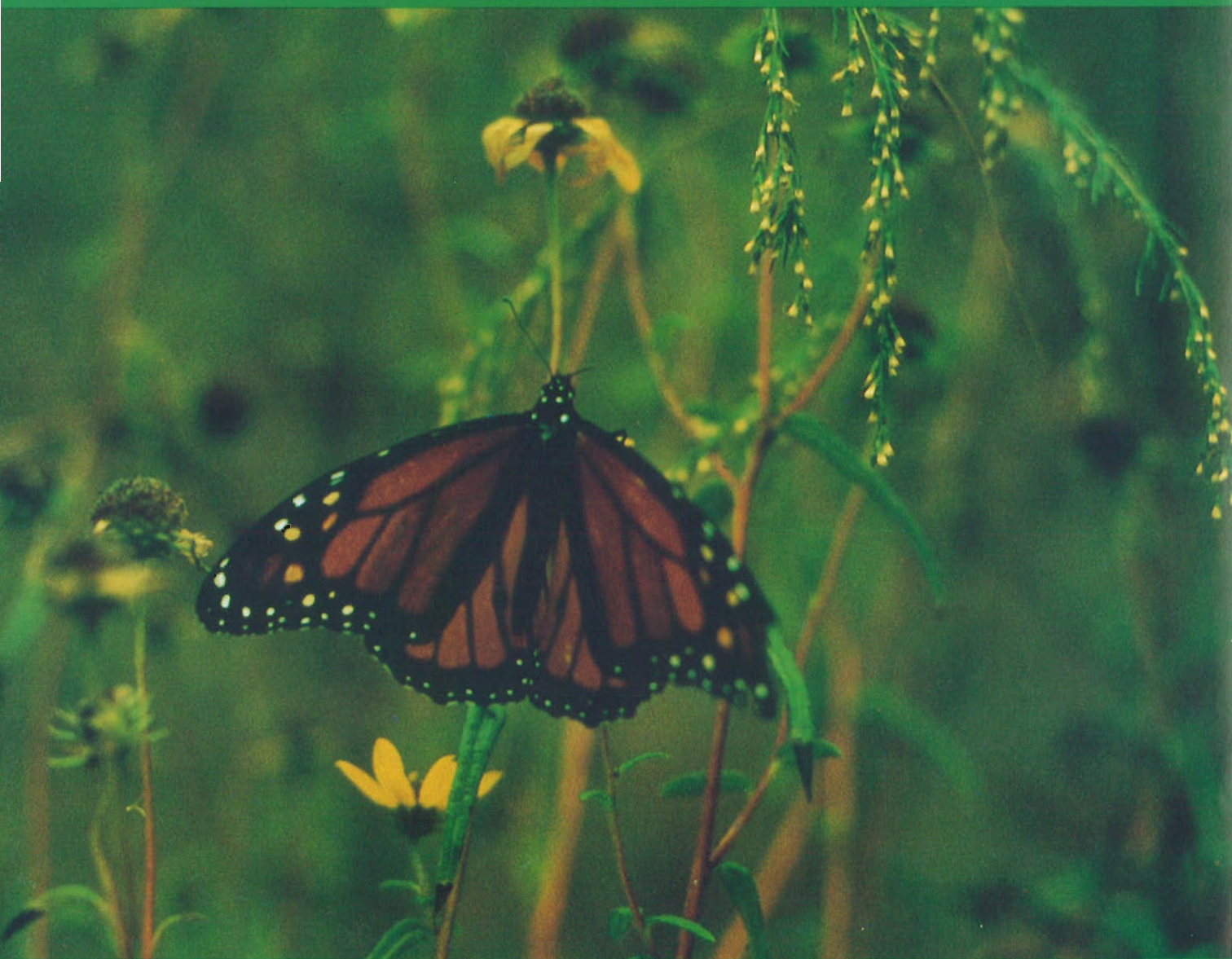


# Alabama's TREASURED Forests



*S p r i n g* · 1 9 8 7

# STATE FORESTER'S MESSAGE

by C.W. MOODY



I recently attended a meeting convened by Governor Hunt to deal with the farm crisis. He challenged the group assembled to help him to make life better for the family farmer in Alabama.

One by one distinguished leaders from agriculture, forestry, and education rose to pledge their support. The Woerners, a successful farm family from Baldwin County, gave us their blueprint for success on the family farm. "Face reality, change as necessary, and grow crops and produce for the market," they told us.

Governor Hunt also called on retired successful farmers to volunteer their time and make themselves available to farmers in trouble. He told us that these people could serve as excellent counselors and advisers to those needing assistance.

My pledge at the meeting was that we in the forestry community will help farmers to better understand that their forestlands are a *part* of their farms, and that we will make every effort to help them to make that *part* more productive.

TREASURE Forest owners are ideally qualified by experience and temperament to join in this effort as volunteers. Please let me know if you are willing to help in this worthy cause. In essence, we would be calling on you to travel at your convenience with one of our technical people to visit farmers with unproductive forestland. You would help convince the farmer as to the need for action, as well as provide your advice and assistance on how this could be achieved.

In the short meeting we had with Governor Hunt, we were challenged and given an exhibition of dynamic leadership and the blueprint for success. I felt good for Alabama when I left the meeting.

Sincerely,

A handwritten signature in cursive script that reads "C. W. Moody". The signature is written in black ink and is positioned above the printed name.

C. W. Moody  
State Forester

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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: Wildflowers are one of the smaller treasures in Alabama's forests. See the article on wildflowers in this issue. Photo by Dr. Hubert Matthews.

# Alabama's TREASURED Forests

Volume VI

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Number 2

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# I DID SOMETHING RIGHT

*H. C. Jordan seized the opportunity to build bridges  
and a TREASURE in Alabama's Wiregrass...*

by CYNTHIA K. PAGE, Editor

**H**. C. “HACK” JORDAN is quite a recognized and accomplished man in the Wiregrass area of Alabama. Having moved to Ozark in 1948, his business—Jordan Pile Driving Company, or Jordan Industries—had driven pilings in all 67 counties of the state by the mid 60’s. There’s one bridge, though, in Dale County that he built for himself. It spans a little creek running through a parcel of land that’s dear to his heart—the 666-acre Jordan TREASURE Forest, Demonstration Forest, and Tree Farm!

### Chance and Genius

H. C. Jordan graduated from high school at 16 and started building bridges down in southwest Alabama for a railroad at 17. After 8 years he left and started to work for a highway contractor. World War II struck and ship building attracted many young men, including Hack Jordan.

When the war ended, Jordan decided he knew enough to open his own business. “I read an article,” recalled Jordan, “about a truss bridge which collapsed when a doctor driving in his car met with a truck. I wrote to several counties in Southeast Alabama to inquire about the existence of such bridges needing repairs, and Dale County responded! After having worked in the Wiregrass for several months, I moved to Ozark and rented a furnished house for about three years!”

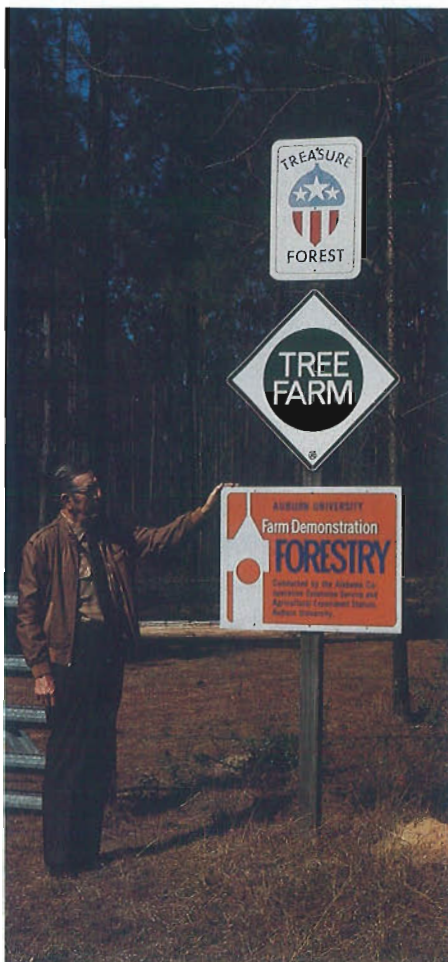
One day he went downtown. “Two men just walked up to me and asked if I wanted to buy 460 acres! At the price they were asking,” Jordan smiled, “I said, yes!”

The land had some timber on about one-third of it, some pretty good hardwood, swamp, and some pasture. In the early 50’s he bought 90 acres adjoining the first parcel, swapped 10 acres that crossed a county road for 80, then sold 20 of the 90! “I never had any real plans for this place,” explained Jordan. “I knew my wife (Alma) didn’t want to live out there, but I had always wanted some land.”

### Diversification Paid Off

Believing in diversification, Jordan decided to grow the timber, graze cattle, buy savings bonds, and build rental houses! With his office located in the same building as the Alabama Forestry Commission, Jordan received a great deal of advice from Jack Monk, former district forester.

“I got interested in the timber in the mid-50’s,” said Jordan. “I shopped around for a good cutter and got a pulpwooder to clean up the rest on about 200 acres. We



*Jordan’s Forest has been recognized as a TREASURE Forest, Demonstration Forest, and Tree Farm!*

*Watering holes are strategically placed for wildlife.*



used that money to build rental houses and a small office!”

Recognizing the need to replant, Jordan participated in the Soil Bank program to reforest the stand. “Also,” he explained, “as the business grew, I had less time to spend looking after the cattle. In 1964, I sold ’em and planted more pine! After all, those trees would grow while I slept and I didn’t have to feed them!”

In the last four years, about 126 acres of those first planted pines have been clearcut and replanted!

Jordan’s interest in his land never dwindled, even though his business often prevented his devoting as much time to it as he would like. In 1967, however, his son, Donald, joined him in the firm, and he decided to concentrate on the development of the land.

### Timber, Wildlife, Recreation

Having already recognized the worth of timber production, Jordan sought the advice of a consultant forester—Norm Kinney—with Chartered Foresters in Ozark. “I’ve learned much by having a consultant,” Jordan explained. “We’ve planted in all between 40,000-50,000 seedlings on this land. We’ve also tried the seed tree method on 45 acres. First, we used injection to kill the hardwoods. The drought and bad seed crop hampered us, though, but we’ll drum chop and just wait for another seed fall.”

“I know I’m more fortunate than some landowners ’cause I don’t have to pay for expensive equipment to maintain my roads, firelines, and bridges,” Jordan said. “But,

some of these things can be done by anyone who has a little know-how and a desire. Take the firelanes. When the rangers plowed it, little furrows were left. We went in, took out a few trees, disced lanes six feet wide and planted rye on some of it for wildlife! The thing is, I've probably gotten 30 times more out of this land than I've put into it! Other landowners can do the same thing no matter how small their investment."

Speaking of wildlife, signs are evident that it's plentiful. Jordan has dug between 12-15 water holes. There are also about that many food plots planted annually—bicolor for birds, corn and peas for deer, chufa for turkey, bahai and brown top millet. Jordan only allows a few people to hunt by permit.

In 1986, he and five other landowners pooled their land to come up with 3000 acres to qualify for the Alabama Department of Conservation and Natural Resources' (DOCNR) turkey program. Nine hens and five gobblers were set loose on Jordan's property. "We feel confident," he said, "that they'll multiply real well here."

Jordan has also followed a prescribed burning program on a two-year rotation. This eliminates unwanted competition and volatile brush and also produces fresh browse following the burn which is ideal for deer. The DOCNR has a weighing program for all the deer harvested on the property. By studying weights and bone size from year to year, they can accurately evaluate population increases and movement.

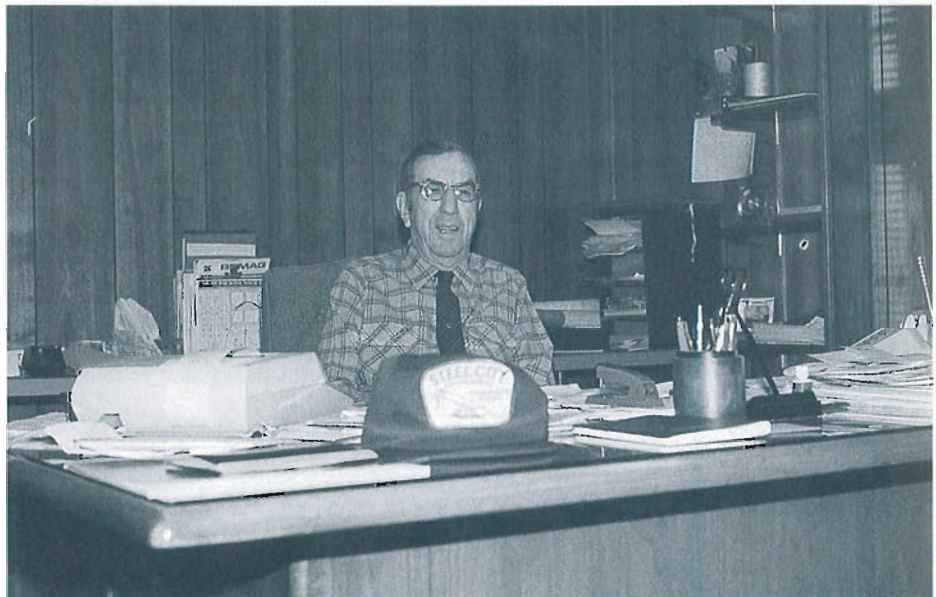
Having been in road construction and bridge building, Jordan also is extremely conscious of erosion control. Water bars and turnout bars allow gentle runoff on inclines. A steel bridge replaced a short-spanned wooden bridge which had created some problems.

"If you lose your topsoil, you lose production," says Jordan. "The Soil Conservation Service has helped me considerably. I can remember gullies deeper than a six-story building where now there's a grassed slope!"

At 76, Jordan may not see his recently planted trees mature. "I don't really know what'll happen to this land when I'm gone. I hope it will stay in the family and be continued in its TREASURE state. I have made it better than I found it. This TREASURE is something I helped make what it is. I like to think I did *something* right." ♣



**Regeneration is a priority on Jordan's forestland.**



**Even though he is retired, Jordan maintains his office in Ozark.**



**Thinning and prescribed burning are helping to create a quality stand of timber.**

## EDITOR'S UNDERSTORY

by CYNTHIA K. PAGE

**N**OT AS MANY CARS fill the spaces around the Jordan Industries building in Ozark as they did a year ago. The walls aren't filled with certificates, awards, and framed news clippings anymore, either. Faded rectangles against darker paneling prove that they were there.

H. C. Jordan's office, however, is still in tact—name plate, family photos, TREASURE Forest certificates, awards, and the man himself! At 76, the tall, slender, blue-eyed bridge builder doesn't much fit the retired image. He says he is, though. "We've moved the business operations completely to Mobile," he said. Yet, during our conversation, the phone rang. "I'll meet you at 1:30." Click. It rang again. "I can sell you 15. You can pick them up. It'll take you . . . to finish the job." Click. Convince me that's retirement!

Jordan has worked hard most of his life. His first job building bridges for the railroad was about 60 years ago at age 17! "I've built bridges all my life," he says.

He's done a lot more than build bridges, though. Granted, his business was just *that*, but through that business he's also helped other people while providing the jobs they needed to support their families. The business normally employs between 60-70 people. Some have worked for Jordan for over 30 years!

Jordan has a philosophy on success: *You can't do today's work with yesterday's tools and expect to be in business tomorrow.*

"I also made people respect me as a boss. If we made it, we shared it by giving bonuses. We also implemented an employee stock ownership plan. Eventually, they'll own most of this business. That's a long way from the first piling we drove on the Barbour-Russell County line, but that piling's still there just like this business!"

Jordan's respected, too, by his peers—business and community alike! For many years he was a member of the Alabama Roadbuilder's Association, having served on many committees, board of directors and as president for one year. He is active in church activities. Also, he is a life member of the Rehabilitation Center in Dothan which offers assistance to crippled children and adults in six counties.

Jordan speaks fondly of his wife, Alma, to whom he has been married for 51 years. He is proud that his son, Donald, now runs the business from Mobile. The grandchildren—Donald, Jr. (19) and Tesa (17)—are also his pride and joy.

"I hope that my son and grandchildren will continue the business and our TREASURE after I'm gone."

Jordan has been a caring and sharing man. Scout troops have camped on his land. Students learn from the Demonstration Forest. Landowners have benefitted from the tours. Yet, he hesitated when I asked, "Do you realize how many lives you have touched?"

"Well, I never really thought about it," he said. "I always enjoyed the business. And this land, well, I used to come over here when we'd have a bad job and just ride around. Pretty soon I'd forget all about it. That's what I got out of it!"

For a man whose accomplishments are so great that they can't all be mentioned, his expectations and gratification in life are so simple and humble.

I'll remember Hack Jordan when I drive across the I-65 bridge going into Mobile. I'll remember him when I look across a 100-acre field of freshly planted pines, or think of oysters-on-the-half-shell. I'll remember, and so will others who have made the acquaintance of this bridge builder! ♣



H. C. Jordan proudly poses next to the first piling driven by his company!



*Retaining open areas can create many wildflower delights.*

# WILDFLOWERS

## Getting Acquainted With One Of The Smaller Treasures

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by NEIL LETSON, TREASURE Forest Coordinator and Urban Forester

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**W**ILDFLOWER APPRECIATION is a common yet rarely acknowledged part of land ownership. Whether a “trained” student or simply a pure enthusiast, Alabama’s forest landowner shares the same feelings others do about our wildflower resource. We admire their beauty. We respect their tenacity to withstand and adapt to man’s and nature’s impact. We marvel at their variety. And, we welcome their colorful alert of spring’s arrival.

