



# QUALITY VEGETATION MANAGEMENT

B.W. Smith

## ENHANCING NATURE'S BOUNTY

Sweet gums and other brush may be controlled by selective herbicides.

By Tes Randle Jolly

**W**hether for the opportunity to watch spotted fawns dashing about in a field of summer clover or take heart-pounding aim at a trophy buck slipping through planted pines, managing land for wildlife is an important concern to landowners and hunters alike. Costs in terms of time and money can be substantial, however conservation minded folks see it as a labor of love.

On your next escape to the woods take a good look at wildlife food sources. Likely there'll be strategically placed food plots in and around pine plantations, and mast-producing hardwood settings. Planting food crops is a sound habitat enhancement tool. But as my Dad is fond of saying, "Sometimes

---

**"There's no doubt deer and turkey habitat can be increased with the use of selective herbicides," Jones adds. Displaying a handful of tiny seeds she emphasizes the benefits to quail and songbirds as well. Not surprisingly, within test areas desirable forbs volume (measured in pounds per acre) increased by as much as 33-fold over undesirable brush.**

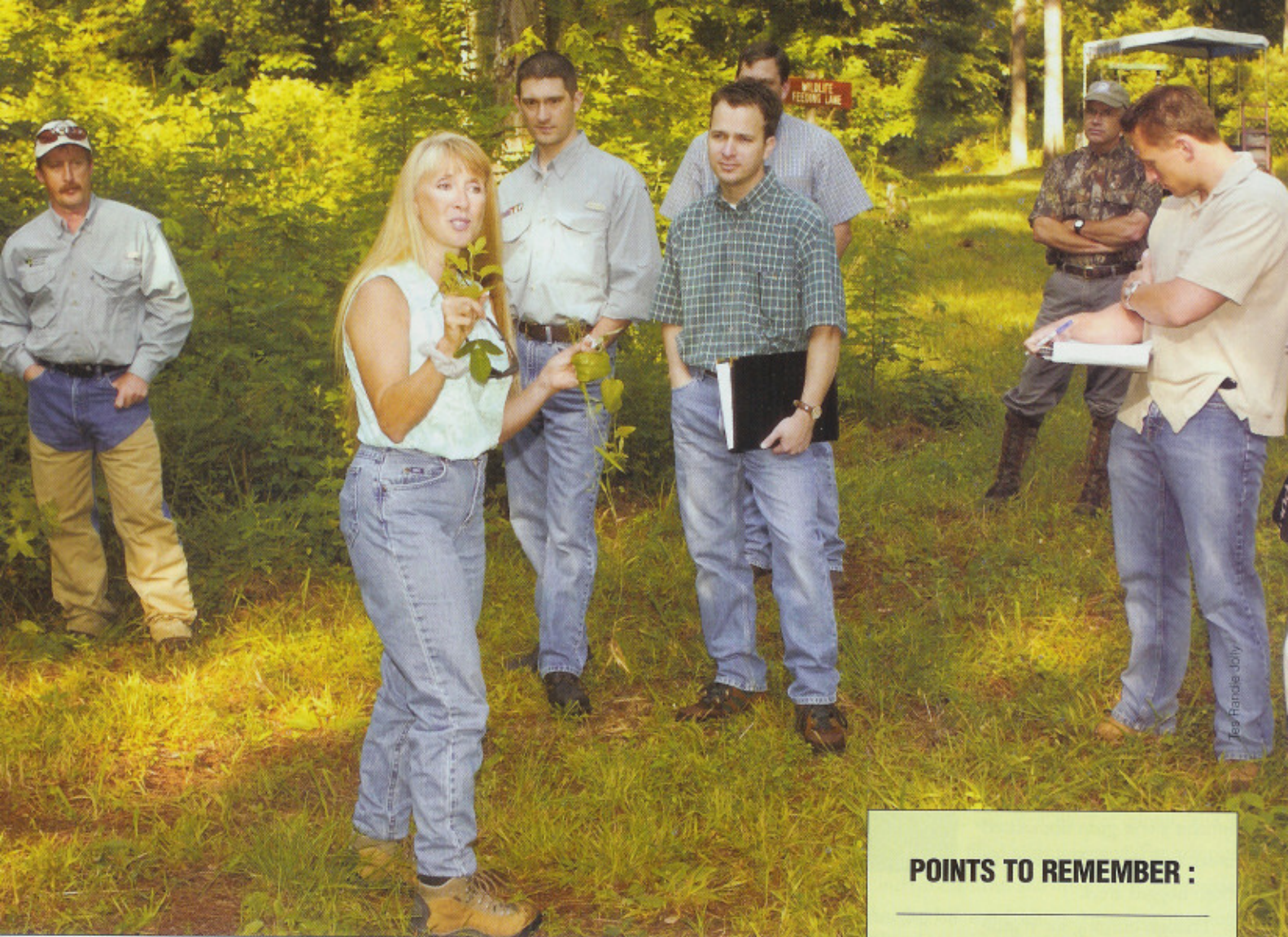
you can't see the forest for the trees." When it comes to providing nutritional forage for wildlife, many overlook what is already available on the land.

