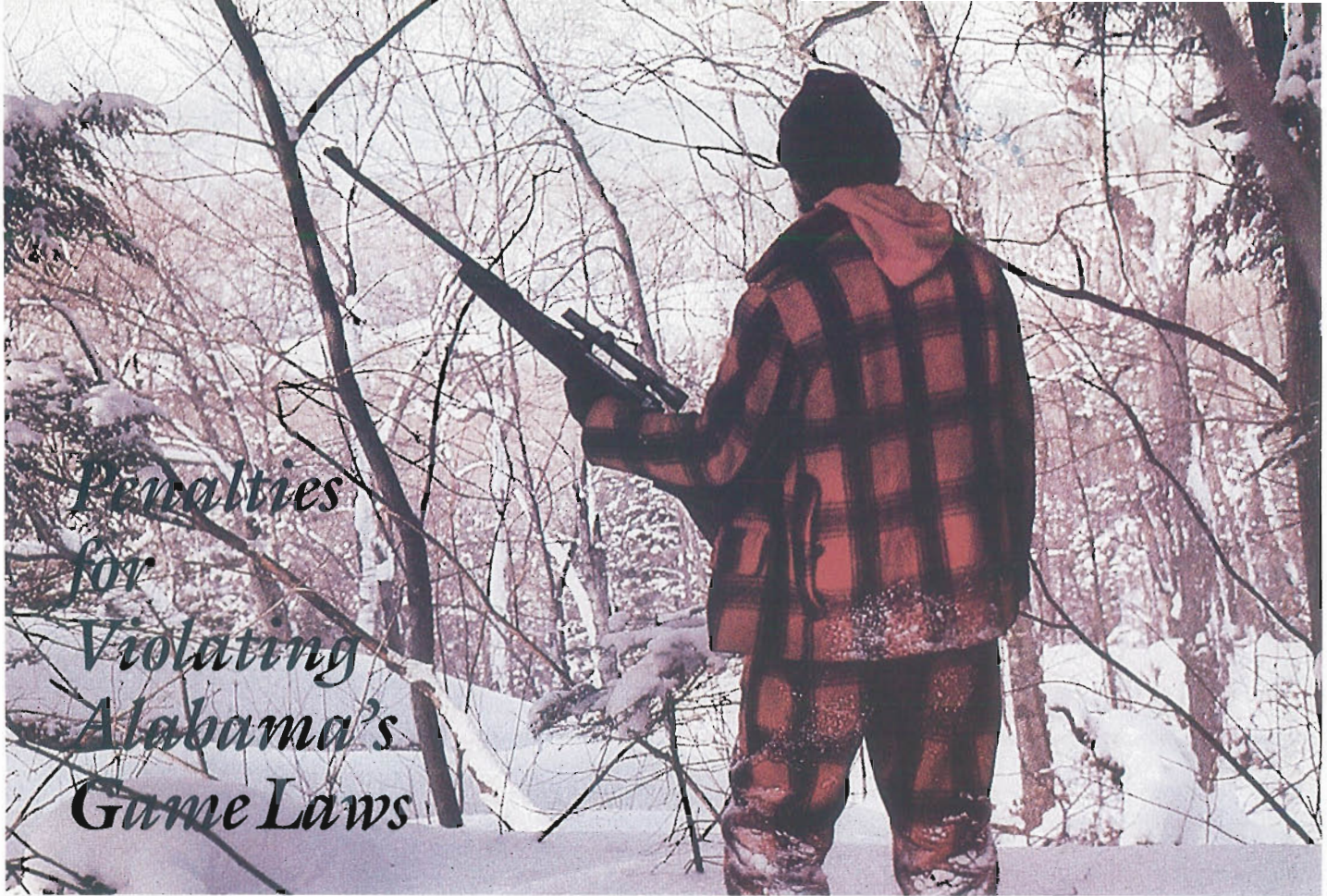
The AFC is responsible for overseeing the landowner referendum and paying all costs involved, including poll workers. The voting will follow the format used by Alabama Farmers Federation when they conduct producer checkoff votes. Each landowner in the state will be allowed to vote once, in the county in which he is a registered voter. The vote will be yes or no statewide, so that if the referendum is defeated in some counties, it can still pass statewide, and would be collected in all 67 counties.

Presently, 35 counties in Alabama have acreage assessment. The passage of the referendum would have no effect on those counties assessed at 10 cents or more. It will raise all other county assessments to 10 cents. Failure of the referendum would not change any existing assessment.

Several groups have endorsed the Statewide Acreage Assessment bill, including the Alabama Forestry Association and the Alabama Farmers Federation.

Smokey Bear says: "Remember, only **YOU** can prevent forest fires. And remember, only **YOU** can help improve fire protection in Alabama, so **VOTE YES** on Acreage Assessment!" ♣





Penalties for Violating Alabama's Game Laws

by FREDERICK A. BUSCH, TREASURE Forest Coordinator/Wildlife Specialist

Codified laws relating to hunting and fishing in the State of Alabama are found in Volume 7 of the *Code of Alabama 1975*, under Title 9. In the current Volume 7, Title 9 spans over 440 pages, so this article will not be a comprehensive review of all pertinent laws and penalties; rather, it will discuss what kinds of penalties might be expected for common violations of Alabama's hunting regulations.

- 1. Hunting without a license (9-11-51)**—Residents convicted of hunting without a proper license or permit are guilty of a misdemeanor punishable by a fine of at least \$10, but not more than \$25 for each offense. Non-residents, however, are fined a minimum of three times the cost of an appropriate license.
- 2. Improper use and identification of traps (9-11-59)**—Violations of the provisions of this section constitute a misdemeanor punishable by fines of at least \$50, but not more than \$200 for each offense.
- 3. Improperly engaged in the business of fur trading (9-11-63)**—Again, a conviction results in a misdemeanor accompanied by fines

from \$50 to \$300, but also may result in the violator being denied a license to conduct a fur-trading business for two years.

- 4. Hunting out-of-season (9-11-236)**—Conviction of a violation of this section declares a person guilty of a misdemeanor, and punishable by fines from \$50 to \$500 and up to six months in jail. A second conviction may result in fines from \$100 to \$500 and up to six months in prison. A third conviction may result in fines from \$250 to \$500 and up to six months in jail.
- 5. Sale or purchase of game birds, animals or parts (9-11-237)**—If found guilty of illegally buying or selling game animals or meat, feathers, etc., a violator is guilty of a misdemeanor punishable by fines ranging from \$250 to \$500.
- 6. Trespassing while hunting (9-11-241)**—Violation is a misdemeanor punishable by fines ranging from \$25 to \$500.
- 7. Illegal baiting (9-11-244)**—Under the provisions of recently enacted legislation, fines for baiting and the illegal use of nets, traps or poisons

is punishable by fines ranging from \$250 to \$500 and 6 months in jail. A second conviction is punishable by fines from \$500 to \$2,000, automatic loss of hunting privileges for one year and imprisonment from 10 to 30 days.

- 8. Taking of deer at night or from water (9-11-250, 251, 252)**—Violation constitutes a misdemeanor punishable by fines of at least \$500 and possibly 60 days in prison. A second conviction for these offenses is punishable by fines of not less than \$1,000 and up to 90 days in prison. A third conviction carries the same \$1,000 minimum fine and possibility of three to six months in prison.
- 9. Hunting within 100 yards of a public road (9-11-257)**—Violation is a misdemeanor punishable by fines of \$25 to \$50 for each offense.
- 10. Improper transportation of game (9-11-259)**—All game taken in Alabama must be transported openly. Failure to do so constitutes a misdemeanor punishable by fines \$10 to \$25 and confiscation of the improperly transported game. ♠

Pesticide Labeling and Registration

by MAX WILLIAMSON and CHARLES I. SHADE, USDA-Forest Service

Our world is made up of chemicals. The air we breathe, the water we drink, the food we eat, and the medicine we take are all chemicals. Hundreds of years ago a man called Paracelsus said, "The difference between a medicine and a poison is the dosage." This is still true today. That is why the label on a medicine telling you how much to take is so important. Taking too much aspirin can kill you.

The caffeine in coffee and the nicotine in cigarettes are poisonous chemicals too. People who use them are not poisoned because they take them in small quantities that do not build up (accumulate) in the body.

Half a century ago, when a new chemical came into use, the main question was how well it did the job it was meant for. Very little attention was given to its possible effects on human beings or the environment. Before 1930, the first person exposed to a toxic chemical might well be its first guinea pig; the exposure came first, then the damage was checked. Today there is an early defense against injury, and that is the large amount of testing a chemical must go through before it reaches the public.

Words and Terms to Understand

Label—Information printed on or attached to a pesticide container.

Labeling—Refers to all printed instructions that come with a pesticide, or that are available to the public.

Registration—Approval by the U.S. Environmental Protection Agency (EPA) or a state agency for the use of a pesticide as specified on the label.

Research and Development—Scientific studies that are done before registration and before pesticides can be sold to the public.

Toxicity—The measure of a chemical's ability to cause injury or death; how poisonous a chemical is.

LD50—The amount of chemical that will kill half the test animals who take it. LD50, for "lethal dose, 50 percent," is a common way to express the toxicity of a substance. An LD50 is usually stated in mg/kg.

Pesticide Registration

Today, before a new pesticide can be used, or even its label changed, it must meet standards established by the U.S. Environmental Protection Agency (EPA).

For a pesticide to be registered, the manufacturer must give the EPA scientific evidence that, **when used as directed**, it will: (1) not injure human beings, crops, livestock, or wildlife; (2) not damage the environment; and (3) not leave behind unacceptable residues in food or feed. There are many other requirements for registration that are too detailed for this discussion.

The research and development that leads to registration and labeling of a pesticide usually takes six to 10 years. A cost of over \$10 million is not unusual. Research is done to find out how much chemical it takes to control which pests; how toxic it is; and if it will injure human beings, crops, wildlife, or livestock. Studies are made to find out if the chemical will cause cancer; affect offspring; harm the environment; build up in the body; have short-term or long-term effects on human beings, animals or the environment; or result in other dangers. Scientists feed amounts up to near the LD50 to animals over a long time to check chronic effects, and also feed it to several generations of animals to find the effects on offspring.

The pesticide may be registered for testing use when research is almost finished; this is called conditional registration. Small amounts of a new product are sometimes used for testing on national forests during research. During this time, its effects are watched closely. How does it affect the environment and the people who apply it? Blood samples, urine tests, and physical examinations may be made on applicators. Even after the pesticide is registered, the EPA, universities, and federal agencies review its uses and effects.

As you can see, the information on the pesticide label is based on long and careful research. That label cost a lot of time and money. It has been called the most expensive and best researched document there is, and that is probably true.

Pesticide applicators should have labels and safety data sheets for every one of the pesticides being used. The safety data sheets give safety information for each pesticide. They are usually posted at the pesticide storage building and near a phone.

Labels and other labeling information are **legal** documents that must be followed by everyone using pesticides. There are both civil and criminal penalties for using a pesticide in any other way except the way the labeling says.

TABLE 1

	Toxicity Category I	Toxicity Category II	Toxicity Category III	Toxicity Category IV
Signal Word	DANGER	WARNING	CAUTION	CAUTION
Oral ¹ LD (mg/kg)	<50	50-500	500-5,000	>5,000
Dermal ¹ LD (mg/kg)	<200	200-2,000	500-5,000	>20,000
Inhalation ¹ LD (mg/kg)	<0.2	0.2-2.0	2.0-20	>20
Eye Effects	Corrosive; corneal opacity not reversible within 7 days	Corneal opacity reversible within 7 days; irritation persisting for 7 days	No corneal opacity; irritation reversible within 7 days	No irritation
Skin Effects	Corrosive	Severe irritation at 72 hours	Moderate irritation at 72 hours	Mild or slight irritation at 72 hours
Estimated Amount Needed (Orally) to Kill the Average Person ¹	A taste (<7 drops) to a teaspoonful	A teaspoonful to an ounce	An ounce to a pint	Greater than a pint
¹ For the labeled product	> Greater than	< Less than		

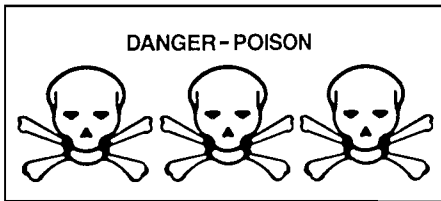
Information on a Pesticide Label

Pesticide labels must follow guidelines laid down by the EPA, and must contain **at least** the following information (in most cases, even more):

Active ingredient—The chemical or chemicals in a pesticide that do the job—that produce the desired effect.

Brand name—The maker's name for the product. For example, **ROUNDUP** is a brand name. It contains the active ingredient glyphosate.

Signal words and symbols—Hazards to humans are shown on the label by signal words (words that signal or warn you) about the toxicity category (group). Each pesticide formulation (what goes into it) is put into a toxicity category that tells how hazardous it is to human health. The categories indicate the toxicity whether the pesticide is swallowed, inhaled, spilled on the skin, or splashed into the eyes.



The signal words **DANGER - POISON** and the skull and crossbones (symbols) must be on labels of all highly toxic substances (Toxicity Category I). The signal word **DANGER** can appear on the label of a pesticide that is only slightly toxic when the danger comes from something other than toxicity. In these instances, the reason for the signal word appears after the signal word. An example is **VELPAR L**. Its label states **DANGER! CAUSES EYE DAMAGE. FLAMMABLE**.

The signal word **WARNING** must be on the labels of all **moderately toxic** pesticides (Toxicity Category II).

The signal word **CAUTION** must be on the labels of all slightly toxic pesticides (Toxicity Categories III and IV).

All labels must say "Keep Out of the Reach of Children."

The label must show a precautionary statement (a warning) that tells you how the product may be hazardous. For example, the statement may say the product is hazardous if splashed in the eyes; in this case it will tell you to wear goggles. The label may say the chemical is flammable and to keep it away from fire. There are many other precautionary statements. Look for them before handling the pesticide.