In Alabama, the opportunity to study and learn about wildflowers is great. Over 3000 species grow in our state. The location of your land will determine what species you will find. You can start almost anywhere in the state—the southern coastline where



*The Bloodroot is a delicate flower that opens in the full sun and closes at night. Photograph by Douglas McGinty.*

golden aster and wild rosemary thrive, the wetlands which serve as an ideal habitat for the rosebud orchid and cardinal flower, abandoned croplands filled with bright butterfly weed, our unique prairie soil inhabited by the coneflower, or along our sandy pinelands where the wild indigo and sandhill petunia grow. Wherever you look, you’ll find a treasure drove of these “forestrial” beauties just waiting to be discovered.

Wildflower enjoyment starts with appreciation. To appreciate them, you must admire them. To admire them, you must know them. And to know them, you must study them. The landowner who increases his knowledge of wildflowers will be better equipped in



assuring their survival and display within the forest.

## Identifying Wildflowers

The key to identifying wildflowers is in first recognizing their task. Wildflowers exist solely for one reason—to perpetuate their kind. They are the reproductive part of a broad order of plants.

Each blossom consists of individual parts with roles to play. Quite simply, their function is to perform the routine of pollination and fertilization. If successful, a new plant emerges in the embryo as a seed. As it develops into a fruit, it is ready for its time to sprout into a new plant—all set to begin the cycle again.

Why is this important? By knowing how and why a wildflower works, you can learn to identify a species before, during or after it blooms. This increases the likelihood of seeing a wildflower as well as adding to the anticipation.

There are two basic items that will help you in your study of wildflowers. This includes an identification book and a hand lens.

Book stores and libraries are a dependable source for wildflower books. Some list wildflowers found worldwide while others list species on a local range. A book listing wildflowers in the Southeastern United States is recommended.

The book you select should have four features. It should be durable. Your book must be able to tolerate outdoor conditions. Second, it should have detailed pictures of each wildflower. Color is preferred. Third, it should include diagnostic terms and features with definitions. Last, your book should be compact and practical to use. A large book with many references is good for home study but awkward for the outdoors. Keep it simple.

Your hand lens may be the only way to see small details unnoticed by the naked eye. The most common lens swivels between two small metal plates. It is small enough to keep in your pocket. This type lens is cheap and easy to find. For wildflower identification, a “x10” (power) lens is best.

## Finding Wildflowers

Finding wildflowers is easiest when you know their habitat needs. Not all species have the same requirements for survival. Some need full sun, while others do not. Some thrive in wet, swampy areas, while others require drier sites. Other conditions, such as soil, are also important. Knowing a wildflower’s needs makes finding it a lot simpler.

## Keeping Wildflowers

Landowners can play a large role in maintaining our state’s wildflower resource. Several options are possible. One is to retain as much of a native plant’s habitat as possible. Key areas include fencerows, hillsides, marshes, forest edges, and small covers. Also, individual or groups of trees with special flowering features can be retained. Another option is to encourage forest diversity. This practice is consistent with landowners who manage for a variety of forest benefits and products. Last, monitor and control land uses which can affect a desired wildflower. Many forest management practices can help certain wildflower plants. Applying them properly and with an awareness of a native plant can actually enhance this resource.

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# AFTER THE FIRE— WHAT THEN?

by HUGH MOBLEY, Chief, Fire Control

**A**FTER A HOT WILDFIRE sweeps through a young plantation and only blackened stems are left with limbs and needles gone, it is pretty obvious that the damage is complete. The stand has been wiped out! But—how about the less obvious effects of a wildfire when the trees are only damaged and die later, or the trees are weakened and the growth is slowed down for a period? How about the small fire that was just creeping along? Did it do any damage at all? Making such a determination is not so easy. Under these circumstances, a hasty decision based on a cursory examination right after the fire may prove to be a bad choice.

## Overstory Kill

If all the needles or leaves are scorched, the tree is decidedly weakened and could die. Some loss in growth will definitely occur. On the other hand, up to one-third ( $\frac{1}{3}$ ) of the crown scorched on southern

pine will have little or no effect, especially if the tree is healthy and vigorous. With little or no crown scorch, there may even be an increase in growth due to the reduction of competition from understory vegetation.

Actual consumption of the needles or leaves, however, is another story. The fire has also killed buds on those limbs. A small amount of needle consumption—especially if close to the ground and trees are healthy with a full crown—may do no damage. Generally, however, some loss of growth will occur. If over half of the needles are consumed, the tree will usually die.

Another indicator of damage is the trunk or stem. If over half of the total stem is charred, the tree will probably die. If there is cambium damage, cracks and bleeding of resin will appear within a week or two at the place where it is dead. If the cambium itself is brown in color, it has been killed from the heat. Such damage will seriously weaken the tree and it is a prime candidate for attack by bark beetles.

## INDICATION OF PINE OVERSTORY DAMAGE

	No Damage	Loss Growth	Probable Kill
Percent of Crown Scorch	under $\frac{1}{3}$	$\frac{1}{3}$ to $\frac{2}{3}$	all
Percent of Crown Consumption	none	any	over $\frac{1}{2}$
Percent of Bark Char	under 20%	20%-80%*	over 80%

\* over 40% char can result in some mortality

On hardwoods, cambium kill is a better indication of damage and potential kill. The bark is thinner and gives less protection to the cambium. Lack of rosin to seal the cracks in the bark also leaves the tree exposed to entry by diseases such as heart rot.

Generally, trees that are over six inches in diameter stand a better chance of survival due to the fact that they have probably gone through some drought periods, have had a chance to establish deeper roots, and have a thicker bark and a larger crown that is further from the ground and subject to less heat. Longleaf and slash pine also have a greater potential for recovery than the other pines.

The distribution of diameter size will also have an effect on the total damage to the stand. If there is a wide variation in the diameter classes the damage will be in the smaller size. These smaller trees may not be needed in the mature stand and consequently will not be any real economic loss. Take a look at your total stand to see if you still have a full stand of dominant and co-dominant trees.

---

## Future Loss

In most wildfires, the desirable trees are not killed outright (except in young plantations). However, they are weakened and could possibly be under stress for two or three years. Many factors will have an impact on whether the trees will die later or how much loss in growth will be sustained. Weakened trees are targets for insects and disease. Bark beetles will attack a stand of weakened trees such as those that have been weakened by fire and will spread into the healthy trees. Thick stands that are already in need of thinning will already be under some stress and are more likely to be killed or suffer bark beetle attacks.

Prolonged drought or abnormally high temperatures after the fire will also take its toll. On the other hand, if there is adequate moisture in the soil at the time of the fire, and periodic rains keep enough moisture in the soil for the trees, they have a better chance of recovering. The same is true if the temperatures stay on the cool side. An immediate light salvage of the killed trees could increase the risk of a build-up in the bark beetle population. If they are active in the area or it is during the summer, it may pay to wait until after a good rain before any salvage is done.

In partially damaged stands, the objective of the landowner and the cost of managing the residual stand to harvest will need to be considered. In many cases, a partial loss of a stand and the growth loss on the rest of the

trees will dictate that the most economical decision may be to harvest the entire stand and start over. On the other hand, southern pines have a high potential for recovery if the weather or bark beetles don't do them in. Don't be too hasty in deciding they will die. The decision would need to be based on the recovery potential of the residual trees and whether there are enough left to make the stand economically manageable.

Thus, when assessing fire damage to pine stands, use stem, crown, and cambium to estimate probable loss. On hardwoods, inspect trunks at the ground closely and give it more weight in estimating loss. If doubtful, wait a few weeks. In older stands, the post-fire management choices might be *immediate light salvage, cut to shelterwood, and regenerate naturally, or clearcut and regenerate artificially*. Unless the stand is over-mature or otherwise stressed, dominants and co-dominants will likely be the least affected. There is no one answer. Each stand will have to be evaluated on its own merits. Landowner objectives, stand ages and condition, potential for loss to insects, and economic considerations will affect the choice.



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## Soil Damage

The average wildfire in Alabama does little or no damage to the soil. However, intense wildfires will tend to reduce the topsoil, thus, reducing site quality. They will also kill fine hair roots and the micro-organisms in the top inch or two of the soil. Repeated fires will also do the same thing. Consuming most or all of the organic material will expose the mineral soil to drying out by the sun and erosion by rain. Where soil is exposed or partially exposed on even moderate slopes there may be soil movement which will tend to clog the soil pores reducing the capacity of the soil to store water. Soil damage by severe erosion and gullyng can be reduced by building water bars and seeding. Little can be done about the reduction of the topsoil and reducing the ability of the soil to hold water.

---

## Evaluation of Prescribed Burns

How about the use of prescribed fire? Did it do any damage to the overstory? Did it kill the understory brush that you wanted to get rid of? How about any damage to the soil or water? Any off-site damage?

The same criteria used in determining damage from wildfires can also apply to the use of prescribed burning to determine if it was *successful*. A successful prescribed burn should not be so intense that it causes any damage to the overstory.

The kill of understory brush can be determined the same as with the overstory. The consumption of all the leaves and limbs generally indicates kill of the plant. Cracked bark and a brown cambium are very good indicators of potential kill on most hardwoods. On small stems, it is easy to cut into the cambium layer to see if it is brown. The cracked bark and brown cambium will appear immediately if it is a hot fire. If not, it may take a few days. During the winter, however, the roots will not be killed, only the tops. Sprouting can be profuse which is beneficial to deer. If you are burning adjacent areas in the following years, the regrowth will provide cover for all wildlife as the other areas are burned. If the burn is during the summer, there will be less sprouting and some root stock will also be killed. Only the top of the litter should be consumed. This is easy to check after the burn by scraping away the ashes and burned debris. As long as none of the soil is exposed, erosion or soil movement will not be a problem.

To determine if there is any possible smoke damage, the plume will need to be observed during the burn and also during the first night to see if the plume or the residual smoke at night impacts any areas that are sensitive to smoke. Be especially careful if any major roads are in the vicinity. See the article, "Where There's Fire, There's Smoke!" in the Winter, 1987, issue.

To have a successful prescribed burn, no needles should be consumed and no more than one-third of the crown scorched. Less than 20% of the bole should be charred (preferably under 5 feet). Complete consumption, cracks and brown cambium will indicate kill of the understory. With the lower one-half litter left, there will be no damage to the soil nor any soil movement or sedimentation in any nearby streams. However, to play it safe, leave a bumper strip adjacent to any running streams.

Remember, fire can be damaging, but it may also be helpful. If you have questions regarding measuring damage after a wildfire or about conducting a prescribed burn, contact your local Alabama Forestry Commission office. ♣

# PRESCRIBED BURNING IN PINE STANDS

by HUGH E. MOBLEY, Chief, Fire Control

**T**his article appeared in our last issue of *Alabama's TREASURED Forests*. However, because of a computer malfunction, the initial letters of each sentence following the subheadings were deleted. We hope that you will find the article more useful in its entirety!

The major commercial timber stands in the South are pine. Fire has been a part of these southern pine forests as far back as we can determine, and probably always will be. We cannot completely eliminate wildfire from the forests but we *can* reduce the damage from such fires by the use of "prescribed fire."

Unlike hardwoods, southern yellow pines have a thick insulating bark that protects the cambium layer underneath from the heat of fires. This bark is generally thick enough to protect the pines from low to moderate intensity fires by the time the trees are as large as four to five inches in diameter at the ground level. The needles, however, are still susceptible to being killed by the heat. Consequently, the higher the needles are from the ground, the more intense the fire can be without damage to the overstory.

Periodic, low-intensity fires actually improve many of the benefits we get from these southern pine forests. However, it must be used under certain weather conditions and with burning techniques that do not damage the timber or cause a smoke problem. The skillful use of such fires can improve forest resources such as wildlife habitat and forage for cattle. It will also help control undesirable plants and forest diseases.

Fires can be prescribed to prepare a site for a new stand of trees with much less costs than other site treatments. Prescribed fires can protect trees, wildlife, and the environment from the danger of wildfires by consuming the brush, dead wood, and other debris on the ground. Used properly fire can increase timber production and improve the other forest resources. Today it is used by all federal and state resource agencies, forest industries, and private forest landowners on millions of acres. In the southern pine forests, it is one of the most important tools of the forest resource manager.

## Reduction of Hazardous Fuels

One of the more prevalent uses of prescribed fire is the reduction of hazardous buildup of fuel in the stand. This fuel is

made up mostly of needles, leaves, cones, limbs, grass, and various types of brush. Reduction of this fuel reduces the chance of wildfires. Also, wildfires that do occur burn less intensely and cause little or no damage. However, the prescribed fire should not burn up all of the lower layer and completely expose the soil. The bottom part of the litter should be moist enough so it will not burn. Large amounts of fuel will mean a more intense fire; consequently, the overstory will need to be taller so that only a small percent of the needles are scorched. Some scorch (generally up to 30%) is not harmful to southern pines.

## Wildlife Habitat Improvement

Another major use is the improvement of wildlife habitat by creating openings, bugging areas, eliminating the high brush that restricts movement, and encouraging more annuals and sprouts that are preferred food for deer, quail, and turkey. Most other wildlife prefer similar habitat. Prescribed burns produce succulent sprout growth which is within the reach of browsing deer. The growth of annuals preferred by turkey and quail are increased.

## Control of Understory Hardwoods

Poor quality, weed-type tree species such as scrub oaks will encroach onto pine stands at an early age. They are more shade tolerant than the pines and will compete for moisture and nutrients. If not controlled, they will take over the stand in time. To regenerate a stand after the final harvest, expensive equipment has to be used which also tends to reduce the site quality and cause erosion. The use of periodic prescribed burns on a three-to-five year basis (depending on soil type and condition of stand) is a cheaper method of controlling the brush and is not damaging to the site.

The prescribed burn should be started before most of the hardwoods exceed one inch in diameter. Prescribed fire can kill hardwoods up to four inches, but in most cases, a fire intense enough to kill them cannot be used without damage to the overstory. Consequently, if the prescribed burns are not started soon enough, many of the larger hardwoods will not be killed and will have to be eliminated later by chemical

or mechanical means. To kill the rootstock, summer burns are used after the initial prescribed burn during the winter which reduces the fuel volume that has been building up since the stand was established.

## Improved Accessibility

Burning off underbrush prior to the sale of forest products improves the efficiency of timber marking and harvesting. The improved visibility and accessibility will usually increase the stumpage value of the products. Removing accumulated material before harvesting provides greater safety for timber markers and loggers due to better visibility and less underbrush. The greater risk of wildfires from the increased activity is also lessened. Hunters and hikers also benefit from easier travel and increased visibility. Other activities such as stand inventory are also quicker, more efficient, and cheaper.

## Appearance Enhancement

Prescribed burning under pine stands, for whatever reason, also helps to maintain an open, park-like appearance in the forest which contributes to recreational and aesthetic values. New vegetative types will appear with an increase in the number and visibility of flowering plants. A diversity of vegetative types attracts a wider variety of bird and animal life. It also makes them more visible. Variety can be increased further by leaving unburned islands. One disadvantage is that the area will look worse temporarily due to the smutty appearance of the stems and the burned litter left on the ground. This effect will disappear after the first "green up" in the spring. Fires will tend to burn more intensely along roads and other openings causing more scorch and bark char. This should be considered and a "cooler" fire used along these areas to reduce the temporary smutty and scorched look.

## Natural Regeneration of Pines

Prescribed burning is a must in most pine stands to get a good stand of natural seedlings established. Pine seed need sunlight, access to bare soil, and freedom from hardwood competition for establishment and growth. If the stand has been prescribed burned periodically, one more burn in advance of seed fall is all that is needed.

## Site Preparation

Due to the high volume of logging debris left, the availability of genetically improved planting stock, and the importance of getting a fully-stocked stand, most sites are planted after the final harvest

in order to establish a new stand rather than using natural reproduction. Fire is used to reduce the large amount of logging debris, cull trees and other debris, and to prepare the site for planting or, in some cases, to prepare for direct seeding. On open sites, fire alone may expose adequate soil and control competing vegetation until seedlings become established. On most sites, however, some form of mechanical or chemical treatment is also needed.

In such cases where there is a large volume of logging debris, the smoke produced becomes a real problem. This is due to the high volume and larger size material which takes longer to burn. Consequently, it may take several days for the material to be completely consumed. A lot of residual smoke is produced which is not lifted off the ground. It also flows down drainage at night and collects in low spots, drastically reducing visibility rather than being lifted off the ground and dispersed by the winds as is generally the case during the day.

### Pros and Cons

Prescribed burning has multiple benefits. Burning for one reason will also benefit other resources. The cost is very reasonable, only averaging a few dollars per acre. When planned and conducted properly, there are no adverse effects to the soil, timber, or any other part of the environment. There are, however, some disadvantages. It is a complex technique requiring qualified people to use it properly. Suitable days are also limited and will vary by the size and condition of the stand. Smoke can also be a problem if weather conditions are not right or the smoke is allowed to drift across highways. This is especially true when burning logging debris or burning at night. Many accidents, injuries, and fatalities have been caused at night or early morning by smoke.