On a recent field tour of Noxubee County, Mississippi's Cooksville Forestry and Wildlife Habitat Study area, owned by Starkville dentist, Dr. Carroll Walker, a team of experts from BASF Corporation, Mississippi State University, and the Mississippi Forestry Commission demonstrated an exciting wildlife management tool, Quality Vegetation Management.

### Fires, Forests & Forage

Bobby Watkins, study area manager and





Dr. Jeanne Jones displays wildlife preferred native plants growing in Arsenal AC treated area.

technical specialist, works on forest products for BASF Corporation. Watkins gathered participants in the middle of the pine forest. Pointing out a tangle of sweet gum, winged elm, and other hardwood species Watkins stated, "This is not natural. The undergrowth is primarily undesirable brushy hardwoods." According to Watkins, unlike the dense forests of today, European settlers during the 1700s and 1800s noted in journals that many areas of the South were vast grassy, open pine forests.

He explains, "The reason for the difference is fire was used as a method of controlling vegetation in many areas of the South. Early on it was set naturally by lightning or by Native Americans. Prescribed burning for

brush management continued until the 1950s when it declined due to expense, liability, and public acceptance."

"What followed is what you see here," says Watkins, "the rapid growth of sweet gum and other undesirable vegetation effectively intercepting sunlight and inhibiting germination of herbaceous groundcover. A product of fire exclusion, this unnatural plant succession resulted in the loss of plant communities, wildlife species, and a reduction of growth and yield of the pines. Mechanical cutting temporarily clears an area but can trigger even thicker regrowth. Bush hog one sweet gum and next year there may be as many as a dozen in its place."

Dr. Wes Burger, professor of wildlife ecol-

#### POINTS TO REMEMBER :

- Tailor QVM to fit your specific wildlife management objective.
- Before using an herbicide on private or public lands, gain permission from the owner.
- Low in toxicity, selective herbicides only affect enzymes found in certain target species and groups of plants.
- Selective herbicides can be applied using a variety of methods and effects last for years.
- Use selective herbicides alone or in combination with controlled fire, bush hogging, disking.
- Fertilizing increases native plant nutritional quality.



ogy in the Department of Wildlife and Fisheries at Mississippi State agrees. Burgers states, "A fundamental fact of ecology is every species is adapted to use a particular plant community. Some animals have broad requirements, others narrow. If the plant community is there, the animal can exist and flourish. Remove it and the animal's reproductive success and survival declines."

When fire is used, rapidly growing plants post-burn provide the best nutrition for wildlife. Burger pointed out a fire-controlled area, reporting, "Between 30 and 35 plants species can be found in this fire-controlled strip. By comparison, about 20 species inhabit sweet gum dominated areas and about 25 species in bush hogged areas."

Though burning for vegetation control is less common today, scientific research has discovered other ways for the landowner, hunter, and timber manager to improve wildlife habitat.

### A "Smart" Discovery

In the early 1980s, BASF chemists formulated an herbicide later named Arsenal. During development it was tested on railroad tracks and industrial sites for effectiveness at controlling weeds that could become a safety risk. The herbicide, imazapyr, killed woody, hardwood brush and invasive exotic grasses. Interestingly, researchers noted that forbs (broad-leaved herbs other than grass) and legumes like lespedeza, partridge pea, and beggarweed grew back quickly as did blackberries, dewberries, and pine.