The label will also contain direc-

tions for use and how to avoid misuse, and list environmental dangers and other things you need to know to use the pesticide correctly and safely. ♠

*This article reprinted with permission from **Safety Training for Forestry***

***Herbicide Applicators** by Max Williamson and Charles I. Shade, USDA Forest Service, FS-393, 1986.*

*Tables referenced from **Ground Application of Forestry Herbicides: Forestry Herbicide Safety** by Robert J. Mitchell, Auburn University, 1987.*

TABLE 2

Toxicities of Silvicultural Herbicides

Trade Name	Approximate LD50 (mg/kg)	Oral Toxicity Rating	Signal Word
AAtrex 80W	5,100	IV	CAUTION
AAtrex 4L	1,886	III	CAUTION
AAtrex Nine-O	1,600	III	CAUTION
Acme Brush Killer	2,010	III	CAUTION
Amizine	>4,000	III	CAUTION
Banvel CST	>5,000	IV	CAUTION
Banvel 520	1,707	III	CAUTION
Banvel 720	1,707	III	CAUTION
Banvel Herbicie	2,629	III	CAUTION
Banvel XG	>5,300	IV	CAUTION
Buckshot 10-PHG	1,690 ²	III	CAUTION
Garlon 4	2,460	III	CAUTION
Garlon 3A	2,830	III	DANGER ⁴
Krenite	24,000	IV	CAUTION
Krenite S	>5,000	IV	WARNING ⁴
Norosac 4G	>3,160	III	CAUTION
Oust	>5,000	IV	CAUTION
Princep 80W	>15,380	IV	CAUTION
Princep Caliper 90	>5,000	IV	CAUTION
Princep 4L	>5,000	IV	CAUTION
Pronone 5G	>5,000	IV	CAUTION
Pronone 10G	>5,000	IV	CAUTION
Riverside 912	1,400 ³	III	CAUTION
Roundup	5,400	IV	WARNING ⁴
Tordon K	5,000-6,000	IV	CAUTION
Tordon 10K	5,000	III	CAUTION
Tordon 101 Mixture	3,000	III	CAUTION
Tordon 101R	8,000	IV	WARNING ⁴
Tordon RTU	8,000	IV	WARNING ⁴
Trans-Vert	1,400	III	CAUTION
Velpar L	7,080	IV	DANGER ⁴
Vertac Weed Rhap A-4D	>1,000	III	CAUTION
Weedar 64	1,615	III	CAUTION
Weedone CB	2,140	III	WARNING ⁴
Weedone 170	2,000	III	CAUTION
Weedone 2,4-DP	2,200	III	CAUTION

Others for Comparison

Table Salt	3,000	III
Baking Soda	3,500	III
Aspirin	1,240	III
Caffeine	200	II
Gasoline	150	II

¹ Unless otherwise indicated, values are for the formulated product

² Value is for active ingredient (hexazinone)

³ Estimated

⁴ Severe eye irritants

⁵ Assigned signal word due to low dermal LD50

>greater than

We need people who can see the forest for the trees.



Air pollution. Acid rain. Gypsy moth infestation. Global warming. The stress and damage experienced by America's forests represents a serious part of our growing environmental crisis. And these problems affect everyone—from people who make their living in forest-related industries to people who use wood products and enjoy outdoor recreation.

What can you do to help? Plenty! Join other Americans

across the country in protecting our existing forests and planting new acreage. It's all part of Global ReLeaf, our national campaign to help reverse the trends of our worldwide environmental crisis. And, we need people who really do understand the value of these essential and threatened resources.

Can Global ReLeaf make a difference? Yes. But not without

your support. For more information on how you can help, write Global ReLeaf, American Forestry Association, P.O. Box 2000, Dept. GR3, Washington, DC 20013.



You can make a world of difference.

Common Poisonous Plants

by FREDERICK A. BUSCH,
TREASURE Forest Coordinator/Wildlife Specialist

TABLE 1

Poisonous Plants of the Southern U.S., in order of poisoning frequency and relative importance.

Common Name	Genus	Species
showy crocalaria	<i>Crotalaria</i>	<i>spectabilis</i>
bracken fern	<i>Pteridium</i>	<i>aquilinum</i>
mountain laurel	<i>Kalmia</i>	<i>latifolia</i>
black cherry	<i>Prunus</i>	<i>serotina</i>
johnsongrass	<i>Sorghum</i>	<i>halepense</i>
yellow jessamine	<i>Gelsemium</i>	<i>sepervirens</i>
pokeberry	<i>Phytolacca</i>	<i>americana</i>
Jimsonweed	<i>Datura</i>	<i>stramonium</i>
buttercup	<i>Ranunculus</i>	<i>sp.</i>
great laurel	<i>Rhododendron</i>	<i>maxima</i>
lantana	<i>Lantana</i>	<i>camara</i>
oleander	<i>Nerium</i>	<i>oleander</i>
bladderpod	<i>Glottidium</i>	<i>vesicarium</i>
rattlebox	<i>Daubentonia</i>	<i>punicea</i>
sicklepod	<i>Cassia</i>	<i>obtusifolia</i>
sesbania	<i>Sesbania</i>	<i>exaltata</i>
sweet clover	<i>Melilotus</i>	<i>sp.</i>
scotch broom	<i>Cytisus</i>	<i>scoparius</i>
black locust	<i>Robinia</i>	<i>pseudoacacia</i>
chinaberry	<i>melia</i>	<i>azederach</i>
common cocklebur	<i>Xanthim</i>	<i>pensylvanicum</i>
horseneetle	<i>Solanum</i>	<i>carolinense</i>
black nightshade	<i>Solanum</i>	<i>nigrum</i>
red buckeye	<i>Aesculus</i>	<i>pavia</i>
spotted water hemlock	<i>Cicuta</i>	<i>maculata</i>
castor bean	<i>Ricinus</i>	<i>communis</i>
redroot pigweed	<i>Amaranthus</i>	<i>retroflexus</i>
eastern baccharis	<i>Baccharis</i>	<i>halimifolia</i>
white snakeroot	<i>Eupatorium</i>	<i>rugosum</i>
common sneezeweed	<i>Helenium</i>	<i>autumnale</i>
bitter sneezeweed	<i>Helenium</i>	<i>amarum</i>
poison ivy	<i>Rhus</i>	<i>radicans</i>
poison sumac	<i>Rhus</i>	<i>vernix</i>
atamasco lily	<i>Zephyranthes</i>	<i>atamasco</i>
stagger grass	<i>Amianthum</i>	<i>muscaetoxicum</i>
milkweed	<i>Asclepias</i>	<i>sp.</i>
hemp dogbane	<i>Apocynum</i>	<i>cannabinum</i>
common yarrow	<i>Achillea</i>	<i>millefolium</i>
fetterbush	<i>Leucothea</i>	<i>racemosa</i>
maleberry	<i>Lyonia</i>	<i>liqustrina</i>
common buttonbush	<i>Cephalanthus</i>	<i>occidentalis</i>
mustard	<i>Brassica</i>	<i>sp.</i>
St. john's Wort	<i>Hypericum</i>	<i>perforatum</i>
sweetshrub	<i>Calycanthus</i>	<i>floridus</i>
mexican poppy	<i>Argemone</i>	<i>mexicana</i>
halry vetch	<i>Vicia</i>	<i>villosa</i>
perilla mint	<i>Perilla</i>	<i>frutescens</i>

Extracted from: **Poisonous Plants of Georgia**, by Wilber H. Duncan and Thomas Jones, April, 1949.

Each year poisonous plants cause damage to man and animals through injuries and even death. No documentable figures are available, but experts estimate the cost of such damage to be "several million dollars" annually. Regardless of cost, poisonous plants can and do have an adverse effect on Alabama landowners and outdoorsmen.

The effects of poisonous plants on man and livestock go far beyond the discomfort caused by poison ivy. The common bracken fern (*pteridium aqiularium*), for example, is highly toxic to horses and cattle. All portions of this plant are toxic whether green or dry and animals have shown symptoms of toxicity from consuming hay containing small parts of the dried plants. Bracken fern poisoning will kill both horses and cattle, and it is distributed throughout the South in old fields, waste places, and open woods, particularly where dry.

Recognition will enable you to avoid exposure to the common poisonous plants found in Alabama. Weed and plant specialists with the various Cooperative Extension Services throughout the South have prepared a publication entitled *Poisonous Plants of the Southern United States*. These experts were asked to identify poisonous plants in the order of poisoning frequency and relative importance in each of the southern states. Plants described in the publication are listed in that order, which is shown in TABLE 1. Also contained in *Poisonous Plants of the Southern United States* is a glossary of botanical terms to help in the identification of some not-so-well-known plants.

Each plant listed in TABLE 1 is described in detail in the publication. Also included are explanations of which parts of the plants are toxic, who or what is affected, symptoms of toxic effects, treatments (where applicable), and recommendations for avoidance. Also included is a much expanded version of TABLE 2, which lists names of some poisonous plants, toxic symptoms and poisonous parts of the plants. For reprints of *Poisonous Plants of the Southern United States*, please send \$1.50 to:

Agricultural Business Office
Attention: Marilyn Huss-Waller
Conner Hall, Room 203
University of Georgia
Athens, GA 30602



POISON IVY



POISON SUMAC



POKEBERRY

TABLE 2

Common Poisonous Plants and Characteristics.

Plant Common Name	Symptoms	Part of Plant Containing Poison
bracken fern	salivation, loss of appetite, labored breathing, hemorrhage, muscular weakness, partial blindness, possible death	leaves, leaf stalks
johnsongrass	bloat, convulsions, rapid pulse, chronic spasms, dizziness, partial blindness, labored breathing, possible death	green stunted parts, wilted plants
stagger grass	salivation, rapid pulse, sub-normal temperature, loss of appetite, muscular weakness, possible death	leaves, fruit, underground parts
pokeberry	diarrhea, convulsions, slow pulse, vomiting, loss of appetite, chronic spasms, possible death	roots, young shoots, berries
black cherry	bloat, convulsions, muscular paralysis, gastric enteritis, partial blindness, possible death	leaves, twigs, bark
cherry laurel	bloat, salivation, convulsions, muscular paralysis, dizziness, partial blindness, labored breathing, possible death	leaves, twigs, bark
showey crotilaria	loss of appetite, muscular weakness, emaciation, possible death	entire plant, including seeds
black locust	diarrhea, slow pulse, gastric enteritis, hemorrhage, possible death	leaves, sprouts, inner bark
buckeye	slow pulse, muscular paralysis, chronic spasms, excessive thirst, possible death	seeds, young shoots, leaves
mountain laurel	convulsions, slow pulse, vomiting, loss of appetite, muscular paralysis, lacrimation, possible death	leaves, twigs

Symptoms listed are usually observed. Absence of a listed symptom does not exclude the possibility of any particular plant poisoning.

Adapted from: **Poisonous Plants of the Southern U.S.**, Cooperative Extension Service, Clemson University.

Forestry Education In Secondary Schools

by L. LOUIS HYMAN, Chief, Forest Information and Education

There is a proverb that goes, "We don't inherit the land from our parents, we borrow it from our children." Are our children ready to accept it? Since the future of the forest is in the hands of the young, it is important that children be taught about good forest management and the stewardship of the land.

Even if a young person is not in a position to inherit forestland, he or she still needs to know about the importance of forestry to the State of Alabama, from both an economic and an environmental standpoint. It is important for students to know that forestry is the number one manufacturing industry in our state, producing over 65,000 jobs and over \$7.2 billion in sales. Forests cover two-thirds of Alabama's landbase. Over 95 percent of these forests are privately owned. Three-quarters of Alabama's forests, over 16 million acres, are owned by individuals, people like you and me.

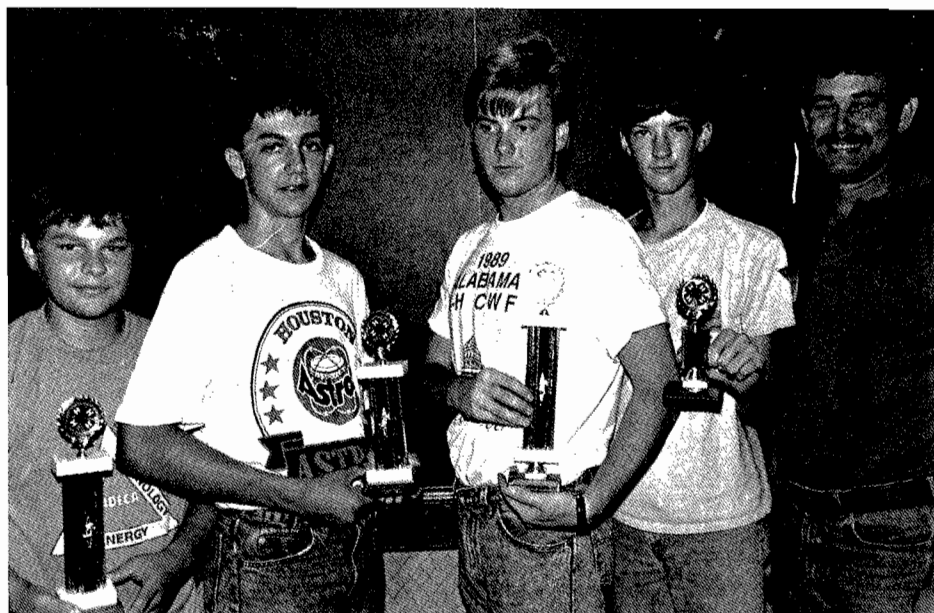
Forests serve as home for wildlife, natural air conditioners, and the most efficient erosion control method known. A well maintained stand of trees can cut soil erosion down to almost zero.

How are we getting these messages into the student population? This is being done using four techniques: agribusiness education classes, Future Farmers of America programs, 4-H programs, and Project Learning Tree classes.

Agribusiness Education

Agribusiness education is a recognized part of the state vocational education program that is available to students in every county of Alabama. Many of these agribusiness teachers have a class for high school students in forestry.

The textbook for this forestry course was developed by the Alabama Forestry Commission and the Agribusiness Education Service of the Division of Vocational Education Services of the Department of Education. The book,



Members of the Tuscaloosa County 4-H Judging Team L-R: Kevin Harbison, Greg Foster, Nicky Davis, Mike Rhinehart, and Wayne Ford, Coach.

entitled *Developing Farm Woodlands in Alabama*, was republished in 1986.

The course includes units on the importance of forestry to Alabama, planning for forestry, tree identification, tree planting, forest fire protection, insect and disease damage control, multiple use forest management, wildlife management, timber cutting and marketing of forest products.

The program has been quickly accepted and is in use in many school districts.