Because of the complexity and limitations of prescribed burning, prior planning is needed to ensure that it is done at the proper time and in a way that accomplishes your objectives. Major factors that must be considered are include the following:

- Amount, type, and condition of fuel.
- Type and size of overstory.
- Management (owner's) objectives.
- Various weather factors.
- Burning techniques to use.
- Time of day.
- Smoke dispersion.

By following these suggestions, a landowner can make use of one of the most inexpensive and beneficial tools available. Before burning, however, he should contact his local Alabama Forestry Commission for technical advice from qualified people. ♣

# TRAINING PAYS DIVIDENDS

by DOUGLAS A. SMITH, Training Officer, Alabama Forestry Commission

**A**S TAXPAYERS, Alabama forestland owners deserve the best from public services. Since forestland owners are our valued customers, we at the Alabama Forestry Commission feel a strong obligation to provide the best possible forestry assistance to these landowners.

In fact, we feel so strongly about this that we have published a value system which each employee lives up to in carrying out his job. This set of values reinforces the urgency of our mission and the importance of each individual employee in our total program.

This flow of beliefs dictates that our employees be well-trained. The Forestry Commission is committed to providing this training to our employees so that we can serve you, the taxpayer, more efficiently.

New employees of the agency attend the Forestry Academy. The initial phase of the Academy covers seven weeks and is held at the Alabama Criminal Justice Training Center in Selma. While there, trainees operate in an environment similar to military basic training in a disciplined atmosphere which produces a self-disciplined employee. Trainees exercise each morning before daylight, completing calisthenics and a one-and-one-half mile run. They then return to the dormitory, shower, and report to the chin-up bars where they cheer each other as they do pull-ups. The next stop is the cafeteria for breakfast.

Classes during the Academy consist of an orientation to the Commission and training in forestry, advanced first aid and C.P.R., basic fire control, truck/tractor operations, defensive driving, and forest surveying. Instructors are secured from the State Office and field offices of the Commission, Department of Public Safety, and the American Red Cross. Much of the training is actual field exercises. Testing includes "hands on" performance and written tests. Students must have a grade of 70 in academics at the end of the training period.

In addition to morning exercises and daily classes, night work takes several forms. Each trainee takes a suppression unit to the field for night work. This gives him a perspective not realized during the day. Homework assignments, films and video tapes take up other nights. Several nights are spent researching material for a formal classroom presentation on "heavy" equipment. Trainees learn from their research, and the class always proves to be an excellent growth exercise.

This routine continues throughout the seven weeks. While students are housed in a dormitory during the week, they are permitted to return home for weekends.

In addition to providing technical training, efforts are also geared toward building character. Peer rating is a tool used to allow each trainee to evaluate each other. Trainees rate each other three times. The first rating causes a trainee to fall in the top, middle, or bottom third of the class. At that time he receives no feedback on why he was rated that way.

The second peer rating provides each trainee with comments from every other trainee. Comments must include at least one positive comment on a person's strength and one comment in an area that could be improved. Each trainee then receives his comments from all the other trainees. At that point each person knows where to improve and what to continue.

The Commission believes that the impression each employee gives is critical to his ability to function. In addition to peer ratings, students also appear before the Review Board which is made up of permanent A.F.C. employees. Feedback from the Review Board is personalized on each trainee, considering both positive and negative comments. This allows trainees to build on their strengths and to improve their weaknesses.

The third and last peer rating is counted in each trainee's final grade. Trainees rate each other from first through last in the class. Scores are compiled and the top person in the

class receives ten points toward graduation. The person who finishes last in the class gets zero points and everyone in between has a prorated of points between zero and ten. Just prior to the end of the training period, trainees take a tour. They go to the State Office and see the physical facility, warehouse supply area, and meet the employees. They then travel to the Central Shop to tour that area. The last two stops include the District Ten Office which houses the Statewide Dispatch System and then the Communications Shop.

At the end of the Fall Academy each trainee receives a numerical grade consisting of 0 or 10 points depending on whether a trainee successfully completes the final exam run, 0 or 5 points depending on whether a trainee meets a weight standard for his height, 0 to 10 points depending on where a trainee finishes in the final peer rating, 0 or 5 points depending on whether a trainee successfully completes a strength/agility test and 70% of the average grade they have made on academics. This combination of scores must add to a minimum of seventy points to graduate.

Awards are given for the highest academic average, the fastest run, the highest peer rating and the highest overall grade. A summary sheet is prepared on each trainee. A copy of that sheet is sent to the trainee's supervisor and the personnel section. Follow-

up is then expected from local supervision.

Following the Fall Academy, trainees are sent to their regular assignment. During the following months, which is basically fire season, trainees are required to perform the skills they have learned.

In the spring, trainees return to the Academy for another block of training. This five week period is at the Solon Dixon Forest Education Center between Andalusia and Brewton. Training during this period centers around forest management. In addition to classes on forest measurements, TREASURE Forest, insects, disease, and dendrology, trainees take field trips to a nursery, state forest, and a seed orchard. During this period, trainees continue to appear before the Review Board for feedback on their progress.

After the Spring Academy, trainees take either one of two paths. Those employees with forestry degrees continue their normal job assignments without any further routinely scheduled training. Those without formal forestry training attend one week training sessions on various subjects distributed over another eighteen months. These one week sessions include silviculture, fire prevention, prescribed burning, public relations, intermediate fire behavior, and forest utilization. Following this course of study, students receive a certificate declaring them a forest technician. Many new employees who are not required to take this training attend

anyway. Even though they may know the technical content, they are exposed to the Commission's philosophy.

Regardless of the training path, all employees who began in September are on probation for one year. During this time, supervisors and the Review Board closely monitor each trainee's career. Those trainees who decide to stay and are retained by the Commission graduate at the Fall Academy following their initial employment. This is a formal exercise where family, friends and fellow employees are invited to attend. Graduates are then no longer in a trainee status but are considered associates with all the rights and privileges accorded by the Commission.

Employee development is considered important by the Commission. Such courses as Instructor's Training, Organizational Management Training, Law Enforcement Training, Personnel Growth/Development and Advanced Technical Forestry Training are given to employees at certain points in their career to improve their knowledge and abilities to do the best forestry job possible.

The scenario seems almost overwhelming. However, it provides the taxpayer with a public servant who is committed to the job, technically competent and tactically proficient. The employee and the public are both winners!

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# The Alabama Forestry Commission GIVING RETURNS ON YOUR TAX DOLLARS!

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by L. LOUIS HYMAN, Chief, Forest Management

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**W**HEN THE ALABAMA FORESTRY COMMISSION (AFC) was established by law as a separate agency in 1970, its charge from the Legislature was to conserve, protect, and develop the forest resources of our state. All three of these activities are full-time jobs, but the AFC does outstanding work and great progress has been made in reaching these goals.

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## Forest Protection

The most noticeable job of the AFC is fire control. The AFC is responsible for

the detection and suppression of all wild-fires in the state. Automatically, one might picture rangers sitting in lonely fire towers. In reality, very few fire towers in Alabama are still manned.

Most fire detection is now done by experienced spotter-pilots in airplanes. The AFC maintains a fleet of 10 full-time and several other part-time planes and pilots that cruise the skies searching for smoke.

Once a fire is spotted, a fire suppression unit is dispatched, using one of the most sophisticated communication systems among forestry agencies. Day or night, fire

control personnel can be reached anywhere in the state and sent to a fire.

The AFC has also come a long way in its fire fighting capability. The days of a solitary ranger driving out in his pick-up with a rake and a fireflap to do battle are gone. Now, county rangers drive crawler tractors with state-of-the-art fire plows that can put out a fire in one-tenth the time of a hand crew.

These advances, especially those in the last few years funded by an increase in the timber severance tax, have been reflected in the control records. The average size of a

wildfire in 1986 was just under 10 acres, while the average size fire in 1976 was 19.9 acres!

Another forest protection activity is southern pine beetle (SPB) detection and control. The AFC monitored this insect's infestation by doing monthly aerial SPB surveys throughout the summer of 1986. These surveys, which were followed by prompt ground checks of SPB sites, enabled landowners to quickly locate and salvage infested trees. As a result of this work, the forests of Alabama were protected from a disastrous epidemic like the ones that ravaged Texas and Louisiana last year.

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## Forest Conservation

Forest *conservation* is the *wise use* of our forest resources. The AFC is one of the sponsors of a program that rewards good conservation—TREASURE Forest. TREASURE is an acronym for Timber, Recreation, Environment, Aesthetics, for a Sustained Useable Resource. The aim of TREASURE Forest is to recognize landowners who manage their forestlands in such a way as to meet their own objectives while providing benefits to all of the citizens of Alabama.

TREASURE Forest is based on the concept of multiple use forest management. Most landowners choose timber and wildlife as their principal objectives. Others choose to emphasize recreation or environmental improvement.

All of the forest management assistance activities of the AFC can be tied to TREASURE Forest. All forest management activities should be based on a plan. AFC foresters are available to develop TREASURE Forest Management Plans for any landowner in the state. These multiple use plans give generalized information to the landowner about how to reach his ownership objectives in an environmentally sound way. The plans are based on a light timber survey and generally cover a 5 to 10 year planning horizon. TREASURE Forest Plans are available at no cost but are subject to a restriction of no more than 3 days work a year by an AFC employee per landowner.

Larger landowners, or those with an immediate need for regeneration are referred to consulting foresters. It is the AFC's position that the purpose of the TREASURE Forest Plan is to educate the landowner as to what he can do with his land. Once this education process is underway, the landowner, who knows what he wants to do and has some idea on how the work can be done, is then referred to a consulting forester who can help him in his work. The end result of the TREASURE Forest Plan is an

educated landowner who wants to practice forestry on his land. Last year, the AFC referred 589 landowners to consultant foresters for assistance.

Reforestation is a major part of our conservation effort. AFC nurseries produce between 70 and 90 million seedlings a year. The vast majority of these are planted on non-industrial private forestlands. The AFC is expanding its nursery production at both Hauss Nursery near Atmore and Miller Nursery near Autaugaville. Both of these expansions will be producing trees for the 1988-89 planting seasons.

The AFC plays a key role in reforestation through its servicing of reforestation cost-sharing programs. Programs such as the Forestry Incentives Program (FIP), Agricultural Conservation Program (ACP), and the State-funded Alabama Resource Conservation Program (ARCP) give landowners back between 60 and 65 percent of the cost of reforestation and timber stand improvement. Last year these programs helped 2,493 landowners to reforest or to improve over 56,000 acres.

The best site preparation method we know of today is good hardwood control before harvest. The cheapest way to do this is prescribed burning. The AFC has trained personnel available to help landowners to do prescribed burning. This work is done for a per acre fee that is competitive with the private sector. AFC crews can also build firelanes for landowners at cost.

In summary, the AFC role in Forest Conservation consists of landowner education through TREASURE Forest, reforestation assistance, seedling availability, cost-share money, and prescribed burning. Landowner education covers a broad range of subjects from productivity to multiple use forest management to the economic importance of forestry. The AFC also plays a prime role in technology transfer and the dissemination of research results and new concepts to resource managers and landowners.

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## Forest Development

A less traditional role, but an equally important one, for the AFC is Forest Development. The value of the forest reaches beyond the wood lot. The forest industry has a strong economic impact on all the citizens of the state. Thus, it is in the state's interest to help develop and expand Alabama's forest industries.

The AFC helps industry by assisting mills in improving efficiency. The sawmill improvement program was pioneered by the AFC. In it, sawmills were evaluated and the owners were shown ways to improve their efficiency and profitability. The AFC

has developed a market for these services and is now training consultants who can do this work through the private sector.

The major way the AFC has helped forestry is by working to expand the market for Alabama wood products. This has a direct effect on landowners because if the mills can get a better price for their products, they can afford to pay more for stumpage.

The AFC is marketing Alabama's forest products in several ways. A directory of Alabama's forest industry was developed in 1983 and sent to lumber buyers across the nation and around the world. This increased awareness of Alabama firms has led to increased sales, especially in the pole market.

As of May, 1986, the AFC has a full-time International Trade Specialist based in Tuscaloosa. His role is to help firms that want to export their products and to locate foreign buyers who are interested in Alabama wood products.

A third way to develop Alabama is to increase the number of new mills and expand existing mills. The major emphasis here is to fill in the empty niches in the market. This will primarily be done by developing some primary, but mostly secondary manufacturers. These secondary plants use Alabama lumber to make other products. These plants will generate more jobs for Alabama citizens and a stronger market for Alabama wood products. The goal is to get more dollars generated in the state's economy for every tree cut.

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## Conclusion

The Alabama Forestry Commission is working for the people of Alabama. Its charge to conserve, protect, and develop the forests of Alabama is a good summary of its activities. The forest industry benefits from protection, reforestation efforts, and market expansion. Landowners also benefit from protection and reforestation. The educational effort helps landowners better manage their land, which indirectly helps industry. The market expansion indirectly helps landowners by improving stumpage markets.

State Forester C. W. "Bill" Moody has often stated that the Alabama Forestry Commission is one of the most cost effective agencies in the South. It is his goal to continue to be cost effective and to keep improving the services available to Alabama's citizens.

We have come a long way, but we still have a way to go until the statement "I'm from the Government and I'm here to help you" is not a bad joke, but a statement of fact!

# LANDOWNERS

LEGISLATIVE  
ALERT



## NATIONAL

by MELINDA COHEN, Legislative Liaison, National Association of State Foresters, Washington, D.C.

**W**ASHINGTON IS A BUSY PLACE with the 100th Congress in session. Bills are passing and hearings are taking place.

Alabama is represented on congressional committees with jurisdiction over forestry by Howell Heflin (AL), Senate Agriculture Committee; freshman Representative Harris, House Agriculture Committee; and Representative Bevill, House Appropriations Committee.

### Drought Relief and Cost-share Programs

The United States Department of Agriculture (USDA) earmarked \$3.2 million of Agricultural Conservation Program (ACP) funds for replanting seedlings killed by last summer's drought. Two letters written by Senator Heflin helped make these funds available although the administration is sympathetic to the plight of the Southern tree farmers.

All other cost-share programs, including ACP, and the Rural Community Fire Program have been proposed for rescission by the Office of Management and Budget (OMB). Congress has 45 days to act on the rescission or the funds will be returned and distributed (approximately March 5). The major problem with the rescission is the delay which causes Southern states to miss the planting season for 1987.

A sign up for the Conservation Reserve Program (CRP) was scheduled for February 9-February 27. USDA has slightly relaxed the definition of soil erosion. If a farmer's land has been cropped or hayed three out of the last five years, and if it is highly erodible, he can elect to place it in the Conservation Reserve. The land may be planted to grass or trees and the farmer will receive rental payments from USDA for ten years plus a cost share to establish the selected cover.

### Forest Service Budget

Once again, the State and Private Forestry

(SPF) Program will have to fight to increase or even maintain previous levels of funding for Fiscal Year 1988. SPF programs were slashed more than 40%. This budget will eliminate most technical and financial assistance available to the state forestry agencies and private landowners. Most of what remains of the 1987 level of \$58 million is slated to suppress pests on federal lands (\$27 million out of a total proposed budget of \$35 million).

The Administration's reduced budget request shows a continued lack of understanding of the role of non-industrial private forestlands in maintaining a productive economy. The State and Private Forestry budget provides the funds necessary to carry out cooperative (state and federal) pest management, fire protection, forest resource management, wood utilization programs, urban forestry, and tree improvement programs. Pest and fire problems do not know private, state, or federal boundaries and need to be suppressed in early stages to prevent unnecessary losses and damages.

Reduced, in fact eliminated, funding for the management and utilization programs (which provide funds for tree seedlings) will severely hamper the Conservation Reserve Program. The proposed elimination of these programs ignores the fact that farmers are in the largest tree planting program in U.S. history through CRP.

### Tax Bill

The new tax reform bill is certain to have an effect on private non-industrial timber owners (who currently receive a variety of tax incentives to manage their forests) because it eliminates preferential treatment for capital gains. However, it does retain current tax law allowances for annual expensing of timber management costs, preserves the reforestation tax credit, and lowers overall income tax rates.

One rule in this bill to watch is the

"passive loss" provision—Congress changed the tax code to prevent people from using losses on passive income (such as income from stocks and bonds) to offset otherwise taxable income (such as that earned in a job). Unless a timber landowner has material participation in his business that is regular, substantial and continuous, the expenses that occur while raising his crop (trees), will be "passive losses" and only deductible when timber is harvested.

Generally, those timber owners who are "actively" involved in the timber business can still offset their expenses. "Passive" investors and business partners may now only offset expenses from passive income such as gains made when stocks are sold. There continues to be dispute over who is a "passive" or "active" woodland owner.

### Trade and Marketing

A forestry coalition is exploring the possibility of a section in the new Trade Bill to increase U.S. timber and forest products' markets and competitiveness. The trade deficit in forest products alone for the first 5 months of this year was \$1 billion. In 1984, the U.S. ran a \$2.2 billion trade deficit in forest products, compared to a \$500 million surplus in 1981.

A market development program to assist domestic producers in this area is essential. Forest products firms often have trouble penetrating foreign markets due to a variety of trade barriers. A preliminary report on such an initiative was requested by the Senate Interior and Related Agencies Subcommittee appropriations bill and will be issued later this month.