Future Farmers of America

The Future Farmers of America (FFA) program gives students in rural areas informal training in the basic knowledge needed to successfully manage a modern farm. The program is tied into the agribusiness education program in the schools, with the agribusiness teacher usually serving as FFA coordinator. Farm woodlot management is an important part of the program.

One major event cosponsored by the FFA and the Alabama Forestry Association is the annual Alabama FFA

Forestry Judging Contest. This contest was the second one in the nation, and was quickly copied in other states. Since its beginning in 1975, the forestry judging has become the most popular of the FFA events.

During the contest, student teams are judged on tree identification, timber cruising, making management recommendations, judging site index and wildlife management. In addition, the students take a fifty question written exam about general forestry knowledge.

The contest is run on three levels. Students compete on the local level against nearby schools. These district winners then compete on the statewide level to decide the best forestry judging team in Alabama. The state winner gets a \$1,000 grant and the opportunity to compete on the national level. In 1989, the forestry team from Monroe County won the Alabama title and competed against other state winners at the National FFA meeting in Kansas City.

Lamar Dewberry, who teaches at Lineville High School, is an example of the outstanding leadership present

among agribusiness teachers who work with the FFA. His FFA forestry judging teams have won eight state titles. He has also been awarded the State Agribusiness Teacher of the Year Award sponsored by the National FFA Foundations.

4-H Forestry Programs

The 4-H program, sponsored by the Alabama Cooperative Extension Service, is another informal club activity that teaches young people about agriculture and natural resources. The natural resources section of Extension puts on special programs for 4-H members in forestry and natural resources.

The Natural Resource Extension group sponsors a forestry judging team contest. The 4-H'ers compete in tree identification, timber cruising, and multiple use management planning. Teams from across the state compete for the state title.

In 1989, the state champion was the Tuscaloosa County 4-H Forestry Judging Team. They went on to compete against 16 other state teams in the National 4-H Forestry Judging Competition, held in Weston, West Virginia.

The Alabama Team won First Place in both the Field Test and in a very competitive Forestry Quiz Bowl. We should all be proud of the accomplishment of these teams.

Project Learning Tree

Project Learning Tree (PLT) is a national program sponsored by the American Forest Council. The Alabama sponsor of this award winning program is the Alabama Forestry Association. PLT can be used in any classroom in the state, both rural and urban.

PLT provides ready made lesson plans and activities that can be used to supplement existing high school curricula. The program contains over 175 forestry related activities that help teach science, mathematics, language arts, social studies, humanities and other subjects. These ideas were developed by classroom teachers with the support and assistance of environmental educators, foresters, and representatives from forest products companies, resource agencies, and conservation groups.

The Alabama PLT Program contains a special supplement to the standard

PLT teacher's packet. This supplement gives special activities that relate to the TREASURE Forest program.

The biggest value of PLT to Alabama's teachers is that it gives them teaching aids at no cost. All a teacher must do is attend a six-hour seminar on PLT and how to use the materials. More information on PLT can be obtained by contacting Rei Boyce, Alabama Forestry Association, 555 Alabama St., Montgomery, AL 36104.

Benefits to the State

The training available through the agribusiness education programs, along with the opportunity to test these skills in forestry judging contests, is assuring us that the younger generation will appreciate Alabama's greatest renewable resource. These lessons, supplemented by the lessons from PLT, help to ensure that future generations will realize the importance of the forest resources in our state, and will manage them wisely. They will be ready when our TREASURE is passed on to them, for their stewardship for the generation that follows them. ♣

TREASURE Forest Goes Nationwide

By JOHN C. KUMMEL, Director of Administration, Alabama Forestry Commission

It was a secret too good to keep. Alabama's TREASURE Forest program has been drafted into national legislation called the "Forest Stewardship Assistance Act of 1989." The bill, *H.R. 3454*, was introduced October 12, 1989 in the U.S. House of Representatives by Congressmen Sonny Callahan—AL, Lynsay Thomas—GA, Sid Morrison—WA, and Ron Wyden—WA. These co-chairmen of the Forestry 2000 Task Force are now seeking additional co-sponsors within the membership of its forestry caucus.

The National Association of State Foresters and the U.S. Forest Service are the primary agencies backing this bill. They will be joined by the other state and federal conservation agencies, as well as many individuals and natural resource groups interested in the future of forestry in our country.

All TREASURE Forest landowners

understand and practice the principle of good land stewardship. Good forest management practices allow them to accomplish their personal goals as well as protect and enhance the environment. Cooperation between the various state and federal agencies enables landowners to obtain expertise in forestry, wildlife habitat, aesthetics, recreation, water quality, and other benefits of the forest.

Nearly three-fourths of the commercial forestland in the United States is in private ownership. This is the property that will support a wood demand expected to more than double in the next 30 years. These same forests must offer solutions to problems such as global warming, air and water pollution, survival of endangered species, decreasing wetlands, and increasing recreational demands. Unfortunately, private landowners have not been re-establishing their forests at a rate that

will support these demands.

The Forest Stewardship Assistance Program, like our TREASURE Forest Program, will support the long term multiple use management of non-industrial private lands. This program will encourage the owners of these lands to do more active forest management, thus producing desirable benefits for themselves and the environment. State forestry agencies will assure that landowners are given the proper technical information and professional assistance needed for proper forestry management. Recognition programs with appropriate symbols and titles will be developed for each state.

The passage of this bill will add strength to our already successful TREASURE Forest Program. With the additional support, our program will maintain its leadership and continue to set the standard for forest stewardship in our great nation. ♣

LANDOWNERS

LEGISLATIVE
ALERT



NATIONAL



by TERRI BATES, Legislative Liaison, National Association of State Foresters

The non-partisan spirit in which Congress and the President began the first session of the 101st Congress was all but dissolved during the closing months of 1989. Congress was dominated and divided by partisan politics and critical fiscal legislation at the heart of which was a fight over a proposed capital gains tax cut.

Bogged down in a mire of fiscal difficulties for a three month period, Congress first missed the October 2 fiscal year deadline for 12 of the 13 appropriations bills needed to keep the federal government running. A Continuing Resolution was passed and extended at least once to keep the government solvent and running. In addition, Congress failed to meet the October 15

deadline under the Gramm-Rudman Act to enact mandatory budget deficit cutting legislations (called Reconciliation), and automatic across the board funding cuts (sequestration) before non-exempt defense and domestic programs went into effect.

Conservation Reserve Program (CRP) annual rental payments, which are normally mailed out every October, were at risk. By special order, those checks went out untouched by the Gramm-Rudman percentage cuts, but questions remain as to whether a 10th CRP signup will be prevented due to fiscal restraints.

At the crux of the budget crisis was the issue of a capital gains tax cut. The White House and Senate Republicans

wanted badly to deliver on promises to restore the capital gains reduction. Timber-state representatives in the House started the ball rolling when they included a provision in the Reconciliation bill temporarily reducing capital gains (for two and a half years) in the name of raising government revenues. In turn, Senate Democrats played hard ball to keep capital gains out of their Reconciliation legislation despite a major push by Senate Republicans and the White House.

The sway of forestry interests was recognized as members of the Senate sought to offer various substitutes to capital gains in Reconciliation legislation including measures to waive IRS active-passive tax regulations for tim-

by FRANK SEGO, Legislative Liaison, Alabama Forestry Commission

The Fall of '89 was enlivened by the return of legislators to Capitol Hill for budget hearings first, then a Special Session to deal with Alabama's business tax laws. To be specific: \$35 million was required to balance the state operating budget after a court ruling.

The call for a Special Session was precipitated in late November after the Court of Civil Appeals upheld a lower court's decision which said that the state's franchise tax was unconstitutional. The unanimous verdict by Judges Kenneth Ingram, William E. Robertson and B.J. Russell was based on the fact that firms incorporated outside Alabama were required to pay higher taxes than those incorporated within the state.

The governor has the discretion of calling a Special Session of the legisla-

ture whenever an emergency exists and, under state law, has the sole authority to determine when such an emergency warrants a special call. Minimum for a Special Session is five days. The sessions are limited to 12 legislative days within a 30 calendar day span. The governor must indicate the subject for which he issues the special call.

As this *Legislative Alert* was being written, members of the legislature were in the midst of the Special Session, and the outcome was still in doubt, although the Business Council of Alabama seemed willing to support a tax measure that would be applied fairly to all businesses for the sole purpose of generating the \$64 million which had been raised annually by the now defunct franchise tax.

Lawmakers Preview 1990 Session

While the legislators were in between budget hearings and the Special Session, the *Legislative Alert* set up its typewriter on the fifth and seventh floors of the State House to record opinions of lawmakers about issues facing the 1990 Regular Session, scheduled to begin January 9.

Though interviewed individually and without one knowing what the other was saying to this interviewer, almost all came up with identical comments. From Limestone to Lowndes; from Marshall to Mobile; from urban and rural; from Democrat and Republican, the bottom line was virtually the same. Here go the comments taken strictly at random:

Rep. **Taylor Harper**, Grand Bay (Mobile): "I don't know if we can

ber growers and restore income averaging. Senators from Alabama and Georgia sponsored entirely separate legislation (S.1692), that waives the active-passive tax regulations for timber actives.

In the end, Senate Republicans, though they claimed a simple 51 majority for a capital gains provision, could never muster the necessary 60 vote majority required by special rules. The White House finally conceded the issue for 1989, but promised to bring it back in 1990. There is no doubt that the climate for a capital gains reduction is ripe. Forestland owners should be pro-active in continuing to advance these issues with their Congressional delegations.

While the White House relented on capital gains, it got heavy handed on the subject of deficit reduction. Congress has the ability to restore the percentage cuts and it was generally assumed that would be the case. However, the Bush Administration strongly advocates that the cuts remain in place and can act to veto any effort by Congress to repeal the cuts. If this is the eventual outcome, all forestry-related programs will be cut by approximately 5 percent.

Despite the ongoing tensions, Congress and the President did agree on Forest Service appropriations for the next fiscal year. State and private forestry fared better than it has in years. Pest management, fire protection

and cooperative forest management programs were maintained with slight increases. Agreement had not been reached by Congress on the Agriculture Appropriations bill at press time, but levels similar to last year's appropriations were expected for the following programs: Forestry Incentives Program (FIP), Agriculture Conservation Program (ACP), and the Rural Community Fire Protection Program (RCFP), which delivers funds to Rural Volunteer Fire Departments. Funding for the Conservation Reserve Program was down significantly due to lower than anticipated enrollments.

New funds were authorized to begin a new national program, the Forest Stewardship Program, modeled after Alabama's TREASURE Forest program. Congressman **Sonny Callahan** (R-AL) introduced legislation in October with the backing of the co-chairmen of the Forestry 2000 Task Force. Within a five-year framework, the Stewardship objective is to bring 25 million acres of non-industrial privately owned forestlands under stewardship management plans. It will attempt to reach landowners who have not received professional technical assistance in the past and assist them in developing management plans for their land according to their objectives. The landowner will have the opportunity of managing his or her forest resources

for timber production and other resources as well: soil conservation, water quality, fish and wildlife habitat, and recreational opportunities.

Another new initiative, sponsored by Alabama Congressman **Claude Harris** (D-AL), is the "National Fire Forces Mobilization Act of 1989." The bill, still in the drafting stage, already has more than 60 cosponsors in the House of Representatives. By strengthening the partnership between the U.S. Forest Service, state forestry agencies and local volunteer fire-fighters, this legislation will establish a solid national network to coordinate wildfire response on public and private lands.

Alabama continued to do well in enrolling acres to be planted to trees in the last Conservation Reserve Program (CRP) signup. In Alabama, 17,200 acres were bid for trees during the 9th signup (July 17-August 4, 1989). If accepted, Alabama will have enrolled a total 281,905 acres in trees under CRP. Nearly two million acres out of 30.5 million acres have been planted in trees nationwide under the program. Nationally, CRP tree planting enrollment has fallen far below the mandated total of 12.5 percent, or five million acres. A 10th signup is tentatively scheduled for early 1990. This would be the last enrollment period unless Congress extends the program in the 1990 Farm Bill which will be debated next year. ♣

STATE



accomplish anything at all. If we do, it will be very little. Finding \$27 million is going to be most critical." Rep. Harper is chairman of the powerful House Ways and Means Committee.

Rep. **Tommy Carter**, Elkmont (Limestone): "Funding is the prime issue. We are in a bind. Everyone knows that. Our mission is to find a way out of this fiscal jungle. Abortion is going to be an emotional issue that must be dealt with." Rep. Carter is chairman of the House Rules Committee.

Sen. **Foy Covington**, Newville (Butler, Crenshaw, Pike and Dale): "I don't see much happening. It looks like normal election year politics, with one eye on legislative business and the other on the election." Sen. Covington chairs the Committee on Local Legislation No. 1. He was a strong factor in gaining passage of the 1989 forest

acreage assessment legislation in the Senate.

Revenue Shortfall Grave Concern

Rep. **Richard Laird**, Roanoke (Chambers, Randolph and Clay): "A major decision has to be made on the insurance premiums. Revenue shortfall is a grave concern. We also need an additional \$500,000 for the Dry Hydrant Program. Abortion could very well be a major concern. We'll have a clearer picture on that after the court ruling. I predict we'll go home early." Rep. Laird has been a prime mover in all legislation affecting forestry and volunteer fire departments. He is chairman of the House Business and Labor Committee.

Rep. **Nolan Williams**, Newton (Dale): "I look for a short session with both budgets (Education and

General Fund) moving through pretty fast. I don't see abortion as an issue until the court rules." Rep. Williams sponsored the House version of the forest acreage assessment bills that swept through the lower chamber in May, 1989. Williams is chairman of the House Committee on Tourism, Entertainment and Sports.

Sen. **Gerald Dial**, Lineville (Chambers, Clay, Randolph, Cleburne, Cherokee and DeKalb): "The critical issue is to balance the budget and get out early. There's an election ahead. Let it also be known that I am a champion of the volunteer fire departments." Sen. Dial is chairperson for the Senate Committee on Commerce, Transportation and Utilities, and sponsored major legislation for the volunteer fire departments.

(continued on next page)

Fund State Agencies

Rep. **Alvin Holmes**, Montgomery: "No two ways about it: We must finance state agencies. That's my priority and I'll fight to see that they get what they need. The State can't operate without proper funding for its agencies." Rep. Holmes chairs House Local Legislation No. 4 (Montgomery).

Senator **Ann Bedsole** of Mobile stresses the need for adequate funding for the Forestry Commission and urges voters to ratify the constitutional amendment she sponsored in the Senate calling for land-owners to adopt a uniform statewide forest acreage assessment. Sen. Bedsole chairs the Committee on Agriculture, Conservation and Forestry and is a member of the Legislative Forestry Study Committee.

Rep. **Ralph Burke**, Fort Payne (DeKalb): "Abortion is going to be a hot one, but we have to start with the budgets. Beyond that, I don't see any critical need to stay here." Rep. Burke serves on the Ways and Means as well as the Highway Safety Committees.

Rep. **Bob McKee**, Montgomery: "Budgets and abortion overshadow everything else. It'll be a 'get in and get out quick year'. Political years are always exciting. Makes it hard to concentrate on the business at hand. But the people that send us here expect the same attention in the fourth year as they do in the first. They deserve no less." Rep. McKee is an outspoken pro-life advocate and a former employee of the Alabama Forestry Commission. He is a member of the Insurance and Public Utilities and Transportation Committees of the House.

Others were interviewed, but you quickly get the picture from a cross section of the State. Budgets and abortion are the key issues, then it's home for the campaigns.

The bottom line says this may well be a "shorter than ever" session. The 1989 Regular Session ended in 29 days. Look for this one to end sooner. That's the way they see it. That's the way we see it.

'Till Spring! ♣

SELECTIVE THINNING

submitted by FRED BEAM

Tree farming has been used to renew and restore our forests since 1940 when it was subsidized by the United States Government to assure future generations an adequate supply of wood fiber. Routinely, trees were planted in close proximity of each other in order to maximize the fiber content per acre. This was done with the knowledge that optimum tree growth could be achieved for only about 15 years due to the overcrowding conditions which would prevail at that age. At the end of the 15-year period it was anticipated a thinning process would take place to permit further growth and maturity of the remaining stand of trees. Due to advances in research, this 15-year period is now reduced to 10 to 12 years. Originally this thinning operation was to have been performed by a cost effective labor supply. Unfortunately, such a labor supply is not available.

The apparent answer to the problem was, and is, to mechanize the thinning process. Many of the machines addressing this problem were found to be too large, too heavy and lacking in the necessary maneuverability. As a result, many of the unharvested trees were severely damaged and, instead of flourishing with new growth, became diseased and had to be removed. Root damage, caused by the excessive weight of some of these machines, resulted in stunted or suppressed growth of many of the remaining trees. The alternative was to harvest entire tracts or to cut in large swaths where maneuverability would not be a major problem. Damage to an adjacent tree could be tolerated simply by harvesting it also. This practice, however, does not optimize land usage.

There are as many theories relating to the proper thinning procedure as there are people involved in thinning. Whether thinning involves every third, seventh or eleventh row or no rows at all is a matter of individual preference. In all cases, ultimately there is a selective aspect which determines the density of trees remaining. This thinning should permit continued growth of the

remaining stand so that full recovery of the harvested fibre will be realized. This fibre will now be contained in taller trees with larger diameters, thereby making acreage more valuable to the tree farmer. A second thinning process will permit a significant increase per tree in fiber content of the final stand. The increase in value to the tree farmer will be substantial as the remaining stand will grow to saw log quality.

Object

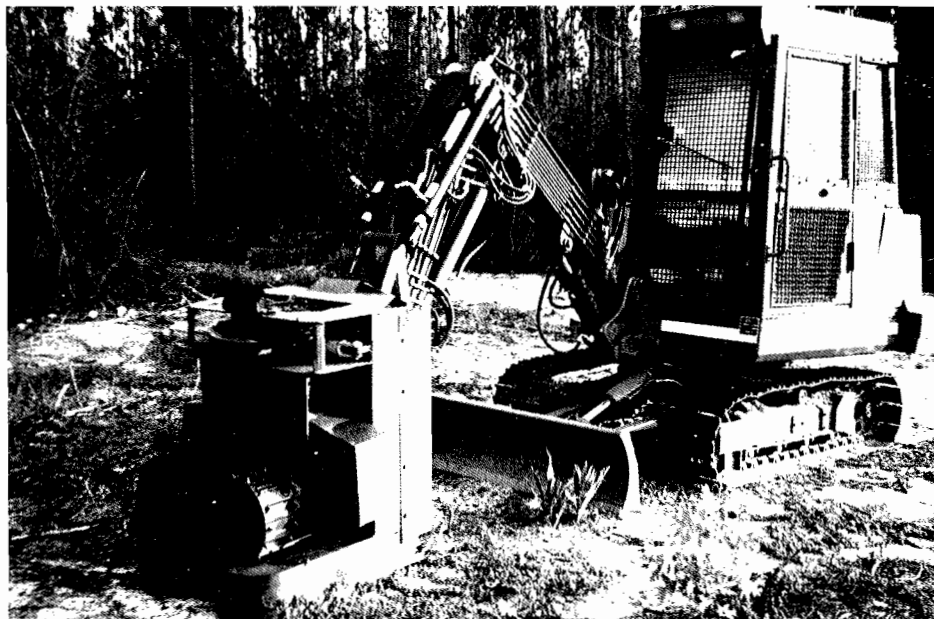
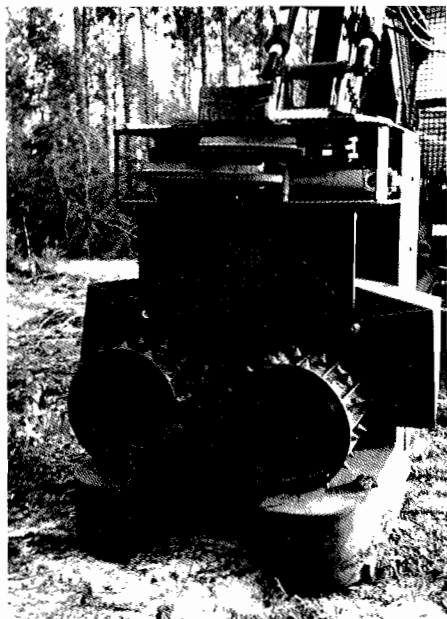
The design criteria has been to develop a dedicated product to address the problems associated with the harvesting of trees in the first thinning operation. Specifically, the machine is intended to harvest a tree in a plantation, cause little or no damage to adjacent trees, delimb the tree, permit the limbs to remain at the site of the removed tree thereby nourishing the forest, cut the tree to pulpwood or pole length, eject the unusable treetop, and accomplish all this while maximizing the productivity of the labor force.

Product

Plantation Pines Thinner, Inc. (PPT) has manufactured and assembled a machine that addresses all of the criteria simultaneously. The developers believe that it will enhance the overall return to the landowner when used as a dedicated selective thinning device because of the little or no damage inflicted on the trees left for future growth.

The PPT machine consists of a carrier vehicle, inboard and outboard booms, thinning head and various electric and hydraulic components. The machine operates in the vicinity of the trees to be thinned and the operator advances the thinning head to engage the first tree. By manipulating the control levers and switches, the delimiting arms and vertical feed rolls are brought to bear on the tree. This manipulation also insures that the tree is well positioned in the chain saw pocket. Incidentally, the saw pocket is designed so

-A NEW APPROACH



that only trees 12 inches in diameter or smaller can fit into it. In other words, the sweep of the chain saw is such that it cannot bite into a tree larger than 12 inches at the cutting level. This prevents the machine and/or operator from handling a tree beyond the design capability of the device.

Upon activating the saw mechanism, the chain saw starts and sweeps through the tree to separate it from the stump. When the saw reaches the end of its travel a signal is generated which allows movement of other components in the system. At this time the operator lifts the head to a predetermined level, while maintaining the tree in a vertical orientation, and energizes the rolls in a manner to lower the tree relative to the head. The net result of this maneuver is that the bottom of the severed tree will be about 12 to 18 inches above the ground and the saw at a desired log length above it. In the South this length will typically be five feet three inches while in the North this figure will be eight feet. If appropriate, the operator can swing the cab, boom and head to either the left or right to select a dropping spot for the cut logs. The saw is then reactivated and swept through the tree for the second cut. The rolls are again ener-

gized to lower the tree one log length at which point the saw comes back into play. This process continues until the usable length of the tree is gone. The tree top is then deposited on the ground and the machine is ready for the next tree.

At the present time the booms are designed to only extend some 13 feet, so depending on the spacing of the trees, the vehicle may or may not have to be moved to harvest the next tree. Also, the top works may be rotated either left or right to select a tree in one of the adjacent rows without any linear movement of the carrier vehicle.

The fact that the vehicle only moves a few feet at a time, and that very little horsepower is required to operate a chain saw, allows the device to be powered with a very small engine. The carrier vehicle has been selected to minimize both machine weight and machine movement. The selected carrier is a low horsepower excavator style vehicle with a ground contact pressure of 3.8 pounds per square inch. It is a tracked vehicle and is powered by a diesel engine. Normal maximum travel speed is 1.1 mph but 2.2 mph can be achieved with combined pump flow. It is evident this machine is so slow it will never be used to transfer a

work load. The system has been designed to accomplish only the thinning task and is considered a dedicated machine.

Patents

The entire machining is hydraulically operated with various electronic interlocks. Many of the design parameters are state-of-the-art while others are unique and, in the opinion of the developers, patentable. Applications for patent in the U.S. as well as several foreign countries have been filed. Based on the procedures to this point, the developers are satisfied that the mechanism does not infringe on any existing patent. ♠

Contacts

For more information and/or a demonstration, contact John A. (Jack) O'Brien, Jr., 3411 Lorna Lane, Birmingham, AL 35216, (205) 823-5201.

The publication of this article in Alabama's TREASURED Forests is provided as a service to landowners. It does not signify an endorsement of the product by the Alabama Forestry Commission.

ACTIVITIES

DISTRICT

1

Cullman County Supervisor **David Morris** recently presented a program to the County Forestry Association on the important topic of water quality and best management practices. There are many new factors to consider with timber harvesting and water quality, such as ADEM's enforcement powers, which include fires and shutting down logging operations. Also, federal cost-share money for reforestation could be jeopardized by landowners not following BMPs.

The **Tennessee Valley RC&D Forestry Coalition** had its first meeting in Huntsville recently. With strong support from AFC county supervisors, the Coalition's members (landowners, vendors, business people, etc.) got off to a good start. Three main areas of activity were identified: industrial development, highlighting timber values and forest management assistance. The group split into subcommittees for each activity and will design projects to accomplish specific goals.

Work continues on the Jackson County Reforestation Committee's Demonstration Forest Area. Negotiations with the Tennessee Valley Authority are underway to allow use of their land near Scottsboro as the demonstration site. County Supervisor **Ed Eldridge** has been instrumental in keeping the project alive and going.

Cherokee County Ranger **Steve Wiseman** has been working with the County Garbage and Litter Committee to combat littering. The committee is considering a plan to incorporate the PALS program into the county school system.

On the littering front, Madison County Supervisor **Mark Sullivan** with assistance from **Ed Eldridge**, Fire Specialist **Dan Fincher** and the MD county sheriff's department, made four arrests for criminal littering. All four pleaded guilty and were sentenced with fines and/or community service.

During the 54th Annual Alabama Wildlife Federation meeting in Gulf Shores, two of the Governor's Conservation Achievement Awards were presented to people in District 1. State representative **Ben Richardson** of Scottsboro received the Conservationist of the Year Award, and **Huntsville Times** writer **Larry Hitchcock** received the Conservation Communicator of the Year Award. Congratulations to both for jobs well done.

Marshall county AFC employees have been busy with various I&E activities such as developing a nature trail at Carlisle Park Middle School; planning an Adopt-A-School program and Clean-up Day with the schools PTA organization; they helped sponsor and conduct a two-day Environment Camp at Guntersville State Park for 26 boys and girls; and they held four school programs for 400 school children.

Grant checks were given out at the September meeting of the **Madison County Volunteer Firefighters Association** by Senator **Lowell Barron**, Representative **DeWayne Freeman** and Representative **Albert Hall**.

Cullman County AFC associates joined with the **Loretto Volunteer Fire Department** in Cullman County to host a fire prevention display and program during fair week. The display included puppet shows, video tapes on fire prevention, and several appearances by Smokey Bear.

Grant checks were recently presented to 22 Blount County Fire Departments by State Representative **Bob Harvey**.

County supervisors in District 2 that have completed law enforcement training include: **Greg Kelsoe**—Jefferson County, **Dan Jackson**—Walker County, **Bob Miller**—Shelby County, and **David Frost**—Winston County.

St. Clair County Supervisor **Gary Hamilton** and **Coleen Vansant** have both been the recent guests of Channel 13's "Public Comment," the public service program of Channel 13. Gary spoke on the state's litter laws and their enforcement, and Coleen discussed the environmental effects of litter and illegal dumps.

Congratulations to **Gloria Davis** of WINSTON County for becoming one of the state's newest TREASURE Forest landowners. Her 576 acres are located near the town of Double Springs.

Jefferson County Rangers **Larry Clark**, **Bryan Langford**, and County Supervisor **Greg Kelsoe** conducted a fire prevention program at Red Mountain Museum to approximately 1000 children and adults. The program included a display of fire fighting equipment, Smokey Bear, forestry displays, and a presentation by Urban Forester **Lee Laechelt**.

Congratulations to the City of Vestavia Hills for recently becoming certified as a "Proud City" by Alabama PALS (People Against A Littered State.)

Over 50 people attended the recent Wildlife and Hunters Seminar hosted by the **St. Clair County Forestry Planning Committee**. District Conservation Officer **Stan Bateman**, **Lee Laechelt** of the Alabama Forest Owners Association, and Conservation Officer **Phillip Anthony** gave presentations on hunting related topics. A panel, consisting of private landowners, hunting club members, and timber company representatives spoke on various methods of addressing the hunting issue on their property. A question and answer period followed.

Approximately 23 St. Clair County volunteer fire departments were recently presented grant checks by Senator **Butch Ellis** and Representative **A.J. Blake**.

Congratulations to the **Black Pond Volunteer Fire Department** in Winston County. They are the latest addition to the RCFP program in Winston County.

In the last few months, Jefferson County associates have conducted approximately 15 school programs on fire prevention which have involved more than 5,600 children in Jefferson County and the Birmingham area.

District 2 is proud of the rangers and foresters who recently completed the fall session of the Ranger Academy. They are **Bryan Langford**—Jefferson, **Bob Miller**—Shelby, **Willie Holston**—St. Clair, and **Louis Nix**—Winston.