Forest products' companies have also had trouble obtaining financing for foreign buyers. USDA programs previously available to wood products' producers have been shut off by the Administration. If forest products are to remain and gain market shares abroad, they must have access to financing. ♣

# LANDO

**LEGISLATIVE  
ALERT**

by FRANK SEGO, Legislative Liaison, Alabama Forestry Commission

## United States Senate

WASHINGTON, D.C. 20510

February 3, 1987

Mr. Cecil W. Moody  
Alabama Forestry Commission  
513 Madison Avenue  
Montgomery, Alabama 36130

Dear Cecil:

For the past few years, our timber industry has experienced some very hard times due to increases in Canadian lumber imports. Nearly \$3 billion worth of Canadian softwood, or about one-third of U.S. supplies, comes into this country annually. The increase of Canadian lumber imports has resulted in the closing of 250 lumber mills across our Nation over the past six years and the loss of more than 30,000 American timber jobs since 1978.

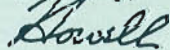
As you probably know, on October 16, the Commerce Department called for a 15% countervailing duty against Canada's exports softwood lumber, charging that they were subsidized. After attempts to reach a settlement, Canada finally agreed, on December 30, to a 15% tax on their softwood lumber exports. The lumber producing provinces of Canada are expected to receive all the proceeds from the levy, including the export charge. Under the pact's provisions, the export tax will eventually be replaced by increased fees that provinces charge forest companies for standing lumber. The calculation of the value of such replacement measures will be subject to U.S. government agreement.

While I wish that the settlement percentage had been higher, I believe that this agreement marks a positive step in our fight for free and fair trade. I am especially encouraged by the fact that the U.S. government has agreed to police the export tax and to apply a countervailing duty if Canada is found to be in violation of the agreement.

As you know, I have long fought for legislation to protect our timber industry from Canada's unfair trade practices, such as the Canadian stumpage fee system. While I am not completely satisfied with this agreement, you may rest assured that I will continue to work for real and enforceable agreements to help our timber industry.

If I may ever be of any assistance to you, please feel free to contact me.

Sincerely,



Howell Heflin

HH/deg

**I**N OUR LAST TWO COLUMNS of the Legislative Alert we profiled members of the 1987-90 Legislature who will convene in regular session on April 21.

Since the last issue came off the press both Lt. Governor Jim Folsom, Jr., and House Speaker Jimmy Clark have announced their committee assignments.

Folsom added a new twist to the Committee on Agriculture, Conservation, and Forestry by establishing a subcommittee on Forestry, Fish and Game, and a subcommittee for Coastal Waters Conservation.

To the delight of forestry observers, Senator Ann Bedsole of Mobile was selected by Folsom to chair the full committee. Senator Loyd Coleman of Arab is vice chairman. Senator Frank (Butch) Ellis of Columbiana will head the Subcommittee on Forestry, Fish, and Game. Senator Bill Menton of Mobile assumes chairmanship of the Coastal Waters Conservation Subcommittee.

### Bedsole Heads Committee

Senator Bedsole has been one of the legislative leaders for Alabama's forestry program from the day she entered the House in 1978. She was elected to the Senate in 1982 and reelected in 1986. Senator Ellis also has a high profile in Alabama forestry being one of Shelby County's TREASURE Forest landowners.

Other members of the Agriculture, Conservation, and Forestry Committee are Senators Chip Bailey, Dothan; Foy Convington, Newville; Bobby Denton, Tuscumbia; Charles Bishop, Jasper; Don Hale, Cullman; Perry Hand, Gulf Shores; Donald Holmes, Anniston; Lowell Barron, Fyffe; and Ray Campbell, a farmer from Town Creek.

House Speaker Clark also made a title



# WINNERS

STATE



change in the Committee formerly known as Agriculture and Forestry, combining it with the old Committee on Natural Resources. The new name is the Committee on Agriculture, Forestry, and Natural Resources.

Representative Ben Richardson of Scottsboro gets the nod to head this committee. Representative Dwight Faulk of Honoraville will serve as vice chairperson. Committee members include Representatives Harrell Blakeney, Thomasville; Mike Breedlove, Jackson; Jenkins Bryant, Newbern; Jim Hamilton, Rogersville; Richard Lindsey, Centre; Steve Logan, Hamilton; Nathan Mathis, Newton; Gordon Moon, Guntersville; Walter Penry, Daphne; Euclid Rains, Albertville; Jimmy Warren, Castleberry; Frank (Skippy) White, Flomaton; and Gerald Willis, Piedmont.

## Heavy Forestry Agenda

An active agenda of forestry legislation awaits the opening gavel of the 1987 Regular Session. Included in a package of bills is a measure to establish the Timber Theft Condemnation Act. This would set procedures for seizing, confiscating, and condemning vehicles and equipment used in connection with timber and lumber theft. Its passage will be hailed as a major accomplishment in curtailing thousands of dollars lost annually in woodland theft.

A similar bill, to be known as the Woodland Fire Condemnation Act, would establish procedures for seizing and condemning equipment used in violation of Alabama's forest fire laws.

A bill is being introduced by Representative Mike Breedlove of Jackson to simplify the method of maintaining records of purchases of manufactured forest products. It

would also stiffen the penalty for failure to maintain such records. Forestry leaders agree this amendment to the existing law is long overdue.

Another measure is aimed at bringing relief to Alabama's beetle problem. It sets up an emergency fund for insect and disease control. Epidemic conditions will be monitored by the state forester. Upon his recommendation, and with concurrence by the governor, funds would be drawn for such emergencies and replenished automatically at the beginning of each year. A similar fund was established in 1978 for forest fire emergencies.

## Wood Energy Recommended

The Alabama Legislative Forestry Study Committee made its recommendations to the incoming legislature by endorsing a plan for a centrally located wood energy system in the State Capitol complex.

Representative Jimmy Warren, in his report of the committee for 1986, urged legislators to request that the state investigate ways to conserve energy and reduce operating costs in the Capitol complex.

The report of the Forestry Study Committee said the Energy Division of ADECA was designated as the coordinating agency and that a consulting firm (Energy Management Consultants of Birmingham) had been retained to conduct the technical and feasibility study for a central district heating and cooling system to supply the 11 buildings in the complex.

The Forestry Study Committee, the Forestry Commission, the Forestry Association, and the Energy Division of ADECA share a mutual interest in utilizing renewable energy resources, particularly forest and mill residue and other sources of wood biomass for a central energy plant, ac-

ording to the Study Committee's report to the legislature.

## Governor Hunt's Emphasis '87

Governor Hunt has been lauded for his Agricultural Emphasis '87 program designed to coordinate all agricultural agencies and explore options that will assist Alabama farmers to stay in business.

During a meeting of agency heads and representatives in February at the State House, Hunt called agriculture "Alabama's largest business" and said increasing exports would open new doors to all farmers. He said he and the Alabama Development Office are considering a unit to deal specifically with farm issues and would look into such areas as establishing food processing plants in Alabama.

State Forester Bill Moody had an opportunity to express forestry's support for the governor's program saying he was impressed with his approach to these problems and his desire to meet them head-on with positive action. ♣

## CORRECTION

Please note that an error was made in the copy for "Timber and Wildlife Trade-offs" which appeared in the Winter, 1987, issue of **Alabama's TREASURED Forests**. The correction is on page 13, last sentence of last paragraph of Summary and Conclusions: *The benefits created by these costs — improved wildlife habitat and potential for increased wildlife populations do contribute to the basic goals of industrial forestry organizations.* The word "not" should have been deleted.

# HERBICIDE ALTERNATIVES FOR THE PRIVATE FOREST LANDOWNER

by DR. R. J. MITCHELL, School of Forestry, Auburn University

Information presented in this article is primarily based on research reported by the Auburn University Silvicultural Herbicide Cooperative and U. S. Forest Service, George Andrews Lab, Auburn, AL 36849.

Herbicides as tools in forest management have gained increasing interest recently. Research conducted by the Silvicultural Herbicide Cooperative and the U. S. Forest Service at Auburn, Alabama, and others has resulted in the development of techniques that are able to solve a wide variety of vegetation problems in forest management. The following suggestions are primarily based on those research findings.

## Site Preparation

Mechanical site preparation methods are used to remove slash from the site which also increases accessibility to machine or hand planting crews. Also mechanical site preparation often improves survival and early growth due to hardwood control in the first year. A disadvantage of mechanical site preparation is that many of the methods used will result in stimulating hardwood sprouting and necessitate pine release in 3-5 year old stands. Mechanical site preparation can also result in soil compaction and erosion, both of which reduce the productive capacity of the site.

Costs of four commonly used mechanical site preparation methods are listed in TABLE I. These costs can serve as a reference to compare mechanical site preparation alternatives to chemical site preparation methods.

TABLE II lists herbicides labeled for site preparation in the South. Of these herbicides, the majority of acreage throughout the South is treated with one of the following herbicides or tank mixes:

1. TORDON® 101 mixture + GARLON® 4
2. PRONONE® 10G
3. ROUNDUP®
4. VELPAR® L
5. TORDON 101 mixture + 2, 4-DP
6. TORDON 101 mixture.

TABLE III lists the rates and cost per acre of the seven most commonly used chemical site preparation alternatives. It should be noted that costs can vary greatly depending on source and volume of herbicides purchased.

Both PRONONE 10G and VELPAR L have the same active ingredient, hexazinone.

Hexazinone is a soil active herbicide and rates of PRONONE 10G and VELPAR L will vary depending on soil texture (TABLE IV). Hexazinone herbicides should be applied from March to early June and must be activated by rain. Hexazinone (PRONONE and VELPAR) is particularly effective in controlling oak species. Higher rates will

TABLE I

### APPROXIMATE COST OF FOUR COMMONLY USED SITE PREPARATION METHODS

Method of Site Mechanical Preparation	Cost per Acre (\$)
Single pass drum chopper	48-70
Double pass drum chopper	50-90
Shear, rake, and pile	80-110
Shear, rake, pile, and bed	95-211

TABLE II

### HERBICIDES REGISTERED FOR SITE PREPARATION IN THE SOUTHERN UNITED STATES

Common Name	Trade Name	Manufacturer
Dicamba	BANVEL® Herbicide	Velsicol
Dicamba	BANVEL® XG	Velsicol
Dicamba + 2, 4-D (amine)	BANVEL® 720	Velsicol
Dicamba + 2, 4-D (ester)	BANVEL® 520	Velsicol
Dichlorprop <sup>1</sup>	WEEDONE® 2, 4-DP	Union Carbide
Dichlorprop + 2, 4-D (ester)	WEEDONE® 170	Union Carbide
Dichlorprop + 2, 4-D (ester) + Dicamba	ACME® SUPER BRUSH KILLER	PBI/Tordon
Fosamine Ammonium	KRENITE®	DuPont
Fosamine Ammonium	KRENITE® S	DuPont
Glyphosate	ROUNDUP®	Monsanto
Hexazinone	BUCKSHOT® 10-PH	Forshaw
Hexazinone	PRONONE® 5G	Pro-Serve
Hexazinone	PRONONE® 10G	Pro-Serve
MSMA <sup>2</sup>	TRANS-VERT®	Union Carbide
MSMA <sup>3</sup>	RIVERSIDE 912	Riverside Chemicals
Picloram	TORDON® K	Dow
Picloram	TORDON® 10K	Dow
Picloram + 2, 4-D (amine)	TORDON® 101 mixture	Dow
Triclopyr (amine)	GARLON® 3A	Dow
Triclopyr (ester)	GARLON® 4	Dow

<sup>1</sup>Registered under FIFRA Section 24-C in AL, AR, GA, LA, MS, NC, SC, TX and VA.

<sup>2</sup>Registered for use only as a tank mix with WEEDONE® 170.

<sup>3</sup>Registered under FIFRA Section 24-C in AL and MS.

result in partial control of sweetgum, hickory, dogwood, red maple and sumac. Herbaceous weed control is a secondary benefit when **VELPAR L** or **PRONONE** is used in site preparation.

**TORDON** and **GARLON** products are primarily foliar active herbicides. They can be applied any time in the spring after bud break when the foliage on the target species is fully developed (early spring to early summer). However, foliar active herbicides should not be applied during periods of severe moisture stress. Fall applications have resulted in some success; however, higher rates are advised.

Both herbicides have some residual soil activity. Six months should elapse between applying **TORDON** products and planting the site, and at least two months waiting period should be observed with **GARLON** application. Generally, **GARLON** will control oaks, sweetgum, hickory, sassafras, black locust and conifers, while **TORDON** controls oaks, elms, pine and cherry. Tank mixes of **GARLON 4** and **TORDON 101** mixture provide a broad spectrum of species control.

**WEEDONE 2,4-DP** is usually applied as a tank mix with **TORDON 101** mixture, but can be used alone at a rate of one to two gallons per acre. **WEEDONE 2, 4-DP** will control sumac, oaks, locust, sweetgum and blackgum. All **2, 4-D** ester formulation and **2, 4-DP** herbicides are subject to volatilization above 90-95°F; therefore, these herbicides should not be applied when temperatures above 90° are expected. Like **GARLON, 2, 4-DP** is a foliage active herbicide and should be applied after one-half to full leaf development.

**ROUNDUP**, also a foliage active herbicide, has a wide range of species that it controls. **ROUNDUP** will control oak, sweetgum, sassafras, yellow poplar and sumac. **ROUNDUP** is weak on hickory, dogwood, blackgum and red maple. Good herbaceous weed control is obtained from **ROUNDUP** applications. **ROUNDUP** applications are best made in late summer or early fall before leaf drop.

**ARSENAL**®, a new product from American Cyanamid, currently has a "10,000 acre experimental use label", with a "general label" expected in 1987. **ARSENAL** may be used for site preparation at a rate of one pound acid equivalent per acre, which will result in a wide range of species controlled. A generalized table comparing species susceptibility to the various herbicides is provided in **APPENDIX A**. When a large number of intermediate or tolerant species are present on site for the herbicide selected, choose a higher rate to improve control and/or tank-mix with another herbicide.

**TABLE III**  
**APPROXIMATE CHEMICAL COSTS OF SIX COMMONLY USED SITE PREPARATION TREATMENTS**

<i>Herbicide</i>	<i>Rate Per Acre</i>	<i>Approximate Chemical Costs Per Acre</i>
<b>TORDON 101</b> mixture + <b>GARLON 4</b>	1-½ ½ gallons	\$88
<b>PRONONE 10G</b>	10-40 lbs product	\$35-140
<b>ROUNDUP</b>	1 Gallon	\$82
<b>VELPAR L</b>	1-½ - 3 gallons	\$66-132
<b>TORDON 101</b> mixture + <b>WEEDONE 2, 4-DP</b>	2 + 1 gallon	\$87
<b>TORDON 101</b> mixture	2 - 3 gallons	\$62-93

An additional \$20-25 per acre for application costs should be included to determine an approximate costs figure.

**TABLE IV**  
**SUGGESTED SITE PREPARATION RATES OF PRONONE 10G AND VELPAR L**

<i>Soil Texture</i>	<i>PRONONE 10G (lbs.)</i>	<i>VELPAR L (gallons)</i>
Sand	15-20	¾ - 1 gallon
Sandy Loam and Loamy Sand	20-30	1 - 1½ gallons
Loam, Silt Loam, Sandy Clay Loam	30-35	1½-1¾ gallons
Clay Loam		
Sandy Clay, Silty Clay Loam	30-40	1½ - 2 gallons
Silty Clay	35-40	1¾ - 2 gallons
Clay	not recommended	not recommended

### **Pine Release**

Broadcast herbicide treatments for pine release can be done with **PRONONE 10G**, **VELPAR L**, **ROUNDUP** or **ARSENAL**. **TABLE V** lists the rates of **PRONONE 10G** that can be applied to pine plantations at various ages and soil texture. **ROUNDUP** release rates are one-and-a-half to two quarts per acre as a fall treatment. **ARSENAL** is recommended at one-half pound per acre for a broadcast release rate. **ARSENAL** can be applied throughout the growing season, but the best results have occurred with applications late in the growing season. **ARSENAL** is extremely effective in controlling oak, hickory, red maple, sweetgum, blackgum, yellow poplar and other commonly encountered weed trees. **ARSENAL** is weak on wax myrtle, persimmon, bays, cedar, holly and elms. Also, **ARSENAL** will provide herbaceous weed control at release rates.

Spot-gun application of **VELPAR L** can also be an effective release treatment. Spot-guns are available from Forestry Suppliers in Jackson, Mississippi, or from Ben Meadows in Atlanta, Georgia. They range in price from about \$37 to more than \$100. Dupont also has a "disposable" spot-gun that costs less than \$10.

The spot-gun is a hand held device that delivers a metered amount of **VELPAR L** to the soil. Spot-gun applications can be used to control individual hardwood stems, or can be applied in a grid pattern to give control throughout an area.

As with all other types of hexazinone applications, spot-gun applications of **VELPAR L** should be done from mid-March through early June. To control individual stems, apply two to four ml. of herbicide per inch of the tree's diameter at breast height. The following procedure is suggested for individual stem treatments:

1. Set spot-gun to deliver a 2 ml. spot.
2. Estimate the diameter of the tree four and one-half feet above the ground line (DBH).
3. Apply the number of spots corresponding to the tree's diameter on sandy loam to loam soils. If the soil is heavier than a loam, double the number of spots. For example, a 6" tree on a sandy loam would have six 2 ml. spots evenly spaced around the tree. The same tree on a clay loam would have twelve 2 ml. spots. For trees 6" DBH and below place the spots 3-4 ft. from the stem. For trees 6" DBH or larger move out 5-6 feet from the stem.