The Blount County AFC office won third place this year at the Blount County Fair with their forestry and fire prevention booth.

The **Walker County Forestry Planning Committee** has been busy recently hosting information and education programs for local landowners. Some of the programs have included: a meeting on wildlife habitat with **Dr. Lee Stribling** of Auburn University; a program on forestry herbicides featuring representatives from DuPont, American Cyanamid, and Dow Chemical Company, and a meeting on cost-share programs.

Associates in Winston County have joined in the "Adopt-A-Mile" program of the Alabama Reunion. They have adopted a mile of highway in front of their office along Highway 278.

DISTRICT

3

At the annual Tuscaloosa County Firefighters Appreciation Banquet, State Forester **Bill Moody** introduced Congressman **Claude Harris**, who was keynote speaker. Congressman Harris spoke on his sponsorship of the National Fire Forces Mobilization Act of 1989. The proposed bill would provide

100 million dollars for state agencies and volunteer fire departments. Forty-five percent of the money would be for VFDs nationwide, forty-five percent of the funding would go to state forestry agencies and ten percent to the U.S. Forest Service for program administration.

Mr. Moody installed the 1989-90 officers of the **Tuscaloosa County Fire Protection Association**. District Forester **Wayne Strawbridge** presented **Tom Clark**, past-president of the Association, with the Annual Forestry Award.

The **Tuscaloosa County Forestry Planning Committee** sponsored a Forestry Field Day which covered eight different natural resource topics at three different locations. Activities during the field day included touring the International Paper Company Lumber Mill near Moundville, touring the Huntleigh Farm in Taylorville to observe 25 different wildlife management practices, and touring a Gulf States Paper Company longleaf-loblolly pine plantation, also in Taylorville. Educational and fun topics discussed included forest herbicides, recreational pond management and wildlife management. "Hands-on" training was implemented with demonstrations on prescribe burning and an exhibition of quail hunting with bird dogs.

The **Tuscaloosa County 4-H Forestry Team** won the 1989 National Forestry Invitational in West Virginia. Seventeen states were represented at the contest, including both high school and college teams. Of seven categories, the team received first place in four: tree identification, insect identification, forest evaluation and the Forestry Knowledge Bowl. In overall rankings, team member **Mike Rhinehart** placed third, **Kevin Harbison** placed fourth, **Greg Foster** placed tenth and **Nicky Davis** placed twelfth. Greg Foster is the son of TREASURE Forest landowner **John Foster, Jr.**

Fayette County timber buyers and procurement foresters were recently provided guidelines on Best Management Practices (BMPs) monitoring by the AFC. The guidelines explain why the Commission monitors logging operations and how complaints are handled.

The Fayette County Forestry Field Day featured "Managing Forests and Wildlife." A highlight of the event was a slide/tape presentation on forest management improvements in Fayette County over the past 15 years.

Several years ago, TREASURE Forest landowner **George Wright** planted several hardwood test sites along the Black Warrior River near his Hale County farm. As the seedlings enter their third year of growth, the cherrybark oak and Shumard oak are showing the greatest promise.

Congratulations to Ranger **Charles McDaniel, Jr.**, Ranger **Kenny Poole**, and Information Specialist **Tilda Mims** for completing the Fall Forestry Academy. Kenny Poole was the top graduate of the class, receiving the most overall points in a class of twenty-three students.

Greene County landowners recently attended a special program on Timber Stand Improvement (TSI).

DISTRICT

4

The **5th Annual Volunteer Firefighter's Appreciation Day** was held recently at Still Waters Resort on Lake Martin. There were over 1,500 firefighters present from North, Central, and South Alabama. The celebration had been held in Montgomery and Prattville in the past. District 4 personnel had the privilege of being the first AFC district to host this event. AFC from Montgomery Headquarters and all other districts assisted in this effort. The RCFP Steering Committee and the District 4 Firefighters' Association, under the leadership of **Bud Watts** and **Charles Hall**, did an impressive amount of planning, organizing, and just plain hard work to accomplish this. **Guy Slayden**, Tallapoosa County forester, coordinated all the plans and work with talent, ingenuity, and determination; and **LaVerne Knox**, district secretary, worked long and hard taking care of details. We feel much pride and gratitude in the success of this most worthwhile event.

District 4 held a Vendors' Training Session in Randolph County in September.

The Clay County Rangers developed an excellent forestry display for the Clay County Fair which was held the second week in October. The display featured examples

of early 1800s construction of homes, early 1900s, and modern-day examples by use of photographs, models, and samples of wood and other items used in construction.

Coosa County Forest Ranger **Joel Neighbors** hosted the 4-H Forestry Judging contest: four counties participated with five teams competing. Joel is one of the District 4 AFC TREASURE Forest landowners.

David Rogers and **Mike Highfield** conducted a two-day outdoor classroom at Lake Chinabee in Talladega County. This involved all Talladega fifth graders—360 enthusiastic children.

The entire District 4 Staff and all the county supervisors attended the AFC Annual Meeting in Mobile and the Forest Resources Center activities at the Riverview Plaza and the dedication of Meaher Park. We all felt a deepened commitment to the AFC principles so perfectly expressed in the showcased efforts of the Forest Resources Center and the combined work of several state agencies to make Meaher Park a reality; these tangible things and those expressed in the TREASURE Forest creed and stewardship of the TREASURE Forest landowners make Alabama a truly beautiful state in hopes and dreams, as well as in topography and climate.

DISTRICT 5 Thomaston Mayor **Patsy Sumrall** was presented with the W. Kelley Mosely Environmental Award on September 12 at the AFC Marengo County office. State Forester **C.W. Moody** and Marengo County Supervisor **Allen Black** made the presentation.

Mayor Sumrall has been active in anti-litter activities for many years in Marengo County.

Dr. Thomas Wilson was presented with the W. Kelly Mosley Environmental Award on October 11. The presentation was made by **Charles Kelley**, director of the Game and Fish Division of the Alabama Department of Conservation and Natural Resources. The Award was presented at the meeting of the **Cahaba River Society** in the auditorium of the Birmingham Zoo. Dr. Wilson has been a leader in efforts to protect the environment, especially concerning the Cahaba River.

Fifteen new Champion Trees in Perry County were recognized at a ceremony in Marion on October 12. Recipients of these state champions are District Attorney **Roy Johnson**, Mayor **Paul Anderson**, **Judson College**, **Marion Military Institute**, **Dr. Thomas Wilson**, **Charles Holmes**, **Beth Pearce**, **Victor Rice**, **USFS**, **Miss Stone Hodo**, and **Willis Jackson**.

The Dallas County Forestry Committee held its annual tour on September 12. The tour had a wildlife and hardwood management theme. Approximately 30 people attended. Guest speakers were **Tom Cambre**, hardwood specialist, and **Rick Busch**, wildlife biologist, both with the Alabama Forestry Commission.

David Wendt received the TREASURE Forest Award during a forestry tour on his property on October 3 in Chilton County. The second annual Chilton County Forestry Tour was conducted by the Chilton County AFC Office and included stops at several herbicide treated tracts. Approximately 30 people enjoyed the tour.

Charles Kelley is Marengo County's newest TREASURE Forest recipient. Congratulations!

Dr. Hubert Matthews was presented with a Champion Tree certificate and sign designating his shagbark hickory as a Champion Tree on August 3. The tree is located near Awin in Wilcox County.

DISTRICT 6 Eight new TREASURE Forests were recently certified District 6. They are the following: **Tom Parish**, **Al Peaks** and **Hawkins Ridge**—Barbour County; **Flourney Whitman Estate**, **National Security Life Insurance** and **Cliff Ohlenburger**—Coffee County; **Kermit Brown**—Dale County; and **Phil Forrester**—Houston County.

TREASURE Forest Recertifications are as follows: **John French** and **Wycott Plantations**—Barbour County; **Dr. J.E. Pittman**—Coffee County; **Gene** and **Marilyn Ragan**, **Knox Tree Farm** and **Charles McCallister**—Houston County; **Larry Trotter**, **Sam Trotter** and **Julie Allen**—Pike County; and **Carl Jones** and **Art Soloman**—Henry County.

The **Dale County Landowner Association** sponsored a tour of Great Southern's plywood mill and nursery. Twenty people attended.

The **Geneva County Forestry Planning Committee** sponsored a forestry/wildlife field day. Management Specialist **Barry Lawrence**, **Dr. Lee Stribling** and a host of others spoke on the benefits and inter-relationships of forestry and wildlife. Seventy-two people attended.

Dow Chemical demonstrated the application of crossbow for kudzu control at Cottonwood.

B.L. Cooper, of Dixie Straw, presented a program to the **Houston County Forestry Association** on pine straw production. Twenty-five people were in attendance.

On Oct. 3-4, a hardwood log and lumber program was presented at Troy State University. Participants also went to Floyd's Sawmill and in the field for demonstrations on cutting logs and grading standing timber.

District Forester **Franklin McAliley** spoke to the **Dale County Young Farmers Association** on the state of forestry in Argentina and Brazil.



The **Monroe County Forestry Tour** was very successful. Approximately 90 people enjoyed touring **Harrigan Lumber Company's** white pole mill. The group also visited a stand of standing, graded poles on a tract owned by **Stallworth Timber Company**. After a barbecue lunch at **Stallworth's Hilltop Camp-house**, **Stallworth's** pole mill in **Beatrice** was toured.

The **Monroe County FFA Judging Team** went to the National Finals in November.

Covington County certified two new TREASURE Forest landowners, **Stanley Parkinson** and **Jim Davis**.

Butler County has five new TREASURE Forest landowners. Congratulations to **W.H. Watson**, **Dr. George Inge**, **William Avant**, **Jane Beeland** and **Deer Run (Keville Larson)**.

Conecuh County is proud to have two newly certified TREASURE Forests belonging to **Mary Stem** and **C.T. Ivey**.

Monroe County Supervisor Gary Cole and **Rick Dorance** recently presented the **Monroe County** library with two new books on surveying and general biology on behalf of the Forestry Planning Committee.

Alabama Pine Pulp Company held the site dedication for their new mill in **Claiborne** on October 27. Company Chairman **George Landegger** gave the dedication address. Governor **Guy Hunt** unveiled the cornerstone. Also present at the event were Congressman **Sonny Callahan**, **George Wallace, Jr.**, Senator **Rick Manley**, Senator **Ann Bedsole**, Senator **Earl Goodwin**, Representative **Jimmy Warren**, **Joe McCorquodale** and **David Bronner**. AFC personnel attending were **Gary Cole**, **Steve, Lloyd, Johnny Kline**, **Jeff Dunn**, **Ernest Johnson**, **Robert Dismukes**, **Gib Burke** and **Ruth Carden**.



District eight has two new associates. **Mike Breedlove** has joined the AFC in **Clarke County**. Mike is a graduate of **Auburn University** with a degree in forest management. **Brian Hendricks** is with the AFC in **Choctaw County**. Brian is a graduate of **Southern Illinois**.

Both Mike and Brian attended the AFC 1989 Fall Academy in **Selma** along with AFC associates **Melanie Curry**, information specialist from **Bay Minette**, and **Ronnie Grider** and **Aaron Hunt**, forest rangers from **Mobile**.

September marked the end of the 1988-89 fiscal year. Here is a rundown of the wildfire season in district eight: **Baldwin**—375 fires, 5209 acres; **Choctaw**—15 fires, 188 acres; **Clarke**—29 fires, 80 acres; **Mobile**—413 fires, 5903 acres; **Washington**—153 fires, 3745 acres.

Over 4,898 burning permits were issued last year for 167,304 acres in the district. Sixteen arrests were made and 26 illegal burning notices were issued. Suppression costs totalling \$764.25 were collected in District 8.

Rangers Major Harris, **Jim Wade**, **Bobby McAdams**, and **Ronnie Grider** of **Mobile County**, and **Henry Whitted** and **Lemoral Coleman** of **Choctaw County** were members of firefighting crews that were dispatched in August to **Idaho** to assist the U.S. Forest Service in controlling the summer wildfires in the **Payette** and **Boise National Forests**.

Mobile County AFC Forester Steve Lyda and **Forest Ranger Bobby McAdams** have been working with the **Boy Scouts** in **Mobile** to establish a forestry explorers program with the **AFC Mobile County staff** serving as the key leaders.

Two new TREASURE Forest landowners in **Mobile County** received their certification certificates, caps and signs in November. **Raymond Tanner**, of **Semmes**, and **Sterling Kemp**, of **Wilmer**, are now among the 10 TREASURE Forest Landowners in **Mobile County**.

Education is one of the key objectives of the TREASURE Forest program, and soon an educational facility will be among the TREASURES in **Mobile County**. County Forester **Steve Lyda** is working with **Mobile College** to develop a forest management plan that will lead to TREASURE status.

The **Mobile County Forestry Planning Committee** is reorganized and has made plans for the new year. Public education is the committee's number one priority. **Cecil Tanner** is serving as chairman and **A.C. Daves** is the Committee's secretary. Senator **Ann Bedsole** of **Mobile** is a member of the committee along with **Steve Lyda**, **Chris Lawrence**, **Grant Mattox**, **Bill Smith**, **Phillip Russell**, **Donald Harper**, **C. H. Kilpatrick**, and **Mike Dennison**.

On October 19-20 the **Alabama Forest Resources Center** sponsored a Forestry Reunion and Celebration in **Mobile**. Attendees were involved in discussions regarding environmental and economic forestry issues, a celebration banquet and a park dedication. Governor **Guy Hunt** was on hand to cut the ribbon on the new **Meaher State Park** on the **Battleship Parkway** in **Baldwin County**. The refurbishing of this "Gateway to the Delta" has truly enhanced the bay area and has become a place of enjoyment for area residents.

TREASURE Forest Landowners who attended the "Forestry Reunion" in **Mobile** were the following: **Mary Jane Allen** and **Gary and Shirley Fortenberry** of **Choctaw County**; **Raymond Tanner**, **Cecil Tanner** and **Gerald McLeod** of **Mobile County**; and **Vivian White Paul** of **Clarke County**.

A district-wide tree planting vendor seminar was conducted in September for vendors in **Mobile**, **Baldwin**, **Washington**, **Clarke** and **Choctaw Counties**. Tree planting vendors were presented information on AFC nursery operations, proper field handling of seedlings, forest management plans, sub-soiling, planting specifications, herbicides and inspections. With this training, good landowner/vendor communications and the continued use of recently implemented planting standards, seedling survival should increase. Vendors who attended this seminar will be listed in a publication.

The **Ala-Tom RC&D Council** held a hardwood and water quality seminar this summer in **Clarke county**. AFC hardwood specialist **Tom Cambre** was the speaker. Approximately 30 landowners attended.

Gary Fortenberry of **Choctaw County** received the 1989 **Helene Mosley TREASURE Forest Award**. Gary and his wife **Shirley** were presented the award at the Sixth **Alabama Landowner and TREASURE Forest Conference** in **Montgomery**.

District 8 has the honor of having the last two **Helene Mosley TREASURE Forest Award** recipients. **Ozier** and **Dozier Slay** of **Baldwin County** received the award last year.

Clarke County associates have been assisting landowners with their work towards TREASURE Forest status. During the past few months, three TREASURE Forest reinspections were conducted. One initial inspection was made with TREASURE certification being made to **Steve and John Gordon** and their sister, **Susan Jones**. Their 1,984-acre TREASURE Forest is the 16th in **Clarke County**. **Clarke County** now has over 16,750 acres under the TREASURE Forest program.

The **Bay Minette** and **Fairhope** chapters of **Ducks Unlimited** held their annual meeting and banquet at "The Barn" on **Dozier** and **Marie Slay's** TREASURE Forest in **Baldwin county**. Their son-in-law **Warren** and his wife **Martha** were the hosts. This is the third year the group has visited the **Slay's** TREASURE. The 65 guests enjoyed the skeet range, canoeing down **Perdido River** and the beauty of the **Slay's** forest.

Baldwin County AFC Forester John Martin presented the **City of Daphne** with its **Tree City USA** certification in July. There are now a total of nine **Tree Cities** in **Baldwin county**.

Josephine Volunteer Fire Department passed their inspection and are now recognized as a certified volunteer fire department.

The **Fifth Annual FFA Forestry Camp** was held at the Bear Creek Education Center on October 3-4. Students from North Alabama schools studied tree identification, measuring trees and wildlife. District 9 staff foresters served as instructors. **Tony Avery** led the group on a TREASURE Forest Tour. The camp was sponsored by the W. Kelly Mosley Environmental Awards and Champion International.

A tree care workshop was held in Hartselle Oct. 18-22. **Chuck Weber** taught tree care to people from the various city street departments, AFC employees and city planners.

Howard Swanner taught the fire suppression course at the Forestry Academy in Selma.

Hamilton has adopted a tree ordinance as a part of their plan working toward Tree City USA status. Guin and Winfield and Marion County are also working on Tree City Certification.

Tony Avery and **Don Burdette** lead a group of gifted students from Colbert county on a TREASURE Forest tour. These fourth grade teachers taught a unit on TREASURE Forest in the classroom as preparation for this tour.

Approximately 500 people attended the Convention of Rural Fire Departments held in Sheffield August 4-5, 1989. Lauderdale County's 14 rural fire departments were recognized as some of the best in the nation. They were awarded the U.S. Forest Service Bronze Smokey Award. The award was presented by State Forester C.W. Moody.

The AFC developed fair exhibits for Lawrence and Morgan Counties and the North Alabama State Fair held in Muscle Shoals.

The Alabama Forestry Commission lost a faithful friend and advisor with the death of **Dr. T.F. Hall**. Dr. Hall died October 11, 1989 after a six month illness with cancer. He contributed hundreds of hours of volunteer work to many agencies including the Alabama Forestry Commission, the Alabama Wildflower Society and Colbert County PALS. In 1989 he was named "Citizen of the Year" by two organizations. He was a recipient of the W. Kelly Mosley Environmental Awards program and very active with this group.

District 9 sponsored a tree vendor training in Moulton. Vendors heard experts talk about proper planting, storing seedlings, survival checks, etc. **David Hoge** and **John Rice** attended this workshop.

The **Colbert County Forestry Advisory Committee** sponsored the First 4-H Natural Resource Camp. AFC personnel were assisted by Auburn Extension Service, Alabama Department of Natural Resources, Marine Police and TVA.

Tony Avery, Marion County supervisor has been awarded the Honorary State FFA Degree during the recent 60th annual FFA Convention held in Montgomery. This degree was awarded in recognition of his exceptional service to the organization. **C.W. Reed**, state agribusness specialist, presented the award.

Two new TREASURE Forests were certified in Elmore County. **Ted Watts** and **Milton Strickland**, owners of S & W Farms, and **Lynn** and **Sarah Justiss**. We at District 10 are especially proud of Lynn and Sarah for joining the small number of AFC employees and their families who own a TREASURE Forest.

On August 24, Elmore County PALS met and completed the election and forming of their PALS Chapter. Officers are: **Edward Dennis**, Chairman; **Don Whitecotton**, Vice-Chairman; **Lynn Justiss**, Secretary; **Paul Tindal**, Treasurer. Several committees were established and Committee Chairmen elected. Some of these included: Publicity, **Paul Tindal**; Education, **Shirley Helsing**; Recycling, **Don Whitecotton**; Lake Martin Clean-up, **Lock Hunter**; Law Enforcement, **Errol Law** and **Roger Parker**.

Retired Forestry Professor **Dr. Evert Johnson** conducted a class on interpreting the new infrared color aerial photographs for all of the associates of District 10. Dr. Death, as Dr. Johnson use to be called by his forestry students for being tough and thorough, gave an excellent talk. The information District 10 associates learned will be very useful when they are utilizing the new aerial photographs which have recently been distributed statewide.

On September 6, the **Seman Volunteer Fire Department** hosted a show and demonstration of Elmore County Volunteer Fire Departments and their equipment. A local TV station, WAKA, covered the event. Later in the eve-

ning, Rep. **Jack Venable** presented VFD grant checks to 13 Elmore County VFD at the County VFD Association Meeting.

The **Macon County PALS Chapter** is slowly forming. PALS District Chairman **Sharon Clark** gave a presentation during a Citizens Issues Meeting in Tuskegee to an enthusiastic crowd. **Diane White** has accepted the position of county chairman.

In September, State Representative **George H. Clay** presented RCFP grant checks to Macon and Bullock County volunteer fire departments during the recent RCFP meeting in Tuskegee. Macon County Commissioner Chairman **Frank H. Lee** and Commissioner C.A. **Bronson** also attended.

The **Wetumpka Tree Commission** and the **Wetumpka PALS Chapter** held a joint meeting in October. Main topics discussed were a memorial tree planting for the late Mayor Barrett and a "Trees for Trash" program.

The **Russell County Forestry Planning Committee** held a landowner meeting in October. Topics discussed were federal cost-share programs by **Joe Capps** with the ASCS; state cost-share programs by **Bruce Boswell** with the SCS; hardwoods under the CRP programs and subsoiling by **Robert Wiggins** with the AFC; Mead's forest management assistance program by **Greg Janzen** with Mead; an update of legislative forest tax information by **Marshall Thomas**, president, F & W Forestry Service; and the tree program and recognition of forest landowners by **Dr. Peter Mount** with the Cooperative Extension Program, Tuskegee University.

The **Elmore County Forestry Planning Committee** held its Annual TREASURE Forest Tour Day October 13 on the TREASURE Forest of **Ted Watts** and **Milton Strickland**. Over sixty people attended the field day and tour. Topics included cost-share programs, game fish management for ponds, pond production and management, wildlife game management and the DMP, and timber investments. ♠

CALENDAR*

January 5-6, 9-10, 12-13, 19-20, 23-24, 26-27—Guntersville. Eagle Awareness, 1990. Weekday and weekend packages at Lake Guntersville to observe bald eagles. For information or reservations, contact: Lake Guntersville State Park, Star Route 63, Box 232, Guntersville, AL 35976-9126; 582-2061 or 1-800-ALA-PARK.

February 14-16—Athens, GA. "Forest Inventory," a Univ. of GA short course. Contact Dr. Richard C. Field, Georgia Center for Continuing Education, Athens, GA 30602, 404-542-3063.

February 18-24—Arbor Week. To help plan activities in your community, contact your county Alabama Forestry Commission office.

March 5-7—Savannah, GA. "Urban Forest Inventory," a Univ. of GA short course. Contact Richard C. Field, Georgia Center for Continuing Education, Athens, GA 30602, 404-542-3063.

April 26-27—Athens, GA. "Estate Planning for Forest Landowners," a Univ. of GA short course designed for landowners, consultants, service and extension foresters, accountants, attorneys, and estate planners. Contact Richard C. Field, Georgia Center for Continuing Education, Athens, GA 30602, 404-542-3063.

May 8-9—Athens, GA. "Point Sampling: A Timber Cruising Workshop," a Univ. of GA short course. Contact Richard C. Field, Georgia Center for Continuing Education, Athens, GA 30602, 404-542-3063.

May 10-11—Huntsville. Sixth Alabama Urban Forestry Association Convention. Contact Neil Letson, 513 Madison Ave., Montgomery, AL 36130, 205-240-9360.

*Any member agency of the Alabama Forestry Planning Committee can be contacted for more information about listings in this section.

Using Marketing Research In A State Agency:

The Forestry Commission Studies its "Customers"

by **MIKE JONES**,
Assistant Professor,
Department of Marketing,
Auburn University
at Montgomery

State agencies are more known for their bureaucratic tendencies than the business world. However, this does not mean that state agencies cannot strive for excellence and effectiveness in carrying out their missions. In fact, to an increasing degree, government agencies are applying management practices which they have borrowed from the private sector in order to compete more effectively.

Tom Peters, the management consultant who is now famous for his best selling book, *In Search of Excellence*, recently presented a documentary on Alabama Public Television dealing with this issue. In this documentary, entitled *Excellence in the Public Sector*, Peter pointed out examples of city, state, and federal agencies in the United States which had demonstrated outstanding performance and had achieved excellence.

As resources become more limited and government agencies are asked to be more accountable, competitive forces have worked their way into state and federal government agencies. If government agencies do not perform their services effectively, one result is that competition from the private sector often does. An example is the United States Postal Service, which has realized it must compete effectively, or lose more and more business to private sector competition such as U.P.S., Federal Express, and "fax" machine long distance networks.

Application of Marketing Management by State Government Agencies

Listening to the customer to better understand his or her needs is the cornerstone of marketing management. The idea is simple: "good" products which satisfy customer's needs are successful in the marketplace. The key is to understand the customer's needs and to develop products and services with the customer foremost in mind. Firms like Proctor and Gamble, which pioneered this concept in the development of Ivory Soap, have mastered the process of listening to customers. The results have been a long "string" of successful products such as Tide, Crest and Charmin Tissue (a forest/paper product). Using marketing research to understand customers is now in widespread use among industry around the world, including wood and paper products' firms. The concept has been particularly well applied by Japanese firms such as Honda and Toyota, which make "excellent products" according to Consumer Report and responses of U.S. car buyers.

Can a state agency whose customers are taxpayers and forest landowners apply this idea of listening to the customers too? The answer is yes, and the Alabama Forestry Commission has. It happens every day in counties all across the State on a one-on-one basis when local Forestry Commission professionals respond to the concerns of landowners. The Forestry Commission's products come in the form of services which they supply to forest landowners and other groups such as urban residents. Though the Forestry Commission does not sell its services to make a profit like professional management consultants, the use of marketing research still can play an important role for the organization. If the landowner does not get the help he or she needs, or does not like the service provided, the landowner, just like the customer, will go elsewhere. As the saying goes, "unhappy customers don't come back."

The concept of listening to the customer's needs is really not new even to state landowner assistance agencies. Adult and agricultural extension education writers have for years put forth the concept of "identifying needs in the population, and then developing educational programs to meet those needs."

Though listening on a one-on-one basis is crucial, it is hard to know how the entire population of clients feel from the comments of a few. Therefore, scientific methods are applied to this "listening process," so that we can do it on a large scale basis with an entire population. We refer to this as marketing research. As voters and consumers we know these as surveys.

Marketing research can answer questions such as the following: What are the real needs of landowners? Do landowners know about the services we offer? Who are our customers/clientele? Do they know about the TREASURE Forest Program? Are our personnel effective when performing the services landowners request? What is our image? Why don't more landowners call us? Why don't more landowners become TREASURE Foresters? How can we better reach landowners? Where do landowners go for assistance? What are the important issues on the minds of landowners? How do they stand on these issues?

The Alabama Forestry Commission Study

To answer questions like the ones above, the AFC took an approach that could be viewed as effective and progressive for a state agency. The AFC's "management" allocated resources toward finding answers to such questions through the use of marketing research. (This strategy would certainly be consistent with what is being taught in university business schools). The initial resources for the study came from the USDA-Forest Service in Atlanta. The AFC supplemented those funds as the project developed.

The study was broken down into three separate studies, based upon the different client groups the Forestry Commission serves: (1) the general public of the state, (2) all forest landowners in the state who are potential clients of AFC, and (3) those involved in the TREASURE Forest Program.

The reason for this is that each of the three groups represented a different market segment with some distinct needs. Studies of each group were conducted by the Department of Marketing at Auburn University at Montgomery, and the results have been submitted to the Forestry Commission. The results of phase I, the general public are reported below.

Phase 1: The Public Opinion Survey

One concern of the Forestry Commission (and the forest products industry in general) is how forestry is viewed by the general public. This issue is becoming more of a concern as we move to a more urban population. For some years now the majority of Alabama's population have resided in urban areas, and the trend is continuing in that direction (historically the state had a predominantly rural population). One concern is that urban residents are not knowledgeable of the forest products industry, yet they represent a large voter/legislative support base.

To answer this question and related issues, a statewide telephone survey of Alabama residents was conducted. This study was carefully conducted to limit bias and produce statistically accurate results. The margin for error was +/-4 percent.

Results of the Survey

The study revealed that the high majority of residents do not know that the forest products industry is the largest in the state. When asked which industry in the state was most impor-

TABLE I

Unaided response of citizens of Alabama as to which Industry was most important to the economy of the State, February, 1989.