When a large number of hardwood stems per acre are to be treated, one may choose to use the grid pattern approach. This technique should not be used for pine release on gravel or rocky soils; also, this method may result in unacceptable levels of pine mortality on soils that have a hardpan near the surface. **VELPAR L** should not be applied when seedlings are stressed by insects, disease, or drought. Finally, the grid pattern should only be used to release plantations either one year old or four years and older. **TABLE VI** prescribes the spacing and rate of herbicide use per acre for both site preparation and rate of release. Care should be taken to properly calibrate the amount of **VELPAR L** applied. Avoid applying **VELPAR** directly up slope from a seedling.

Spot-guns should be cleaned after each use. After cleaning, running a suspension of vegetable oil and water through the spot-gun prolongs its life. Adding a tablespoon of vegetable oil or "White lube" (a water soluble lubricant that can be purchased at a hardware store) will reduce crystallization problems. Also, several spot-guns have a clear plastic cylinder. Replacing that cylinder with a tinted plastic cylinder avoids problems with crystal formation. Finally, adding a blue dye to the herbicide and flagging the treated rows help locate areas that you have already treated.

Hardwood release can also be accomplished by directed sprays of foliage active herbicides (**TABLE VII**). **GARLON 3A**, **ROUNDUP** and **WEEDONE 2, 4-DP** are currently labeled, and **GARLON 4** and **ARSENAL**, in all likelihood, will soon be labeled.

**ARSENAL** has the advantage that minimal to no damage will occur if the spray comes in contact with the pine. The other herbicides mentioned will cause substantial damage if pines are sprayed or significant drift occurs.

With this method, hardwood foliage is sprayed until wet; all of the crown, or as much as possible, should be treated. Because of this, stands should be 3 years old or younger, and hardwood competition should be less than 6 feet in height. Depending on size of hardwood stems and density of competition, 10-64 fluid ounces of herbicide may be used per 4-8 acres per man-day. This treatment can be applied any time after foliage has fully developed on hardwoods to early fall. Herbicide effectiveness can be reduced during periods of severe moisture stress.

Hardwood release can also be accomplished by basal bark treatments. Basal bark treatments are often done in the dormant season due to better access.

**TABLE V**  
**PINE RELEASE RATES FOR PRONONE® 10G FOR VARIOUS SOIL TEXTURES<sup>1</sup>**

Soil Texture	AGE <sup>2</sup>					
	1	2	3	4	5	6
	lbs product per acre.					
Sand	0	0	8	10	12	12
Loamy Sand	0	0	10	10	12	12
Sandy Loam	0	0	12	15	15	15
Loam	0	0	15	18	20	20
Sandy Clay Loam	0	0	15	18	20	20
Silt Loam	0	0	20	20	22	22
Clay Loam	0	0	25	25	30	30
Sandy Clay	0	0	25	25	30	30
Silty Clay Loam	0	0	25	25	30	30
Silt	0	0	25	25	30	30
Silty Clay	0	0	25	25	30	30
Clay	NOT RECOMMENDED					
	%OM					
	1%	1.5%	2%	3%	4%	5%
Organic Matter Factor	1.00	1.05	1.10	1.15	1.20	1.25

<sup>1</sup>Adapted from "PRONONE, A Granular Brush Herbicide Formulated for Forestry," Product Information Sheet, Pro-Serve, Inc., Memphis, TN, 4 p.

<sup>2</sup>Recommended for release of most southern pines: Loblolly, longleaf, short-leaf, Virginia, and slash.

SAMPLE CALCULATION: Loam, 4% organic matter, 4 years old, 18 lbs x 1.20 = 21.6 lbs/A

**TABLE VI**  
**SUGGESTED APPLICATION PATTERNS AND RATES FOR UNDILUTED VELPAR L**

<i>For Site Preparation and Preharvest Control of Hardwoods</i>			
Soil	ML/Spot	Grid (Ft)	Qts./Acre
Coarse	1.0	4'x4'	4
	3.0	4'x6'	6
Medium/Fine	3.0	3'x6'	8
	2.33	3'x3'	12
<i>For Pine Release</i>			
Soil	ML/Spot	Grid (Ft)	Qts./Acre
Coarse	2.0	6'x7'	2*
	2.5	5'x6'	3
Medium/Fine	2.0	4'x6'	4
	2.33	3'x6'	6
	1.5	3'x3'	8

\*Use on deep sands with pines four years of age.

However, these treatments can be applied year-round. **WEEDONE CB** can be used on hardwoods 4" DBH and smaller by spraying the lower 18-24" of the stem with the undiluted product. **GARLON 4** can be used in a stream-line application by a spot-gun and solo backpack sprayer which delivers a thin stream of herbicide to stems 3" DBH and smaller. A stream-line solution should contain 25 ounces of **GARLON 4** plus 13 ounces of **CIDE-KICK** (or any nonionic surfactant) in sufficient diesel fuel to make one gallon total. **APPENDIX A** includes a photo, plus a list of parts for a Gunjet® Spot-gun produced by Spraying Systems Company which is commonly used as a stream-line applicator.

### Tree Injection

Tree injection is a widely used method for killing unwanted trees during site preparation, pine and hardwood release, and timber stand improvement. Trees greater than 1" DBH can be injected, and generally injection has been used in areas with 100 or less weed-tree stems per acre. Although several herbicides are labeled for tree injection in the South, in practice **2, 4-D** (Amine), **TORDON® 101 R**, **TORDON RTU**, **TORDON 101** mixture, **ROUNDUP**, and **GARLON® 3A** are the most commonly used. The label recommendation for **2, 4-D** is injection of 1-2 ml. of undiluted **2, 4-D** (Amine) for each inch in DBH.

**TABLE VII**  
**HERBICIDES CONCENTRATIONS AND ADJUVANTS USED FOR DIRECTED SPRAY RELEASE TREATMENTS**

Herbicide	Concentration	Adjuvant
ARSENAL*	0.5 - 1.0%	
CIDE-KICK		
ROUNDUP	2 - 4.0%	None
GARLON 3A	2.5 - 4.0%	
CIDE-KICK		
WEEDONE 2, 4-DP	4 - 6.0%	Crop Oil

\*Currently under an EUP label.

**TABLE VIII**  
**ESTIMATED COSTS FOR SOME COMMONLY USED HERBICIDES FOR HERBACEOUS WEED CONTROL (1985)**

Herbicide	Rate (product/A)	Cost/A <sup>1</sup>
OUST®	3-8 oz	\$20-52
OUST® + VELPAR	2 oz + 32 oz	\$23
PRONONE®5G	10-30 lbs	\$15-45
ROUNDUP® (directed spray)	2% solution	\$8 <sup>2</sup>
ROUNDUP® + OUST®	16 oz + 2-3 oz	\$23
	24 oz + 4 oz	\$41
VELPAR®L	1/4 - 1 gal	\$10-40

<sup>1</sup>Estimates only. Costs will vary tremendously depending on the quantity purchased, rebates and local market conditions; add \$10-15 per acre for application costs.

<sup>2</sup>Assumes 5 gallons spray solution per field or gross acre applied in bands.

#### APPENDIX A

#### HERBICIDE EFFECTIVENESS

Weed Species <sup>1</sup>	TORDON 101				
	ROUNDUP	GARLON 4	mixture	VELPAR	ARSENAL
Sweetgum	I <sup>2</sup>	S	T	V	S
Red Oak	S	S	S	S	S
White Oak	I	S	S	S	S
Red Maple	T	I	I	I	S
Dogwood	T	I	I	I	I
Hickory	T	I	I	I	S
Tulip Poplar	I	I	I	T	S
Elm	I	S	S	I	T
Blackgum	T	I	I	T	S
Rubus Spp	I	S	S	I	T

<sup>1</sup>Effectiveness is based on site preparation rates.

<sup>2</sup>S = susceptible I = intermediate T = tolerant V = variable

**TORDON 101R** (**TORDON RTU** is the same chemical) should be injected at a rate of 1 ml. of undiluted herbicide with injections spaced at intervals of 2 to 3 inches between the edges of the injection wounds. **TORDON 101** mixture and **GARLON 3A** are both recommended at a rate of 1 ml. of diluted herbicide (1 part herbicide mixed with 1 part water) at intervals of 3 inches. **ROUNDUP** at a 30% concentration is recommended for injection. Each label recommends that injections overlap for hard-to-kill species, or in other words, the stem should be completely girdled.

Injection can be done with the **TORDON** products throughout the year except during the early spring when the sap is

rising. Generally, **2, 4-D** (Amine) is not as effective during the dormant season as it is when the trees are actively growing. All injected herbicides will tend to lose their effectiveness during prolonged dry spells. Also, heavy rains during or shortly after injection may wash the herbicide out of the "cup" thus reducing the percentage kill.

A consideration in the choice of herbicides may be the risk of "flash back." **TORDON** products have picloram as an active ingredient. Picloram is so soluble that it can be translocated to the root system of an injected tree and be exuded (leaked) into the soil. Thus, a neighboring tree can then absorb the picloram and

show variable percentage of topkill. Both pines and desirable hardwoods can be killed by "flash back." Injections with **GARLON 3A**, **ROUNDUP** and **2, 4-D** (Amine) are less likely to result in "flash back" than the **TORDON** products.

Costs of herbicide differ slightly on a per-acre basis. For example, **2, 4-D** (amine) will be slightly less expensive than **TORDON RTU**. **TORDON RTU** costs will be approximately the same as using a 50% dilution of **GARLON 3A** or 30% **ROUNDUP**.

#### Herbaceous Weed Control

The herbicides commonly used for herbaceous weed control and their rates are listed in **TABLE VIII**. Banded or spot treatments can further reduce the chemical cost from that of broadcast applications. **OUST** is an effective herbaceous weed control herbicide that provides a wide range of species that it controls and has both pre- and post-emergence activity. It should be applied in the spring after the weeds have just started to emerge (late March-April). A **ROUNDUP-OUST** tank mix is effective in controlling several common herbaceous weeds that **OUST** alone does not control. Blackberry, dog fennel, ragweed, goldenrod, broom sedge, and Johnson grass are all controlled to a greater extent with a tank-mix of **OUST** and **ROUNDUP** than is achieved with **OUST** alone. **OUST-ROUNDUP** tank mix is applied in the spring after the weeds have become established and are beginning rapid growth.

#### Herbicide Safety

Herbicide application should always be done in a safe and effective manner. Several practices are strongly recommended.

Whenever concentrated herbicides are used wear some type of eye protection, such as goggles. Always have plenty of water and detergent on hand so that any herbicide can be thoroughly washed off yourself or a partner in the woods in case of a spill. Also, a plastic eye wash bottle can easily be modified to be attached to a belt and carried out to the field. Empty containers should be rinsed three times, and then they can be treated as solid waste and be disposed of in a sanitary landfill. Rinse the containers and equipment in the field so that the rinse water can safely be applied to the treated area.

Always remember that the most important five minutes in a herbicide application is the time you take to **READ THE LABEL**. ♣

# ACTIVITIES

DISTRICT

1

The Calhoun County Forestry Planning Committee sponsored a unique forestry demonstration concerning tree planting. The informative program

highlighted nursery operation and seedling care, how to prepare and plant seedlings and how to check for proper planting.

**Bob Mitchell**, herbicide specialist with the Alabama Extension Service, has been working with Cherokee County Supervisor **Stanley Anderson** on developing a chemical herbicide demonstration area. Specific practices such as herbaceous weed control, pine release, kudzu control and site preparation techniques will be highlighted on TREASURE Creed signer **Frank Bankson's** property. Chemical herbicides are an important tool in the hilly country in North Alabama and Bob's willingness to promote their usage is a significant benefit.

The North Alabama Reforestation Committee met in Jackson County recently with a program about herbicides. **Monsanto's Jimmie Cobb** and **Dupont's Don Dierker** gave presentations concerning their respective chemicals. AFC personnel from several counties attended, as did SCS personnel, representatives from forest industry, and two area vendors. Jackson County supervisor **Ed Eldredge** updated the Committee about the joint venture with TVA concerning a demonstration area. RCD Forester **Brian Bradley** discussed the Committee project involving aerial/satellite photography in future planning efforts.

**Ms. Helen Schaeffer**, whose property lies in Jackson County, became the 38th TREASURE Forest in District 1 and the 6th in Jackson County. In addition, three other landowners—**John Lagarde**, **Waymon Horsby** and **Ralph McClendon**—were recertified as TREASURE Forest landowners.

**Mickey Easley**, wildlife consultant who is on contract with the AFC, was in District One recently advising landowners on methods to improve their wildlife habitat. He met with three landowners in Jackson County and visited their property to give on-site recommendations. We hope to incorporate wildlife biologist recommendations into all TREASURE Forest plans made for our Creed signers.

DISTRICT

2

On November 3, **Dennis Underwood** joined the Blount County AFC Office as a Ranger I.

The Ricetown Community of Blount County held a community meeting November 4 for the purpose of organizing a volunteer fire department. **Ranger Steve Bowden** spoke to approximately 28 interested residents during the meeting.

The Blount County Forestry Commission office, along with State Forester **C.W. Moody**, Congressman **Tom Bevill**, District representatives, and the residents of Blount County christened the state's first county owned TREASURE Forest November 9. **Palisades Park**, (90 acres of scenic views, hiking trails, and picnic areas) was officially dedicated as a TREASURE with a ceremony at one of the park pavilions. The Blount County Commission is managing the land for

recreation and aesthetics.

Blount County Forestry Supervisor **John Rice** and District I and E Coordinator **Coleen Vansant** attended I and E Ranger Training in Selma November 17-21.

A chain saw safety seminar, hosted by the Cullman County Forestry Planning Committee was held Thursday, November 20 at Camp Meadowbrook Conservation Camp near Simcoe in Cullman County. Approximately 20 people attended the seminar, conducted by **Steve Lucas** of Tilton Equipment Company.

During the month of November, **St. Clair County Rangers Gary Hamilton** and **Randy Hurst**, along with county law enforcement officers, conducted a Jr. Deputy program to approximately 750 sixth grade students in **St. Clair County**. The rangers' program touched on the topics of fire prevention and fire safety.

As part of the program, the **St. Clair County Forestry Planning Committee** sponsored a tour of **International Forest Seed Company** in Odenville. Company staff presented each sixth grade student with a containerized tree seedling.

On November 24-25, **Blount County Ranger Steve Bowden** attended Hazardous Material School with **Blount County volunteer firefighters**. Bowden has completed a total of 90 hours in courses related to hazardous material.

**Cullman Ranger Tom Gilpin** presented a program of "A Forest Ranger's Job" to approximately 45 Cub Scouts November 24, on **Cub Scouts' Career Day** in Cullman.

Blount County Rangers **Steve Bowden** and **Dennis Underwood** were part of the 1986 edition of the **Blount County Annual Christmas Parade**. Bowden drove the Blount County AFC's new transport and tractor while Underwood ("Smokey") rode behind.

**Leon McLemore** of **Walker County** was honored Thursday, December 11 when his 918-acre farm in Walker County was dedicated as a TREASURE Forest. The presentation was made prior to a Forestry Tax Seminar hosted by the **Walker County Forestry Planning Committee**. Mr. McLemore is managing his property for timber and wildlife.

During the month of December, **Walker County rangers** presented a program on tree planting to all third grade students in Walker County. Each school was presented a redbud tree for planting on the school grounds. As a follow-up, rangers returned to the schools where each child was given a pine tree seedling to take home and plant.

The **Blount County Forestry Planning Committee** hosted a Landowners' Field Day on December 20. Topics included site preparation, tree planting, forestry herbicides, and forestry investments for local landowners.

The **City of Jasper** is well on its way to becoming a new Tree City. The city council recently passed an ordinance to establish a tree commission in the city—a requirement for a Tree City, USA nomination.

On New Year's Day, Blount County Forestry Supervisor **John Rice** attended the meeting of the **Blount County Conservation Club** where he presented a slide-tape program on Alabama Birds.

During the week of January 1-5, Blount County Supervisor **John Rice** completed a prescribed burning course at the Dixon Center.

Hardwood Specialist **Tom Cambre** spent the day with Blount County AFC personnel January 20, where he discussed the management of upland hardwoods.

Management Forester **Tom Kimbrell** was a guest on the Channel 13 "Farm Roundup" program January 21 in Birmingham. Tom's program was centered around planting tree seedlings and the treatment and proper care of pine seedlings.

Blount County Ranger **Steve Bowden** is currently organizing a 160 hour fire-fighter certification course with **Rice-town, West Blount, and Mt. High Volunteer Fire Departments**.

District I and E Coordinator **Coleen Vansant** was a guest of the **Fairview Lions Club in Cullman County** on January 22. Approximately 25 Lions Club members were present at the meeting where a program on Alabama's wildfire problem was presented.

Cullman County Forestry Supervisor **Darrell Johns**, Ranger **Jim Moody**, District Forester **Bart Williams**, and I and E Coordinator **Coleen Vansant** were among those who attended the January 26 dedication of the **Frank Mitchell Farms** near Colony as a TREASURE Forest. **Mrs. Frank (Elsie) Mitchell** and her attorney, **Art Lovell**, were present for the ceremony where Mrs. Mitchell was presented with her certificate, cap, and framed copy of the TREASURE Creed. Also present were members of the **Cullman County Forestry Planning Committee** and foresters with **Forest Management Service**. Mrs. Mitchell's approximate 900 acres is being managed for timber, wildlife, and aesthetics.

DISTRICT

3

District 3 would like to welcome the ten recently certified TREASURE Forest landowners to our TREASURE Forest family now numbering 72.

The certification of over 300,000 acres belonging to **Gulf States Paper Corporation** as a TREASURE Forest put the AFC over its acreage goal! We now have over 900,000 acres certified statewide, just short of our first million!

The **Tuscaloosa County Forestry Planning Committee** held its annual Forestry Field Day at the TREASURE Forest of **Hoyt and Harvell Montgomery** in November with 65 landowners attending. The **Sumter County Forestry Planning Committee** held a tour in October of the **James River Mill** with 27 landowners attending.

Sumter County Forester **Philip DuBois** presented the TREE CITY, U.S.A. flag and plaque to the **Livingston Tree Commission** and City Council on October 7.

On December 27 twelve timber buyers from **Pickens County** met to discuss timber sales and logging practices. **George Ballard** and **Ron MacWilliams** assisted **Pickens County Forester John Sutton** in putting on the program.

The **Hale County Rural Development Committee** met in October to discuss forest development.

The **Fayette County Forestry Planning Committee** held a meeting on October 19 with local vendors to discuss reforestation. Fayette County District Conservationist **Lyndon McCavitt** was the featured speaker.

District 3 welcomes **Glenn Sanders** as the new seasonal fire pilot. We also would like to wish the best of luck to **Landre Tomlinson** who left the Commission in January. Landre served as Hale County Forester for the past seven years. He has been replaced by **J. King**, who was a District 3 Staff Forester.

DISTRICT

4

Tree City USA was the topic for discussion when **Neil Letson** toured the cities of **LaNett** and **Valley** in Chambers County. Ways were discussed on how to interest these two cities in the Tree City USA program.

**Ronnie Ray** has been very active this quarter in RCFP. He did the inspections that resulted in **Chambers County Fire and Rescue, Cusseta Fire and Rescue, and East Alabama Fire Dept.** becoming certified. Ronnie presented the certificates to the departments during January.

**Mr. W. E. Thomas's** property became the sixth TREASURE Forest in Chambers County. **Ken Howell**, SCS District Conservationist; **Mr. Robert Waters**, SCS Wildlife Biologist; and **Clayton Schwind**, Chambers County AFC Supervisor; joined Mr. Thomas in inspecting the property during October. Forestry Committee members **Jerry Schwarszuer** and **Howard Taylor** also agreed with the nomination of Mr. Thomas's property.

The **Chambers County Volunteer Fire and Rescue Association** held its Fourth Quarter meeting in Five Points. Fire department insurance was the main topic discussed.

The **ASCS Committee** reviewed current FIP and ACP practices and decided that no changes will be made for 1987.

On December 15, **E. O. Morre**, District Forester; **Frank Segó**, Legislative Liaison; and **Clayton Schwind** went before the **Chambers County Commission** to ask for a 10 cent an acre assessment on woodlands in Chambers County. The majority of the landowners present favored the assessment. There is some opposition, however.

A grant of \$500 for the **W. Kelly Mosley Awards** was presented to **Clayton Schwind** for help with the **4-H Hardwood Nursery project**. The money will be used to purchase supplies and materials to establish the nursery. **Rosalind Jenkins**, Extension Service Coordinator, is treasurer and man-power coordinator for the project.

**Roberts Waters, Keu Howell, and Clayton Schwind** completed an initial inspection of **Mr. Henry Lowe's** property for TREASURE Forest on January 30.

A program on wildflowers of Alabama was presented to the **Union Hill Community Club**, January 8, 1987. The slide-tape program by **Dr. Douglas McGinty** was well received.

**Keith Medforth** showed a forestry film to 35 FFA students at Lineville.

**Earl Smith** furnished the Christmas tree for the **Clay County Hospital "Tree of Love"** project.

On January 20, 1987, **W. N. McCollum**, who is also a paramedic, taught CPR to 12 people at the **Cragford Volunteer Department**.

**Glenn Berry**, Cleburne County Forester, attended the ASCS Committee meeting at the ASCS office in Hefflin on December 8. **Bruce West** was in charge of the meeting and conducted a review of forestry incentives.

**Tom Cambre**, State Hardwood Specialist, discussed general hardwood management on a landowner tour of **Crenshaw County**. Approximately 15 landowners attended. On the January 24, Cambre met with **Lee Bass**, Chief Forester of **Evergreen Timber Co.**, to evaluate their hardwood stands and methods of cutting and regeneration.

On December 2 and 3 **Cambre** taught the silvicultural classes of **Michael Golden** of **Auburn University**.

**William B. Nixon** joined the District 4 staff as **Randolph County Forester-Supervisor** replacing **Steve Nix** who is now Resource Planner at Montgomery headquarters.

**Blake Kelley** transferred here from

District 7 headquarters on January 20. He will be CFM Forester, since Tom Cambre is now State Hardwood Specialist full-time, Blake is from Coosa County and the hills look good!

**E. O. Moore, Tom Cambre, Kate Prater, and Lavern Knox** attended the retirement party for **H. C. Lucas**, District Forester in Selma, on January 23.

**The Coosa Valley RCD Industrial Development** meeting was held at Oxford on January 28 and attended by 40-50 people. **Darlene Scogin**, ADO, and **Gary Faulkner**, AFC, presented an interesting program on the possibilities of Ft. McClellan's establishing its own power plant using wood chips and garbage as an energy source.

**Skip Turner and Benny Faulkner** conducted a prescribed burn demonstration for landowners in December on the property of **Mr. C. B. Munroe** near Lincoln.

A TREASURE Forest presentation was made to landowner **Jim Rotenstreich** on February 12 by District Forester **E. O. Moore** and County Supervisor **Ralph T. Woolley**. The property is in Northwest Coosa County at Blue Springs in the Marble Valley-Fayetteville area. About 15 landowners attended.

**District 5** gained six newly certified TREASURE Forests in December 1986. Our new TF landowners are **Norment Baker and R. C. Jones** of Wilcox County; **Mrs. Anne Brown, David Holley, and Roy Etheridge** of Marengo County; and the **J. F. Suttle Company** of Perry County. Congratulations!

District Forester **H. C. Lucas** retired February 1, 1987, after almost thirty-seven years with the AFC. He served as District Forester in several districts and was also Director of the Forest Resource Protection Division in Montgomery during the early 1970's. **Larry Brooks** will take over the helm as District Forester for the Selma District.

**The Wilcox County Forestry Committee** sponsored a tree planting demonstration on November 24 near Catherine, Alabama. Demonstrations on use of the hoedad, dibble, and planting machine were viewed by the twenty-six attending. The Wilcox County Forestry Committee also sponsored the annual Wilcox County "Tree Give Away" on December 19. Five-thousand tree seedlings were distributed.

On November 21, Chilton County Ranger **Tim Albritton** and **Walter Wright** presented a Smokey Bear Program at the **Stanton Christian School**.

On January 21, **Alan Weeks** worked with the FFA Class of **Amelia Love School** in Thomaston on tree measurements. They will enter the **Forest Judging Contest** this year for the first time.

On November 20, over three-hundred people attended the annual **Farm City Week** luncheon in Prattville. **Dr. James Martin**, President, Auburn University, was guest speaker. Virginia pine seedlings, provided by the AFC, were given to those in attendance.

**District 6** At the **Houston County Landowner Association** meeting on February 17, 1987, **John Mixon** of Gordon received his TREASURE Forest award.

**Houstou County AFC personnel** were busy burning 300 acres on **John Mixon's** TREASURE Forest property.

**Dale County** recently recertified **M. W. Redd's** property as a TREASURE Forest. **Mr. Redd** is believed to be the oldest TREASURE Forest Landowner

at the age of 95.

**Dale County Supervisor Bruce Hancock** and Ranger **Larry Doster** have been busy working on 3 TREASURE seekers properties.

**The Dale County Forestry Association** held its meeting on January 15 with **Robert Waters** presenting a slide program on wildlife management for TREASURE Forest properties.

**Geneva County personnel** are busy working on TREASURE Forest Management plans for potential TREASURE Forest landowners.

**Coffee County personnel** have burned over 900 acres for various landowners who are potential TREASURE Forest prospects.

At the last **Barbour County Landowners Association** meeting, approximately 35 landowners attended a seminar on tax reform affecting forest landowners.

**Mrs. Willie Mae Whitehead** of Abbeville was recently named a new TREASURE Forest landowner. The award was made by **Henry County AFC personnel**.

**District 7** The City of Greenville in Butler County was certified as **Tree City, USA** in January, 1987.

On January 27, 1987, **Monroe County personnel** taught a one day class to ten **Patrick Henry Jr. College** students at the Monroe County Office on Forestry Policies and Operations, TREASURE Forest Concept and Fire Control.

District Forester **Robert Dismukes**, Forester **Gib Burke**, and all county supervisors in District 7 attended a Conservation Reserve Program, Information and Education Seminar at the Holiday Inn in Evergreen on Thursday, February 5, 1987.

Forester **Gib Burke** and Forester **Gary Cole** are working on an **Outdoor Classroom** for the **Monroe County Public School System**. This is an RCD Program. Foresters Burke and Cole have made trips to **Mobile County Public School Outdoor Research Center** and **Grove Hill's Outdoor Classroom** to gather information for the Monroe County Classroom.

**Mr. Daniel Autrey**, a representative from **Congressman Sonny Callahan's** office, presented an American flag to District Forester **Robert Dismukes** for the new District 7 Headquarters Office on January 20, 1987.

On January 15, 1987, the AFC Commissioners—**Jack Hopper, John Goodson, Jr., James Neighbors, Mr. Homajean Grisham, G.A. Gibbs**—and State Forester **C. W. Moody** were given a tour of the new District 7 office and shop facilities in Brewton. After the tour the commissioners' wives and **Mrs. Moody** joined them along with State Headquarters personnel **Charles Pigg, John Kummel, Richard Cumbie, Tim Boyce, Charlotte Johnston, Glenda Hughes, Steve Nix, District 9 Pilot Ralph Moutgomery, and the District 7 Headquarters personnel** for a barbecue supper at the District 7 Office.

Open House was held at the new District 7 Headquarters office and shop on Friday February 6, 1987. State Forester **C. W. Moody** and **Smokey Bear** presented a Certificate of Appreciation for Advancement of Forestry to Representative **Jimmy Warren** and Representative **Frank P. "Skippy" White**.

Forester **Gary Cole** and Ranger **Steve Lloyd** along with Smokey Bear participated in the annual Crafts Festival at **Peterman** in Monroe County on November 22, 1986.

Forester **Gary Cole** and Ranger **Steve Lloyd** along with Smokey Bear participated in the **Monroeville Christmas**

Parade held on November 22, 1986.

Special appreciation was given to Forester **Gary Cole** and Ranger **Steve Lloyd** for the outstanding job they did in assisting the Monroe County authorities with a vehicle accident involving 3 log trucks, 2 pickups, and 4 cars. Two truck drivers were killed in this accident. This was the site of the worst disaster in Monroe County's history.

**District 8's** newest fire fighting equipment, the **Go-Tract**, should help greatly in reducing the number of acres burned in marshlands. The two-man machine is equipped with a power winch, front blade, air compressor system and water pump. It has a water expansion system that uses a foam with air to increase the 400 gallon water supply to about 4,000 gallons. Key primary operators are **Jake Gibbs, Lynn Booth, Jerry Dwyer, Ralph "Bud" Price, and Charles Rawls**.

**Baldwin County**, with eight Tree City U.S.A.'s, is working to develop a system of cooperation, information and education sharing, along with coordinated tree purchasing between the cities by encouraging the development of a **County Urban Forestry Planning Committee**.

State Senator **Bill Menton** was a speaker in Mobile on October 18 for the Youth Conservation projects. Approximately 200 youths attended. Mobile County supervisor **Patrick Waldrop**, Rangers **Major Harris and Jim Wade**, and **Aaron Hunt** assisted with the program.

**The Choctaw County Forest Planning Committee** held a forestry tour on November 19. Choctaw County Supervisor **Chuck Quinn**, who is a member of the committee, assisted in the program which included a soil erosion quiz on thinning a pine stand.

The U.S. Forest Service, as part of their review of **Alabama Forestry Commission** operations, sent three representatives to **Baldwin County** on Nov. 4 and 5. They visited Treasure Forest landowner **J.R. Crosby's** property and also visited the cities of **Fairhope** and **Foley** to gain insight into our Tree City, U.S.A. program. The visit was coordinated between **Neil Letson** and **Lou Hyman** (AFC, Montgomery), **Baldwin County Forester John Martin**, District Forester **David Frederick** and Staff Forester **Larry Grable**.

**The Southwest Alabama Forestry and Wildlife Festival** was held in Clarke County on November 1. Clarke County Supervisor **Benji Elmore** and Rangers **Randy Kinman** and **Ernest Hunt** demonstrated the AFC portable sawmill and a truck/tractor fire fighting unit.

**The Baldwin County Forestry Planning Committee** reviewed the data generated from their "Forest Landowners Topics of Interest" questionnaire mailed out several months ago. The response by landowners was excellent, with forest tax laws and estate planning being of top interest, and prescribed burning, pine silviculture and hardwood management following in that order. Forestry tours and seminars are being set up to cover all these topics in the next few months.

The **Mobile County** units of the AFC, in cooperation with **Farm Bureau Farm City Week** had a forestry display with posters and handouts at **Bel Air Mall** November 20-22.

**The Mobile County Soil and Water Conservation District** presented **Pat Waldrop** with a plaque at the Alabama Association of Conservation Districts' Annual meeting in Mobile in December. The plaque recognized Pat for his work with Mobile County's youth and with the Soil and Water Conservation District. Everyone wishes Pat the best in his new assignment with the AFC in District 3!

**DISTRICT 9** Two outstanding **Mosley Award** programs were held in District 9. **Mrs. Chess McKinney, Louise Bone** and **Hammie Stamps**, coordinated the "Conservation Splash" workshop held at the Bear Creek Education Center. During this three-day workshop, women from all over Alabama viewed exhibits on water quality, birds, wildflowers, trees and hazardous waste. The group heard speakers like **Dr. John Jensen**, Fisheries Specialist, Auburn University; **Neil Letson, AFC; Dr. Sam Fowler**, CRD Specialist with Auburn University; and **John Judy**, TVA, Knoxville, TN. The workshop concluded with "Splash Day" with the U. S. Forest Service conducting a tour of the Bankhead National Forest Wilderness area.

**The Second Annual Multiple Use FFA Forestry Workshop** was held at the Bear Creek Education Center. This workshop, conducted by **Tony Avery, Louise Bone** and **Kathy McCollum**, involved high school students from all over North Alabama. **Tony Avery; Don Burdette; Joe Nannie**, Itawamba Jr. College; **Jimmy Green**, consultant forester; and **Don Murhoff**, Champion International, conducted sessions on dendrology, tree measuring and wildlife habitat. The workshop ended with a tour of the **Holcomb TREASURE Forest**.

**Ernest Thorn**, County Supervisor in Franklin County, retired effective October 31, 1986. The **Franklin County Forestry Planning Committee, Alabama Forestry Commission** and **Champion International** hosted a dinner in his honor. State Forester **C. W. Moody** and **John Kummel** represented the State Office.

**Franklin County** recently presented four Treasure Forest Awards to the following: **Randy Herring, Clint Whitten, Relda Gray** and the **Bear Creek Development Authority**.

AFC personnel in **Colbert County** have been making presentations on fire prevention in anticipation of the spring fire season. Attention has also been given to spreading the word about southern pine beetle activity in the county. **Danny Deaton, Wayne Winsted, and Don Burdette** worked with three schools—Cherokee, Leighton, and Colbert Heights—on the FFA Forestry Judging contest. Leighton was the winner.

**Wade Travis** of Limestone County has received Treasure Forest certification on his 280-acre property which he manages for aesthetics and wildlife. County Supervisor **Howard Swanner, Don Burdette, Greg Wood**, Soil Conservationist **Tommy Moses, and James English** of the Department of Conservation and Natural Resources joined Mr. Travis for this presentation.

**Louise Bone**, I E Coordinator, was invited to speak to the **W. Kelly Mosley Environmental Awards Selection Committee**, members of the faculty and school administration at a luncheon honoring **Dr. Kelly Mosley**. The subject of her talk was the "Value of the Awards Program." Eleven Mosley Awards have been presented to citizens in District 9—five for achievement and six support grants.

**District 9 employees** assisted the City of **Florence Recreation Department** in hosting the **Class III State Gymnastics Meet** held in Florence during December. Smokey Bear was on hand (thanks to **Butch Tucker**) to greet students and coaches from all over Alabama. The meet lasted two days and Smokey made three appearances during this time. **Gerald Steeley** donated one of his prize Virginia pine Christmas trees which was beautifully decorated by a local gift shop.

**Smokey** participated in a special "Bear Fair" held at Parasians Department Store.

Thanks to Mike Lanier, Smokey greeted hundreds of children during this event.

Champion International has donated a tree planter to the Alabama Forestry Commission in Franklin County. This planter will be used to assist landowners with their reforestation programs.

State Forester C. W. Moody, Dr. Dick Porterfield, Gerald Steeley and County Supervisor Larry Lee attended a meeting of the Lawrence County Chamber of Commerce. Patty Welter showed an AFC program on litter. Dr. Porterfield and Mr. Moody outlined a proposal for an anti-litter campaign for Lawrence County. The Chamber of Commerce adopted the plan as outlined.