Responses	Number	Percent
Steel	107	17.8
Textile	96	16.0
Don't Know	74	12.3
Cotton	62	10.3
Retail	61	10.2
Agriculture	48	8.0
Forest, Wood, Paper, etc.	37	6.2
Oil, Gas, Mining	15	2.5
Aerospace	14	2.3
Other	11	1.8
Health Care	10	1.7
Electronics, etc.	9	1.5
Shipping, etc.	7	1.2
Military, Government	7	1.2
Education	7	1.2
Poultry	5	0.8
Manufacturing	5	0.8
Real Estate, etc.	4	0.7
Fishing	4	0.7
Tourism	3	0.5
No Response	3	0.5
Chemicals, etc.	3	0.5
Utilities	2	0.3
Automobiles	2	0.3
Cattle	1	0.2
Peanuts	1	0.2
Telecommunications	1	0.2
Trucking	1	0.2
	600	100%

TABLE 2

Percentages of Alabama residents which agreed with, were neutral about, disagreed with, or "did not know" feelings in regard to various industry issues as listed below, February 1989.

Statement:	Agreed	Neutral	Disagree	Don't Know
"The Forest Products Industry is concerned about the long-run welfare of Alabama's citizens?"	45%	15%	13%	27%
"The Forest Products Industry in Alabama is concerned about the environment?"	64	7	14	15
"The Forestry and Wood Products Industry is "professional" in the way they do business?"	51	14	9	26
"The Forest and Wood Products Industry is "fair" in the way they do business?"	37	20	10	34
"Would you say Forest landowners pay their fair share of property taxes?"	37	9	24	31
"Large corporations own most of the forest land in Alabama?"	60	5	14	21

Sample size = 600

tant to the economy, only 6 percent mentioned forestry (or wood products related industries). See **TABLE 1**.

Residents were also asked their opinions on some important issues facing the forest products industry today. The statements which were read to them and their responses are seen in **TABLE 2**.

Most who responded to the study felt the industry was "professional" (50 percent), cared about the "state's long term welfare" (45 percent), and were "concerned about the environment" (64 percent). However, fewer felt that forest products industry firms were "fair" in the way they do business (37 percent). Further, only 37 percent felt that landowners paid their "fair share" of property taxes. The majority (60 percent) felt that large corporations owned the majority of forest land in the state.

When citizens were asked if there was a State agency responsible for the State's forest land, 47 percent said yes, 3 percent said no, and 50 percent did not know. Only 10 percent of the sample knew the name of the agency as "the Alabama Forestry Commission."

The study concluded that marketing efforts might be aimed at the low level of awareness of the importance of the industry, the feeling of residents about the property tax burden carried by landowners, the invalid beliefs about land ownership, and the lack of identity of the Forestry Commission as a state agency.

Application of the Results/Benefits of Alabama's Citizens

Every day all over the State of Alabama landowners of all sizes call county Forestry Commission offices with questions about management of their land. The results of the relationship are hopefully an improvement in the production or management of timber. Taken on an individual basis, the results of that relationship between the landowner and an AFC employee are not earth shaking. It might mean more financial return, more security, or more personal satisfaction to the individual landowner, if the outcome of the contact was successful.

However, if we consider the sum total of all of these one-on-one relationships with thousands of landowners over the years, the results are profound to say the least. A productivity improvement by an individual landowner multiplied across thousands of landowners controlling millions of acres of timberland would equate to very massive dollar figure increases for the forest products economy of the state . . . which means more wealth for all in a state which could certainly use the money.

Hopefully, the data obtained from the marketing research efforts described above can help the Forestry Commission serve that individual landowner more effectively, and increase the probability of positive outcomes with more landowners. ♣

Residential Wildland Interface: IS IT REAL?

by WALTER VEST,
Chief, Law Enforcement

Yes, wildfires in the residential/wildland interface are a problem.

It used to be easier to decide about an urban area or a rural area when building a home. Trees were in the forests and homes were in the cities. There were exceptions, but just about everything could be classified simply as urban or rural.

Fires occurred both in the forests and in the cities, so communities and government provided for the firefighters. Some firefighters were specially trained to protect the forest vegetation, and others were specially trained to protect the cities.

Then people began to move more of their homes from the cities out to the edges of the beautiful, peaceful forests and other wildlands. This became the interface, the point at which diverse systems meet and interact.

Have the wildfires continued? Is the problem real?

Consider the experiences of one state in the interface.

The year 1985 started on a tragic note in Florida with a forest ranger killed in January while trying to suppress a fire that destroyed five homes in the Naples Suburb Golden Gates. Then, in May, a firefighter for a private timber company was killed while helping to suppress one of several fires set by an arsonist near the Georgia border.

The worst was yet to come, and when it did, Florida State Forester John

Bethea said, "I couldn't believe that anything like what happens in California would happen in Florida."

May 17 became the worst fire day in Florida's history. Another firefighter died. On a single day, 100,000 acres burned and 600 homes and other buildings were destroyed or severely damaged. More than a thousand residents were safely evacuated.

But those are unique incidents. This couldn't be a national problem. Or could it?

Unfortunately, it could. Changing trends in this country—along with periodic extreme weather conditions—have resulted in wildland fire danger similar to the fires in Florida and California. And the population growth in the United States means that more people are at risk.

Here's the approximate national toll from wildland fires in 1985, the last full year for which the figures are available:

- 44 civilians and firefighters died.
- 3,000,000 acres burned.
- 1,400 homes and structures destroyed or damaged.
- \$400 million cost to federal, state, and local fire agencies.
- \$500 million in estimated damages to property and natural resources.



The 1985 wildland fire season was one of the worst seasons in this century. Property losses were the highest since the Peshtigo fire 115 years ago.

This could happen to you. Contact your local Forestry Commission Office

for information on how to protect your home from wildland fires. ♣

This information was taken from a report, "Wildfire Strikes Home" sponsored by Forest Service, NFPA, USFA.

Somewhere deep in the Atlantic Ocean, John D. Jones proudly displays his TREASURE Forest cap. He is controlling the depth and direction of the fast attack submarine USS L. Mendel Rivers. Shown here is the central control room which is located near the center of the submarine.

To show the fathers of some of the crew members what life is like at sea in the modern navy, Mr. Jones was given the rare opportunity to ride the submarine from Ft. Lauderdale, Fla. to its home port in Charleston, S.C.

His son, Roy Lee Jones II, is a Fire Control Technician 1st Class on the USS Rivers.

All was not new to Mr. Jones, however, as he is a veteran of 20 years service in the submarine force. He served aboard the USS Sterlett and the USS Mariano G. Vallejo. Mr. Jones is hoping for another opportunity to go to sea with his other son, John Douglas, who is a Fire Control Technician 2nd Class serving on board the USS Portsmouth home ported in San Diego, California. ♣

YOU Ought To Be In Pictures



Harvesting Pine Straw—the Pros and Cons

by WALKER RIVERS, Staff Forester, Forest Management,
Georgia Forestry Commission

Pine straw. It used to be that homeowners with pines had so much straw that it presented a nuisance which had to be burned or hauled away. A little was used and shared with neighbors for shrubbery mulch, but most was destroyed. The thought of raking up straw in the woods was almost ludicrous. That was the way it used to be.

Some call it urban sprawl, others an urban explosion. The Southeast has begun a period of very rapid growth as the multitudes of cold northerners have begun moving to the urban centers in the South. Newly constructed homes, office parks, condominiums, shopping centers, and scads of other developments are commonplace in the South's urban centers today. Accompanying this explosion in construction is an explosion in landscaping. Everyone wants their new building to look right, and attractive landscaping is a must. And what is one key ingredient in southern landscaping? Pine straw.

Ten years ago, a few mavericks here and there raked and baled straw commercially, but a limited demand for their product kept production low. With today's tremendous demand, there are hundreds of producers across the south producing millions of bales of straw from the vast southern forests. A recent survey in Georgia revealed that in that state alone, over four million bales are produced each year with a wholesale value of over \$10 million. Where is the straw?

Not all pine stands produce good straw. Longleaf is considered the best pine straw because of needle length, durability, and color. Slash pine is also prized for its color but is much less durable. Loblolly pines produce a shorter, duller needle, but the production in young plantations can be exceptional and the straw handles and ships well.

A much greater concern than species is stand condition. Weeds, vines, and brush not only impede the harvesters but contaminate the straw with their own leaves. Dense stands producing deep shade tend to have fewer under-

story plants and cleaner straw. For this reason, young plantations on old field sites are ideal straw producers. Plantations on site prepared land are less apt to produce good straw because such sites typically have a brush component throughout their life. Natural stands on very poor sites may also have a limited understory and produce good clean straw. Most typically, natural stands will have "patches" of good straw in areas clear of an understory.

Almost all pine straw produced today is hand raked. Hay raking equipment, unless severely modified, is too large and difficult to maneuver in most timber stands. Rakers often use modified pitch forks to rake large piles which will later be baled. Most rakers are paid by the bale as an incentive to production.

Baling equipment may be mechanized or hand operated. Many producers build small portable "box balers" which are hand loaded and operated presses for compacting the straw into bales. These hand tied bales tend to be much more loose and difficult to transport than machine bales, but the straw is not crushed or broken

in the baling process. Modified hay balers are commonly pulled through the woods with small tractors and the straw is fed into them by pitch fork. These machine balers are generally heavier and contain more straw.

The standard means of transporting from woods to market is by tractor trailer, but many other vehicles are also used. Homemade trailers, second hand school buses, and pickup trucks are commonly seen hauling straw to the urban markets. Atlanta is the predominant market in the Southeast, while Birmingham, Charlotte, and other fast growing urban areas continue to provide enlarging markets for pine straw.

With production at such high levels, the struggle by producers to find "good straw" is intense. Many landowners who may never have considered selling their straw are now being approached by producers hungry for clean, accessible straw. With no real knowledge of pine straw harvesting and its effects on their timber, many of these landowners are hesitant but curious. Some pros and cons should answer many of the questions they have.



Baling is done by modified hay balers or hand presses (box balers). Both methods require that the straw is hand fed.



Young, dense stands on old field sites are prime producers of good, clean straw.

Pros

The primary benefit of harvesting straw is increasing the landowner's income from his woodland. Since the passage of the Tax Reform Act of 1986, many timber owners are considered "passive" in the eyes of the IRS and are limited in their ability to deduct property taxes and management costs associated with their timber. These expenses accumulate until income is produced at which time they can be deducted against that income. Since timber sales occur infrequently, the deductibility of many expenses is delayed a considerable length of time. Pine straw can provide a more regular income against which these expenses could be deducted.

A secondary benefit of straw harvesting is reducing the fuel load on the forest floor, thereby diminishing the chance of wildfire. Much straw is gathered in young plantations which are especially vulnerable to wildfire, making straw harvesting a form of insurance.

Cons

A major concern of many landowners is the effect of nutrient removal when straw is harvested in their stands. Although repeated and continuous removal will undoubtedly damage the site, experts feel that occasional

removals at two to three year intervals will be acceptable on average sites. Extremely poor sites should only be raked infrequently.

Since straw harvesting often means that mechanized equipment will be used in the woods, the potential for scraping and scarring trees exists. A carefully conducted and monitored straw harvest should produce almost no damage to the standing timber.

Another concern is that the removal of so much organic matter will lead to soil degradation and erosion. A properly conducted harvest should only remove the top layer of the litter layer which contains the new, unbroken straw. The lower litter layers with their decomposing straw and limbs should be left undisturbed. This will insure a quality product while leaving the soil protected and healthy.

How to Manage for Straw

As mentioned earlier, the presence of understory vegetation is a hinderance to straw harvest. Timber management techniques which limit this vegetation are generally good for straw production. Old field stands which achieve a closed canopy early may begin producing harvestable straw as early as age eight. The use of herbicides to prepare stands for straw harvest is still in its infancy, but

shows great promise as a straw management tool.

Prescribed burning and straw production are mutually exclusive. If you burn it up, you can't rake it and sell it. Additionally, fire promotes the growth of many weeds which hinder straw harvest.

Thinning is one of the most useful management tools to improve timber production. Unfortunately, though, thinning opens up a stand temporarily and allows sunlight to the forest floor. The resulting growth of weeds and briars spells an end to good straw gathering. Early thinnings in plantations will stimulate early diameter growth but severely limit straw production. Late thinning will be less effective in stimulating tree growth but will provide a much longer period for potential straw harvest. A careful analysis of the relative profitability of each system should be sought from a professional forester prior to making stand management decisions.

Fertilization shows great promise as a straw management tool. In addition to replacing nutrients removed during straw harvests, fertilization has the potential to stimulate foliage production which will, in turn, increase straw production. Research is ongoing to determine the level of this increase and early measurements indicate that the return from a fertilization program will be well worth the investment. An additional benefit would be the resulting increase in timber growth.

Conclusion

It is doubtful that many landowners will strike it rich when they sell their pine straw, but straw harvests do present opportunities for additional income to many landowners. Prior to beginning any pine straw program, landowners are encouraged to study the issue from all sides and evaluate its potential in light of their own goals and objectives. Professional advice should be sought before any agreements or leases are signed to be sure that the landowner's best interest is served.

Pine straw. Changing times have made what was once a nuisance, a worthless thing, into a saleable commodity—an opportunity for income. One more treasure from your TREASURE Forest! ♣

A LITTLE HISTORY

Alabama Forestry Commission Nurseries

by RICHARD CUMBIE, Productivity Division Director

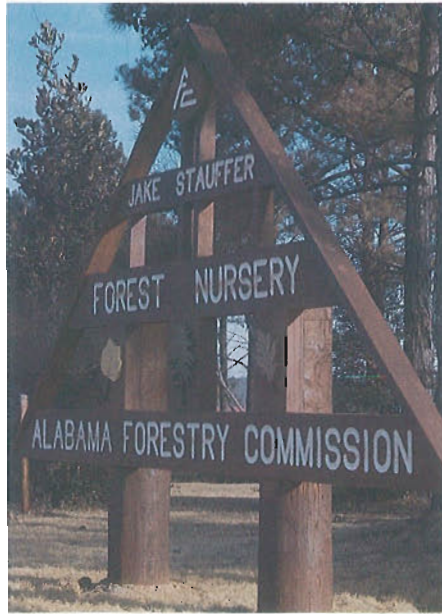
The first state nursery was located in Sumter County. The annual planting report in 1926 lists a total production of 27,000 seedlings. This nursery operated for 14 years and shipped the last trees totalling 193,000 in the spring of 1940.

Under the newly created Department of Conservation, Division of Forestry, a new nursery site was acquired in 1939. The John R. Miller Nursery began operation as the first seed was planted on March 22, 1940. Production the first year totalled 735,200 seedlings. All trees were sold at \$1.50 per thousand, f.o.b. nursery. The nursery was named after the President of T.R. Miller Mill Company, a prominent supporter of forestry and the state forestry organization.