DISTRICT

10

Russell County preparations are continuing for the big April 21 Natural Resources Field Day on the Tinwa Plantation near Hurtsboro for

landowners in East-central Alabama. Experts from industry, forest-related agencies, and Auburn University have been scheduled to make demonstrations. Industrial sponsors have been found for lunch and refreshment breaks. It will be an all-day affair with activities starting around 9:00 a.m. Central Time.

Macon County staffers gave a fire management presentation for the Tuskegee University pre-forestry class last month. It included a trip to fire sites in the county with explanations of fuel and weather conditions and fire fighting techniques used on each fire. These sessions end at the county office with exposure to equipment and procedures. Supervisor Jerry McGhee and his associates have been very much involved with the University course work, and have used student summer workers in past years.

Montgomery County and District 10 headquarters will be the site of the annual "get together" for AFC people and Alabama legislators on March 17. In the past, the evening has included a supper for the lawmakers, and a photo appearance by Smokey Bear.

The Lee County Forestry Planning Committee held its 1987 organizational meeting January 21 for the purpose of installing new members into the group and making plans for its annual landowner training/information sessions and field trip that have been a part of their program for the past several years. This year the first program is set for February 23 at the Agricultural Center in Opelika at 7:00 p.m. and will focus on the new tax laws and their impact on forest ownership and management. The field trip will be announced for later in the spring.



# YOU OUGHT TO BE IN PICTURES

Mrs. FRANK (ELSIE) MITCHELL chose the path of TREASURE because of the love that she and her late husband had for the land. The Frank Mitchell Farms, located on Alabama Highway 91 South in Cullman County, became a TREASURE Forest January 22 with a roadside ceremony sponsored by the Cullman County Forestry Planning Committee. Mrs. Mitchell is managing the 900+-acre farm for timber, aesthetics, and wildlife. The new TREASURE cap came in handy on the cold, windy afternoon as Mrs. Mitchell accepted a framed copy of the TREASURE Forest Creed. Note in the background the beautiful sign specially constructed to hold the TREASURE marker.

THE BEAUTIFUL 918-ACRE Walker County farm of Leon McLemore (right) was officially dedicated as a TREASURE Forest, December 11, during a meeting of the Walker County Forestry Planning Committee. Walker County Forest Supervisor Charles Hall, Jr. made the presentation to Mr. McLemore who sported his new TREASURE Forest cap during the ceremony. Mr. McLemore is managing his TREASURE for timber and aesthetics.

## CALENDAR\*

April 6-10—Durham, North Carolina. Timberland Investment Analysis with instructors George H. Mason and Theodore E. Howard. Registration: \$450. Call Intensive Course Coordinator, (919)684-2135.

April 7—Walker County, 9:00 a.m. Forestry Planning Committee meeting at Extension Service auditorium. Call Paul Kennedy, 486-9064.

April 7—Calhoun County, 6:30 p.m. Local chapter of Society of American Foresters will hear the "Impact of the New Tax Law on Forestry" with Dr. Bill McKee. Meeting will be held at the Anniston Shoney's on Quintard Avenue (not Oxford). Call Dan Crockett, 463-2272. Landowners welcome.

April 9—Monroe County. Bottomland Hardwood Management at Junior College in Monroeville. Call Jerry Johnson, 821-8070.

April 13-17—Durham, North Carolina. Economics of Intensive Forestry with Dr. J. Michael Vasievich. Registration: \$450. Call Intensive Course Coordinator, (919)684-2135.

April 16—Dale County, 7:00 p.m. Forest Landowners Association meeting at County Library. Call Bruce Hancock, 774-8112.

April 20-23—Starkville, Mississippi. Prescribed Burning Shortcourse at Bost Extension Center, Mississippi State University. Call Dr. Tom Monaghan, (601)325-3150.

April 21—Russell County, 9:00 a.m. Area-wide Natural Resource Field Day on Multiple-use Management. To be held on Tinwa Plantation, 7 miles south of Hurtsboro. Tours to include bottomland hardwood management, farm pond management, wildlife management, and herbicide use. Call Dr. Bill McKee, 826-5330.

April 22-23—Athens, Georgia. Southwide Forest Operations Conference. Timber transport, wood procurement and supply, harvesting/management considerations, and industry issues (includes training woods labor). Call Robert L. Ragsdale, (912)386-3416.

April 25—Shelby County, 10:00 a.m. Alabama Forest Owners Association Annual Meeting at 4-H Center on Lay Lake. Located 6 miles east of Columbiana on Shelby

Rd. #28. Topic: How Do We Work for the Forest Owner? Speakers to include State Forester Bill Moody; Dr. Keith Argow, President of National Woodland Owners' Association in Washington, D.C.; and Dr. Charles Walsh, President of Alabama Chapter of Society of American Foresters from Mobile.

June 10-12—Natchez, Mississippi. Workshop on Ground Application of Forestry Herbicide. For details call Dr. Andy Ezell, Mississippi Cooperative Extension Service, 3825 Ridgewood Road, Room 190, Jackson, MS 39211. Telephone: (601)982-6216.

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



# CEDAR FURNITURE

## Home-Grown, Home-Sawn, Home-Made

by MARK F. BEELER, International Trade Specialist

**T**HIS IS THE FIRST ARTICLE in a series to highlight some of the forest industry in Alabama and to show landowners some of the markets for their products in our state.

Returning to Jasper following World War II Sam Murphy\* had no job to come home to—so, with the urging of friends he entered the furniture business. Forty years later, Sam Murphy has turned the business over to his two sons, Sam Jr. and Lawson. The firm employs around 115 people and sells cedar bedroom furniture throughout the United States.

“The first thing I made was parts for other furniture manufacturing companies in Virginia and North Carolina,” says Murphy. “Among other things I must have made 2 million toilet seats! I must say that I really started at the *bottom!*”

“When I got in the business there were a lot of people making cedar chests, wardrobes, and cedar bedroom furniture, but as far as I know we are the only ones that still make cedar bedroom furniture.”

Nearly three million board feet of rough cedar lumber is purchased annually from sawmills located in Alabama and the surrounding states for the furniture Murphy makes in his Jasper plant. These sawmills are usually small, family-owned and operated firms. One of Murphy’s Alabama suppliers has sold his entire production for 25 years to his furniture plant. Murphy has purchased cedar lumber from the grandfather, the father, and now the grandson.

Cedar is a unique species in that it has its own log scale. Because of cedar logs’ short length and fast taper, a modified log scale was adopted by the cedar industry in 1951 which more closely approximates the board feet in a log.

A normal cedar log is cut in lengths of eight feet, but because of cedar’s taper, sawn boards are often only three feet long. Logs are sawn in this manner so as not to waste lumber in slabs. “This requires a highly skilled sawyer who knows what he’s doing...,” Murphy says.

Cedar is also unique in that it does not require air drying prior to kiln drying and can be stored in bulk packages outside for

periods up to two years with no damage or discoloration due to insects or fungi.

Cedar lumber that has been dried to around 12% moisture content is taken into the milling side of Murphy’s plant where it is edged and merchandised to remove defects. Some of the lumber is then glued into panels for tops, some is glued into turning stock for bed posts, and other lumber is milled into the various parts needed in furniture construction. All of these pieces are then placed in numbered bins until needed on the construction line.

Following construction of the furniture, each piece is given a stain to equalize the color of the heartwood (varying from red to purple). After the final finish is applied, a heat treatment is used to cure the finish. The finished furniture is then moved by conveyor to the warehouse where it is readied for shipment.

Murphy produces three other products—cedar oil, pet bedding and fine cedar dust, all derived from waste wood from the furniture manufacturing process. Shavings from the planing operations are bagged and sold to wholesalers for distribution to pet shops as pet bedding. Fine cedar dust from the sanding steps in the furniture plant have a unique use in the fur industry—it is used to remove moisture, scent and oils from furs!

Cedar oil, used in soaps, detergents, and

perfumes, is removed from waste wood in a distillery at Murphy’s plant. Knots, end cuts, defective boards and other wood wastes are ground and pulverized in a hammer mill. It is then blown into large tanks at the distillery where steam is used to extract the oil from the wood. As the steam and oil condenses, the oil which is lighter than water is drawn off the top. Several hundred gallons of oil are produced by this process each day and shipped worldwide.

The oil-free wood is then fed into the wood fired boiler as fuel. This wood fired boiler not only provides steam for the cedar oil distillation but also steam for the firm’s two dry kilns and heat for the entire manufacturing plant!

As you can see, there is a market for cedar right here in Alabama! For more information on growing this unique species, contact your local Alabama Forestry Commission!

\* Sam Murphy may have started “at the bottom” of the furniture industry, but he also has made much headway in forestry. He was in the *first* forestry class at Auburn in 1934; he was the *first* forester in Walker Co. and the *first* registered forester north of Montgomery. Mr Murphy also served as a Commissioner for the AFC in 1969-70, and in 1985 Mr. Murphy’s 22,000 acres of timberland became a TREASURE Forest! ♣



# CEDAR MAKES SCENTS

by MARK F. BEELER,  
International Trade Specialist

**E**ASTERN RED CEDAR (*Juniperus virginiana* L.) is the most widely distributed conifer of tree size in the eastern United States. Its range also extends into southeastern Canada. The wood was once favored for domestic use and export because of its exceptional cutting qualities, durability, rich color, and aroma.

Based on figures from the 1982 Forest Service forest inventory, Alabama has 79.1 million cubic feet of live cedar. Broken down, this figure is equivalent to 66.3 million cubic feet of growing stock, 7.9 million cubic feet of rough timber, and 5 million cubic feet of rotten timber. The 79.1 million cubic feet of cedar represents slightly more than one-half of one percent of all the live timber volume in Alabama, excluding non-commercial species. Of the 15.7 million growing stock cedar trees in Alabama in 1982, about 95% fell between the 5.0 to 10.9 inch diameter class. Again based on 1982 figures, there were 128 million cedar trees supporting 8 cedar manufacturing operations in Blount, Jackson, Madison, Marengo, Sumter, Washington, Walker, and Wilcox Counties.

It has now lost much of its popularity because of limited supply. The magnificent stands of red cedar so often mentioned by early explorers have long since been cut. For a number of years red cedar has been primarily confined to fence rows, abandoned fields, and submarginal lands where it grows poorly.

Eastern red cedar grows slowly, and long rotations are required to produce conventional sawlogs. Trees 20 to 30 years old are generally 18 to 26 feet tall and 2.25 to 3 inches in diameter. Mature trees are small to medium size, usually 40 to 50 feet tall with a short bole.



Sam Murphy makes pet bedding from cedar shavings.

From February to May, small inconspicuous male and female flowers appear—almost always on separate trees. The fruit is a berry-like cone which is fleshy, dark blue, and highly aromatic. Cones mature in one season. They contain two (rarely three or four) small seeds, which number 17,600 to 59,000 to the pound.

The species is so frequently associated with limestone that it is commonly believed to grow only on dry, alkaline soils. Like most tree species, however, red cedar grows best on deep, moist, well-drained alluvial sites, where its height may reach 55 to 60 feet at 50 years of age. It rarely becomes well established on such sites because of competition from vigorous hardwoods and pine. High soil acidity does not seem to deter red cedar's



establishment. Studies have inferred that neutral to alkaline soils are a result rather than a cause of red cedar's presence on certain sites. The high calcium content of its foliage (over 2%) tends to change soils from acid to alkaline in a comparatively short time, perhaps less than 15 years.

Eastern red cedar is among the first tree species to invade old fields. Research points out that the beginning of successful invasion by red cedar on these areas coincides with the reduced burning of grasslands since the thin bark of red cedar offers little protection against fire. Good seed crops occur every 2 to 3 years with light crops in the intervening years. Seed dispersion depends heavily upon birds and small mammals. The best seed bearing age is between 25 and 75 years.

For such a well-known species there is little information on red cedar's planting and management except for Christmas tree production (it ranks in the top five for Christmas trees). Growth studies in northern Arkansas have indicated that even-aged management is suitable for eastern red cedar. Although growth is relatively slow, small sizes of products and large latitude in acceptable defects make short rotations possible. A cutting cycle of 6 to 10 years is suggested by the Arkansas study. Observations indicate that 20 to 30 years will be required for posts, and 40 to 60 years for sawtimber. Greatest yields will probably accrue from sawtimber rotations with intermediate cuttings for posts.

## LITERATURE CITED

- Ferguson, E.R., E.R. Lawson, W.R. Maple, and C. Mesavage. 1968, *Managing Eastern Red Cedar*, USDA, Forest Service Research Paper SO-37, Southern Fo. Exp. Sta. 14pp. ☐

That "orange stuff" on your pines can be deadly

# PINES RUST, TOO!

by JIM HYLAND, Chief, Pest Management Section

**E**ACH YEAR during the early spring the majority of the phone callers ask, "What is that orange stuff on my pines?" This is usually followed by "Will it kill or hurt my tree?"

The "orange stuff" is one stage of an appropriately named rust disease—*fusiform rust*. *Fusiform rust* is regarded as the most serious disease affecting pines in the southern United States. Estimates of timber losses to this disease in Alabama alone have been placed as high as several million dollars annually.

## Signs and Symptoms

*Fusiform rust* attacks most of Alabama's native pine species, but is more prevalent on loblolly and slash pines. The disease affects seedlings in commercial forests and ornamental nurseries as well as trees in field situations.

*Fusiform rust* infections typically result in definitive swellings called galls on infected branches and stems. Galls vary in appearance, but are most often spindle or fusiform in shape. On older trees, it is not uncommon for galls to appear somewhat depressed and canker-like on one or more sides of the stem.

Witches brooms or marked proliferations of small branches are often associated with galled tissues. Stem galls are often associated with branches or branch stubs as a result of the rust fungus growing from infected branches into the main stems. Sometimes branches and stems are killed beyond the point of the galls. Stem breakage at galls is common. Pitch exudation is often associated with *fusiform rust* galls due to infestation by certain insects and/or infection by the pitch canker fungus.

In early spring, masses of showy, yellow-orange blisters called *aecia* (singular, *aecium*) appear on the surface of active

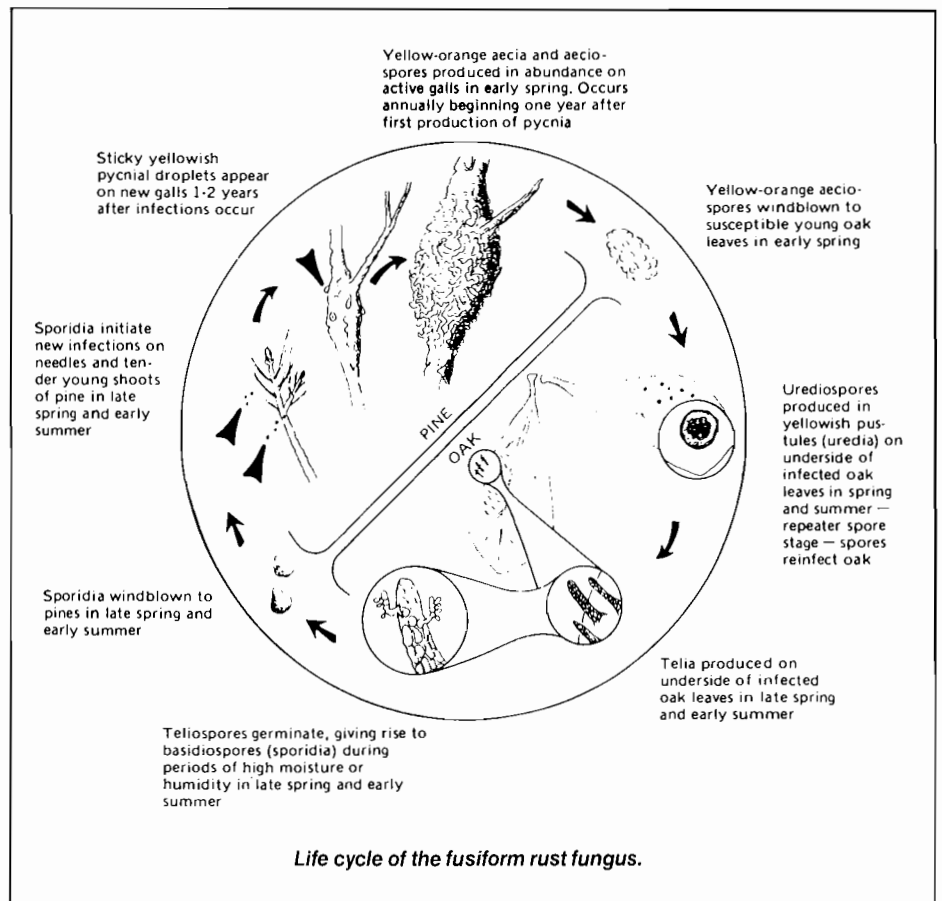
galls. The *aecia* soon rupture and expose masses of powdery, yellow-orange spores (*aeciospores*).

*Aeciospores* produced on infected pines do not reinfect other pines. Instead they are disseminated by wind and initiate infections on the tender young leaves of a variety of oaks. Oaks in the red or black oak group are particularly susceptible as alternate hosts with water, willow, and laurel oaks heading the list.

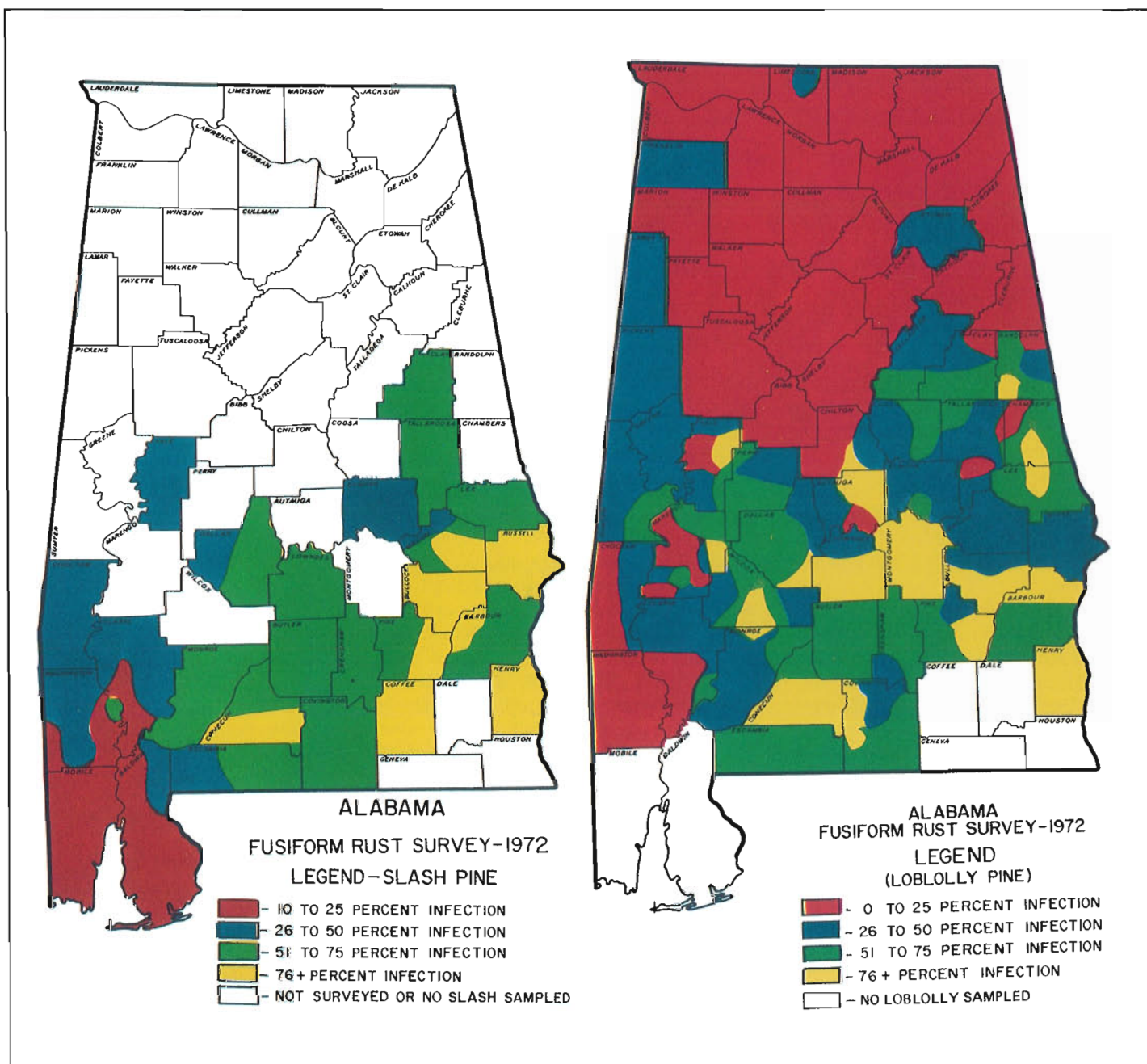
Later, in the spring and early summer,

two different spore types (*urediospores* and *teliospores*) are produced on the underside of infected oak leaves. *Urediospores* are produced first and are often called repeaters, because they serve to initiate new infections on the leaves of susceptible oaks, thus repeating the infection cycle on the oaks. *Teliospores* are produced later in red-brown, hair-like structures called telial columns, telial horns, or simply *telia* (singular, *telium*).

Under conditions of warm temperatures



Life cycle of the fusiform rust fungus.



and high relative humidities (60-80°F 97-100% RH) the *teliospores* germinate, giving rise to minute spores called *basidiospores* or *sporidia*. *Sporidia* are wind-disseminated and thus initiate new pine infections on susceptible pine tissues including needles and succulent green bark.

### Control

Planting pines which are genetically resistant to fusiform rust infections is recommended in commercial forestry operations, especially in high hazard areas (see maps). Avoid excessive site preparation when establishing pine plantations because this sometimes increases the incidence of infections, apparently by stimulating the

growth of trees and resulting in either greater susceptibility, or larger target areas for infection (shoots of tender, succulent tissues). Stem infections occurring after pines are eight years old are usually located in the upper crown and are of little consequence.

Reduction of oak populations where economy and management allow may be effective in reducing pine infections on a local scale. Salvage thinnings or complete harvests should be considered in severely diseased stands of marketable age. In urban areas, remove infected trees that represent stem breakage hazards.

Prune infected branches, especially if galls are within twelve inches of the main stem. Branch galls more than twelve inches

from the stem are unlikely to pose a significant threat to stems. Branches with these types of infections are likely to die, killing the fungus at the same time before the pathogen can grow into the stem. Careful surgery, removing the bark around galls encompassing less than 50% of the circumference of an infected stem, is an apparently effective treatment in certain cases.

### References

- Barnard, Edward L., and Wayne Dixon. *Insects and Diseases*, Florida Department of Agriculture and Consumer Services, Bulletin 196-A.
- Phelps, W. R., and F. L. Czabator. *Fusiform Rust of Southern Pines*, Forest Insect and Disease Leaflet #26. ☐

Spring is the time for the birds and the bees and . . .

# INSECTS AND DISEASE!

by JIM HYLAND, Chief, Pest Management Section

**T**HE DICTIONARY DEFINES *resurgence* as *beginning again*. This implies that somehow during the winter months the damage caused by insects and disease stopped, and with the warm days of spring they began eating our trees again. Mortality and damage from insects and disease may slow down during the winter months due to the cooler temperatures, **but**, by no means do they stop!

The term we use to designate the amount of loss to insect and disease is "annual mortality" or "annual loss due to cull." **TABLE I** gives the annual growth, removal, mortality and cull of softwoods and hardwoods in Alabama. As you can see, the amount of wood removed is more than the annual growth of both softwood and hardwood.

Softwoods have a deficit of 73 million cubic feet per year, and hardwoods have a deficit of 24 million cubic feet per year. Annual mortality in sawtimber is 92 million cubic feet, and cull loss is 15 million cubic feet. In hardwoods the mortality is 60 million cubic feet with 46 million cubic feet loss in cull. The annual growth in both hardwood and softwood has declined in the last ten years while the annual mortality has significantly increased.

**TABLE II** lists the annual economic impact of damage on the timber resource in Ala-

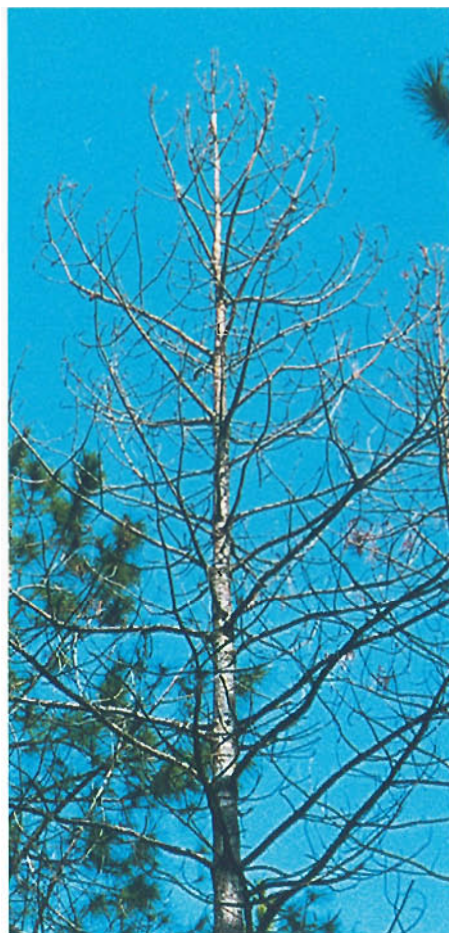
bama. This loss amounts to \$103 million annually. The sad part is that the majority of this loss can be reclaimed by good sound pest management practices. If we were to claim just 68% of the mortality and cull from softwoods, there would be no deficit between growth and removal. In hardwoods we would only have to claim 23% of the mortality and cull to erase this deficit.

How can this be done? Let's look at several different major insects and diseases of both softwoods and hardwoods and some of the best management practices that can reduce this damage.

## Southern Pine Beetle

Losses due to the southern pine beetle over the last ten years have averaged approximately \$12 million per year. We have had highs of \$44 million to a low of no damage. Once southern pine beetle infestations have been detected, early removal of infested timber can stop the spread to adjacent trees, thus, reducing the mortality figures.

If one takes the attitude of "Oh, they'll go away," then the mortality to the adjacent pines would drastically increase. Even when infestations are not detected, there are prevention techniques that can be used to reduce the overall hazard,



If you recognize any of these signs in your forest, contact a professional forester.

thereby reducing the volume lost if an attack occurs.

Southern pine beetle hazard ratings to pines can greatly reduce the potential of loss from southern pine beetle attack. Hazard rating of a stand generally means taking measurements on the number of trees per acre, basal area, site index, and age. These calculate into a hazard rating. A high hazard stand can then be thinned to lower the rating and to also increase the growth of remaining trees. Before a stand is planted, planting a lower number of trees per acre on a wider spacing can greatly reduce potential of southern pine beetle attack in the future. This is especially true in plantations where the landowner will not or has no plans to thin his plantation.

### Annosus Root Rot

A recent survey in Alabama calculated the annual mortality of annosus root rot at approximately \$3 million. Annosus root rot is a disease which attacks trees on generally sandy, well-drained sites and in stands that have been thinned. On these high hazard sites the use of borax or a biological agent will eliminate annosus root rot attacking the remaining residual trees. When annosus attacks residual trees following thinning, the gain that the land-

owner feels he will get from increased growth of the pines will be offset by mortality from annosus and a fast reduction in growth rate.

The economic cost benefit of using borax or biological agents greatly outweighs the loss from annosus. It is recommended on any high hazard soil that annosus root rot preventives be applied to any pine stand as soon as it is thinned.

### Fusiform Rust

Fusiform rust causes untold amounts of damage to loblolly and slash pine in Alabama. Pest management techniques to reduce the impact of fusiform rust include using genetically resistant pines for plantation establishment, using sanitary salvage techniques in stands that have been infected with fusiform, or planting species that are less susceptible to fusiform rust such as longleaf pines on longleaf sites.

### Pine Sawflies and Pine Tip Moth

Both of these insects can cause growth loss and/or mortality to young pine stands. When these two insects are discovered in a pine stand, chemical control should be used to control these pests and reduce the impact on growth or prevent the outright killing of the trees.



The southern pine beetle leaves distinct evidence of its presence.

TABLE I

#### Annual Growth, Removal, Mortality and Cull of Softwood and Hardwoods in Alabama

(In Million Cubic Feet)

Species	Growth	Removal	Difference	Mortality	Cull
Softwood	624	697	-73	92	15
Hardwood	326	350	-24	60	46

TABLE II

#### Annual Economic Impact of Damage on the Timber Resource in Alabama

Species	Annual Volume Wood Fiber Loss	Stumpage Volume Per Unit	Annual Loss
<b>Softwoods</b>			
Poletimber(Mft <sup>3</sup> )	57,992.5	\$141.00	\$8,176,942.50
Sawtimber(Mfbm)	486,446.6	\$152.00	\$73,939,886.85
<b>Hardwoods</b>			
Poletimber(Mft <sup>3</sup> )	70,679.6	\$35.30	\$2,494,988.70
Sawtimber(Mfbm)	352,223.7	\$53.00	\$18,667,856.74
<b>TOTAL</b>			<b>\$103,279,674.78</b>
<b>All Species</b>			
Poletimber(Mft <sup>3</sup> )	128,672.1		\$10,671,931.20
Sawtimber (Mfbm)	838,670.3		\$92,607,743.58
<b>TOTAL</b>			<b>\$103,279,674.78</b>

A majority of pine or softwood problems can be reduced by controlling the above insects and diseases and paying close attention to variety selection. Planting the right species on the proper site will ensure that growth will be fast and healthy.

### Defoliators

As in softwoods, hardwood problems are also designated by site selection, by thinning, or regeneration by natural means. The right species for the right site can greatly reduce the amount of damage from hardwood pests.

There are several hardwood defoliators which can reduce growth and, with repeated defoliations, cause mortality to large stands of hardwoods. Some of these include forest tent caterpillar, linden looper, oak leaf roller, and several other oak defoliators.

Defoliation weakens the trees thereby allowing other insects and diseases to take

hold and eventually kill individual trees or whole stands of trees. On a stand of trees attacked by defoliators, close evaluation should be made to determine which pest is involved and if control measures should be taken. For pests that will defoliate several years in a row, chemical control of the insect is recommended.

### Hardwood Borers

There are several insects which bore into the trees thereby reducing their value and setting up entrances for the disease organisms. Hardwood borers are associated with some kind of problem that is site related, either too much moisture or a drastic reduction of the water table. Close attention should be paid when planning roads and other manmade features that will change the moisture relationships within the soil. Where individual trees or stands are attacked by borers, trees should be harvested to salvage some of the volume that could be destroyed.

### Hardwood Diseases

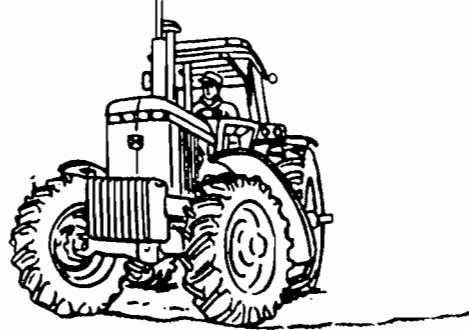
There are several diseases that can destroy the value of commercial hardwood stands. These are generally grouped into the category of heart rots with decay fungi and are associated with some kind of damage either by insect attack or scarring by logging or fire. When these decay organisms get into a trunk of a tree, they will destroy the commercial value of the stand. This is one of the reasons for the larger amount of loss in the cull factor on hardwoods. This loss can be reduced by sound insect management, by careful contractual agreements with loggers to insure there is no damage to residual stands, by excluding both wildfires and prescribed fires from hardwood stands.

These are just a few of the pest management considerations that should be in any good forest management plan. Just by considering the few techniques above, we can offset the deficit between growth and removal, thereby continuing a renewable resource that will be a treasure for future generations.

### References

- Mistretta, Paul A., and Carl V. Bylin. *Incidence and Impact of Damage to Alabama's Timber, 1983*. U.S.D.A. Forest Service, Southern Forest Experiment Station, New Orleans, 1986.
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# Tractor Safety



by STEVE WEAVER, Chief, Fleet Equipment and Safety

**T**HIS IS THE TIME OF THE YEAR when all the farm machinery goes back into full operation. It is also time to "Think Safety" so that we may complete the season without serious injury to ourselves or others.

Equipment must be checked very carefully including all safety items. Now is a good time to review the operator's manual and to pay attention to all the safety factors.

Tractors and other farm machinery have safety signs attached to the equipment. Carefully read and follow all cautions and warnings. Keep safety signs in good condition. Replace missing or damaged safety signs. Replacement signs can be ordered from your dealer.

Power take off (PTO) must have the supplied shield in place. Avoid possible injury or death from a machine runaway. Do not start an engine by shorting across starter terminals. The machine will start in gear if normal starting circuitry is bypassed. Start the engine only from the operator's seat with the transmission in neutral or park. *Never* start an engine while standing on the ground.

Avoid injury from high-pressure escaping fluid. Fluid under pressure can penetrate the skin causing serious injury. Consult machine model technical and service manuals. If any fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury. Failure to do so could result in gangrene.

Operate the tractor safely. Make certain everyone is clear of the machine before starting the engine or operating it. Keep all riders off the tractor and equipment. Serious injury and even death has been caused by leaving riders on the tractor or attachments. Keep hands, feet and clothing away from power driven parts. Use of a seat belt with an approved protective structure is recommended for almost all operating conditions.

Reduce speed when turning or operating around hazards, rough ground, or on steep slopes. Be especially careful when using single wheels. Danger of an overturn increases greatly with narrow tread (80" or less) and high speed. For hillside operation, use only dual wheels, front and rear. Avoid sharp uphill turns.

Use proper warning lights and rear "slow moving vehicle" signs when operating on highways. When the engine is stopped, lower implements to the ground and shift to park before dismounting. Wait for all movement to stop before servicing the machinery. Remove the key if the tractor will be unattended.

One other safety area that must be considered is the handling of agricultural chemicals. Be sure to follow the instructions given by the chemical manufacturer.

A good preventive maintenance program along with operating your equipment safely will see you through another season without injury or possible death. ♣

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kudzu control, and herbaceous treatment. This service is available statewide. CRP participants may particularly be interested. For more information contact Ron Neal, AMLAND, P.O. Box 459, Butler, AL 36904, (205)459-3008. ♣

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