In September, 1948 a memorandum of understanding was entered into between the Alabama Department of Conservation and the Agricultural Experiment Station of the Alabama Polytechnic Institute (Auburn University) for the purpose of establishing a forest tree nursery. The first seeds were planted at the Auburn Nursery on April 17, 1950. A total of 498,000 trees were grown this year.

Preliminary surveys were started in 1951 for a third forest nursery. This nursery began production on April 21, 1952 on 50 acres of land donated by the Alger-Sullivan Lumber Company. The nursery was named after Mr. E.A. Hauss, President of Alger-Sullivan. The first crop of seedlings totalled 7,163,350.

The Auburn Nursery was renamed in 1973 for former State Forester Jake Stauffer (1942-1969). This nursery, located in Lee County, is located five miles south of Opelika on Highway 37. It has grown from the original 25 acres to its present size of 212 acres. Currently there are 112 acres available for production with a capacity of 20 mil-



The AFC nursery near Opelika was named after former State Forester Jake Stauffer.

lion seedlings. Future plans call for Stauffer Nursery to be the primary producer of our specialty tree crops - hardwoods, Virginia Pine (genetically improved for Christmas trees) and lеспедеза.

The Miller Nursery is situated two miles southwest of Autaugaville in Autauga County. It has a total of 201 acres with 98 acres capable of production. Capacity is 31 million seedlings. Major species grown here include

loblolly and longleaf pine.

The Hauss Nursery is located north of the Atmore Prison Farm in Escambia County. With a major expansion project just completed, it has a total of 400 acres with 175 acres suitable for seed beds. Capacity is 55 million seedlings. Major production species include loblolly, slash, and longleaf pine.

Seedling production reached an all time high in the 1958-59 planted season when the combined sales from the tree nurseries reached approximately 166 million seedlings. This was the peak year for planting under the Soil Bank Program.

Since that time production has decreased and the emphasis has been shifted to the production of higher quality seedlings.

The Alabama Forestry Commission started its tree improvement program in 1964 in cooperation with Auburn University. The goal of this program is to produce seed from genetically superior trees. These parent trees were selected for fast growth, good form, high-quality wood, and freedom from insect and disease symptoms. Tests of seedlings grown from this superior stock indicate gains in excess of 15% over unimproved stock. All loblolly, slash, and Virginia pine seedlings produced in Commission nurseries are grown from genetically improved (1st generation) stock as a minimum. Work continues on developing a 2nd generation stock with expected gains in excess of 30 percent.

As stated in the third Annual Report of the Alabama State Commission of Forestry for the year 1926, "The Commission does not propose to operate forest nurseries for a profit, but rather for the purpose of stimulating reforestation among landowners, enabling them to obtain seedlings at a cost that will not discourage forestry

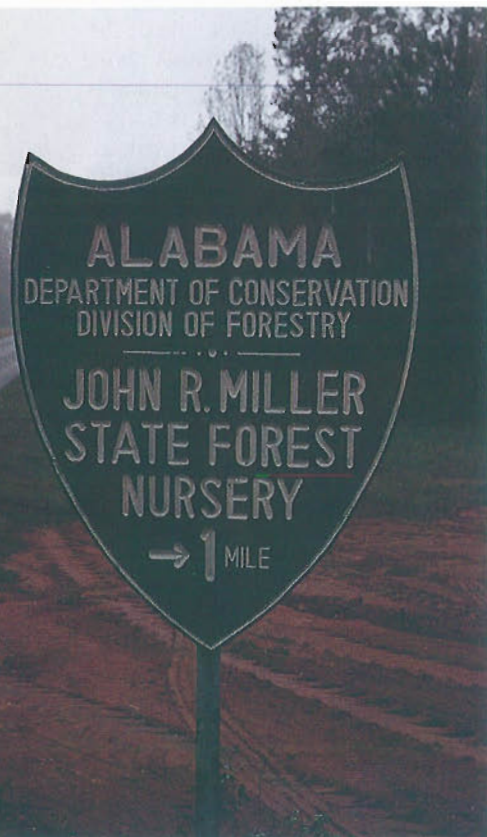
Alabama Forestry Commission Pine Seedlings

Species	Per 1,000	Per 500
Loblolly— Improved	\$27.50	\$18.00
Slash— Improved	\$27.50	\$18.00
Longleaf	\$32.50	\$21.00
Virginia— Christmas Tree	\$42.50	\$28.00

To order, please contact your county AFC office or the Nursery Section at (205) 240-9346.



All loblolly, slash and Virginia pines grown in AFC nurseries are from improved stock.



The Alabama Forestry Commission was once under the Department of Conservation as the Division of Forestry.



At Hauss Nursery, located near Atmore, an extension to the packing shed was recently completed by nursery personnel.

practice.” Customer satisfaction through the production and distribution of the highest quality seedling at a reasonable price is still a primary objective of the Alabama Forestry Commission.

If you would like more information about seedling and planting standards,

contact any Forestry Commission office and ask for a copy of the booklet *Reforestation Standards*. It’s free and it’s designed to help you as a landowner make a more responsible decision concerning the planting of trees. ♣

Options for Kudzu Control

by KEN MCNABB, Extension Forester and Assistant Professor, Auburn University

Kudzu (*Pueraria lobata*) has thrived in association with humankind for centuries, providing benefits to the people of its native China in a number of ways. The large and tuber-like roots contain a considerable quantity of starch which has been and continues to be a source of food. The roots have also been used to make a medicinal tea. Fibers in kudzu vines can be woven into sturdy cloth and baskets, and the leaves produce a fast growing nutritious fodder for livestock. In addition, kudzu has fragrant flowers and the ability to thrive on almost any site condition. Within its native range, the plant maintains a reputation as a productive and beneficial cultivated plant.

Given its history of utilization in the Orient, it is understandable why kudzu was introduced and eventually promoted in the United States. The plant was originally imported around the middle of the last century to provide shade around porches, a use for which its aggressive growth and ability to climb made it particularly suitable. Then in the 1930s and 40s, kudzu was promoted by federal and state government organizations as a way to heal eroded land and abandoned agricultural lands. Kudzu was intentionally planted throughout the southeastern United States for soil conservation purposes and to provide supplemental grazing on depleted rangelands. During those times, the species was regarded as a huge success.

Times change, however, and kudzu is now considered to be a potentially destructive weed whenever it is found. The plant's aggressive nature has taken it far beyond the gullies and roadsides where it was originally intended. Today there are millions of acres infested with this fast growing vine. The plant is constantly encroaching on productive agriculture and forestry lands. Most importantly, kudzu's ability to climb and smother out even large trees makes it particularly damaging to forestry. The very characteristics which made it such a success in the past, now contribute to make it a pest. Virtually all discussions relating to kudzu today are in reference to its control.



Kudzu roots can be quite large, up to several inches in diameter. These roots must be destroyed for complete eradication.

The Plant

In order to understand how kudzu can be eliminated, one must first have some appreciation for how the plant grows and develops. Generally speaking, kudzu is a warm climate, perennial, leguminous vine. The plant normally produces small purple flowers in midsummer. Seed production in the resulting pods is poor, however, and the plant normally is propagated through vegetative rooting of the vines.

Kudzu's northern range is limited by its sensitivity to cold, and in the Southeast the leaves and smaller vines are killed each fall during the first hard frost. This dieback is entirely temporary, however, as the plant resumes growth the following March or April. Kudzu vines have been reported to grow one foot per day in the spring, although on the average they usually extend 30 to 40 feet during a single growing season. The plant by itself will not

grow to much beyond three to four feet in height, but given something to climb on, like the boles and branches of trees, it can go up to 75 feet. Climbing up the boles of large trees seems to be facilitated when other vines, such as honeysuckle, are already present. Whether growing on the ground or in trees, if left unchecked, the plant will characteristically cover the area in a thick intertwined mat of vines and leaves to the point where a sea of green kudzu obliterates anything else on the site.

As impressive as this growth above ground may appear, the real secret to the kudzu's ability to outcompete other plants lies in its aggressive rooting habit. First of all, the kudzu is leguminous, so it produces its own nitrogen. This nitrogen fixing ability is a key reason why it can thrive on poor sites. Furthermore, as each vine grows along the ground, it will send down roots at nodes which occur every few feet, and once rooted, a node can be considered an independent plant as severing the vine on either side of the node will not kill it. The visible above ground mat of entangled vegetation is therefore accompanied by a corresponding below ground network of roots. The expanse of photosynthetically active leaves send excess carbohydrates to the roots for growth and storage. The roots can grow down to 12 feet deep in some soils and may have diameters of several inches (see photo). When trying to control kudzu, these large starch-filled roots must be weakened to the point they can no longer fuel new vine growth. Obviously, the older and larger the root, the more difficult it is to destroy.

Principles of Control

Kudzu may be controlled by one or a combination of three methods: mechanical, biological, or chemical. In the case of mechanical control, repeated mowing can reportedly eliminate kudzu if continued monthly for two growing seasons. Many areas, however, cannot be mowed because of debris or uneven terrain. Regular cultivation is also reported to control kudzu, but again this is not applicable

on all sites. In addition, kudzu patches of 10 years of age or more with large, deep, well-established root systems could tolerate considerable repeated defoliation. Kudzu can be burned in the late winter and early spring, but this only kills the smaller vines and does virtually nothing to stop resprouting.

One of the reasons that kudzu is so successful in the Southeast, is that it has few, if any, natural insect or disease pests to retard its development. Therefore, biological control of kudzu is limited to overgrazing, with the intent of continually defoliating the plant to force the utilization of all root reserves. The protein content of kudzu usually is around 15 to 18% and is quite palatable to livestock. It has been reported that if more than 80% of the above ground biomass is continuously grazed for at least two growing seasons, the plant is eliminated. As in the case of mechanical control, however, this method also has some disadvantages. Fencing of the entire patch is required and a water source for the animals is needed. Furthermore, the number of animals may have to be reduced as the carrying capacity of the site diminishes.

By and large, the most effective way of eliminating kudzu is through chemical methods. Even with the use of vegetation control chemicals (herbicides), kudzu elimination is a multi-step process requiring persistence and more than one application. Furthermore, the landowner must match the chemical, method, and dose to particular site characteristics. As with other control methods, the objective is to completely kill all the roots at every node. Otherwise, the plant's prolific ability to regenerate will retake the site within a few years.

Chemical Control Methods

The use of any vegetation control chemical requires conscientious planning and execution. The site and control situation should be carefully analyzed before application, proper and well-maintained equipment should be used, and label recommendations followed at all times. Proper planning and application is particularly critical for kudzu control because it is a formidable foe and half-way attempts at control will result only in wasted time and money.

The most effective chemical for control of kudzu is **TORDON***, either

the 101 or K formulations. Application rates depend upon the age and size of the kudzu. Extensive patches 10 years old, or containing plants with root collar diameters greater than two inches require two gallons to the acre of **TORDON 101** costing around \$60 per acre for chemical. Younger, less developed patches require one half this rate. When using **TORDON** in open patches of kudzu, the area should be covered twice at perpendicular directions to ensure total coverage and elimination of any possible gaps. This is important, because each of the thousands of rooted nodes per acre must be treated if eradication is to be achieved. A 40 to 80 gal/acre spray volume is a good balance between maximum coverage while minimizing application costs and should be applied during the growing season from May to October. Since **TORDON** is both soil and foliar active, adequate soil moisture will accelerate the uptake and distribution within the plant resulting in a more effective application.

Even with proper coverage and adequate soil moisture, a second application is almost always required. This should be done two years after the initial treatment, as it often takes that long for the larger roots to resprout. Treatment may be made either by spot treatments using a backpack sprayer (1 pint of **TORDON 101** per 4 to 5 gallons of water) or a broadcast application using one half of the original rate. Persistence cannot be overemphasized and anyone undertaking to control kudzu should be prepared for a multiple year commitment. Even a second application is often not sufficient for eradication. This is particularly true for problem sites such as heavy clay or rocky soils, where several follow-up treatments are usually required.

Unfortunately there are a number of situations where **TORDON** is not feasible. One such case is when young pine are present and kudzu is encroaching or resprouting. Under these circumstances a chemical which will not harm the pine is needed. While there are a number of chemicals labelled for weed control in young loblolly plantations, the best options for kudzu are **OUST** applied at 8 oz/acre or **ARSENAL** at 10 oz/acre. Both rates are maximum levels and should be reduced on sandy soils. At these rates, the chemical costs run around \$60 for **OUST** and \$25 for **ARSENAL**. In either case, total kudzu eradication is difficult and it is very

likely that several applications will be necessary. Obviously, the best strategy for kudzu control is to accomplish a complete eradication before planting.

A different special circumstance arises when kudzu is found adjacent to waterways and ponds. In these cases **BANVEL 720** is the best option. It is labeled for drainage ditch banks and when applied at rates of 2 to 3 gal/acre, is safe for aquatic life. Although **BANVEL** is an effective chemical for kudzu control, a second broadcast treatment or spot application is necessary. In addition, landowners should be careful about removing any vegetation along a stream or ditch which may result in increased erosion and soil loss.

One final kudzu control chemical that should be mentioned is **SPIKE**, which is labeled for non-cropland situations such as fence rows and right-of-ways and may be applied any time of the year. Kudzu can often be eradicated in a single application with **SPIKE**. There are several formulations of this chemical available and all are effective when used according to label specifications. **SPIKE** is not labeled for forestry site preparation. Furthermore, it is highly toxic to pines with residual effects lasting for three years.

A Combination of Options

Landowners should develop strategies for both prevention and control of this serious pest. Certainly, any forest landowner would want to do everything possible to prevent kudzu establishment. Individuals with an existing kudzu problem must be both persistent and creative in their control efforts. Land managers may want to try a combination of methods. For example, a chemical control program could be supplemented by grazing the patch the year prior to spraying. Likewise, the patch could be cultivated a few months after spraying to further destroy an already weakened root system. Managers should use all the tools at their disposal to attack and weaken the plant. Kudzu is a formidable foe and one which is not easily vanquished. Through persistence and the use of known control methods, however, it can be eliminated from those areas where it is not welcome.

***TORDON** is a restricted use pesticide. A private or commercial applicator's license is required for its purchase or use. ♣

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