Hub and Spokes: Dr. Steve Demarais discusses the benefits of establishing wildlife feeding lanes prior to planting pines. Lanes resembling a wheel hub and spokes provide accessibility, nutritional crop foods, and dusting lanes. Increased wildlife carrying capacity enhances wildlife viewing and hunting opportunities during the time following canopy closure and before the first thinning.

Realizing the importance of the finding, BASF entered into a research and development program with the Auburn University Silvicultural Herbicide Cooperative in Auburn, Alabama. Today, imazapyr is available under the trade names of Arsenal and Chopper. They are very selective to target species and groups of plants, leaving others unaffected. Imazapyr has a low toxicity to insects, animals, birds, fish or humans because it affects only plant enzymes.

Notably, various treated test areas experienced germination and growth of native plants that may have been lying dormant for many years, unable to grow due to the shaded

conditions. Moisture, rooting space, and nutrients became available as well. Sumac, plantain, milkweed, poke ragweed, and American beautyberry (French mulberry) germinated in the optimum conditions.

Obviously this discovery directly affected wildlife by increasing natural food sources.

### Quality & Quantity

Research included testing native plant nutritional values after herbicide treatment. Holding a handful of native plants pulled from a treated feeding lane, Dr. Jeanne Jones, Mississippi State University associate professor and wildlife biologist states, "Deer naturally seek plants with at least 14% protein levels. Analysis revealed that depending on soil fertilization, weather conditions, and other factors, legumes could produce 20% to 26% protein in the foliage especially within 2 to 3 years following herbicide application. All wildlife forage species considered, the level is closer to 20%, making the areas very attractive to deer."

"There's no doubt deer and turkey habitat can be increased with the use of selective herbicides," Jones adds. Displaying a handful of tiny seeds she emphasizes the benefits to quail and songbirds as well. Not surprisingly, within test areas desirable forbs volume (measured in pounds per acre) increased by as much as 33-fold over undesirable brush.

### QVM & Wildlife Management

Dr. Steve Demarais is a professor in the



Department of Wildlife and Fisheries at Mississippi State. Dr. Demarais suggests using selective herbicides in addition to traditional food plots to improve habitat's nutritional quality for deer.

Standing in the center of the Hub and Spokes, Demarais explains, "Long lanes similar to the spokes of a wheel were established in the young pine plantation. Arsenal was applied to prepare the site prior to fertilizing and planting wildlife food crops. This makes the pines more accessible for hunting and wildlife viewing. Most importantly, it provides a wildlife food source within the area between the time tree canopy closes and the first thinning. An enclosed elevated platform positioned in the center of the hub allows hunting and viewing of all lanes."

### Road Edge Management

Apply a selective herbicide along the edge of roads throughout hunting areas to remove undesirable hardwood encroachment and hanging limbs. Controlling low-quality brush allows sunlight to reach the roadbed encouraging growth of native herbaceous food plants. Wildlife viewing is enhanced, as animals are attracted to the open area. The widened road offers ease of travel, increased natural forage, and room for disking on one side to provide bugs and dusting areas for turkeys and quail or for plantings. Remember to fertilize.

### Wildlife Feeding Lanes

To establish natural feeding lanes within mature pine stands apply selective herbicides in the fall. By spring the hardwood understory growth is dead. Controlled fire or bush hogging in the spring, if possible, removes debris. Fertilizer (0-22-26) is applied at 200 lb. per acre in late summer. In the course of one year the treated area transforms from a nutritional wasteland to a wildlife feeding lane.

Another way to create feeding lanes in mature crop pines without burning can be accomplished with a late summer application



Kendall Lee, president of Wildlife Specialty, Inc. uses the BrushMaster ([www.amcomfg.com](http://www.amcomfg.com)) and ATV to prepare roadside for planting and dusting areas.

in 50 ft. swaths to undergrowth. Later strip disk to establish dusting lanes and an annual grass community. Strips can also be fertilized and planted with food crops such as the National Wild Turkey Federation's Spring Mix or Mossy Oak's Full Draw.

### The Natural Food Plot

Sometimes a hunter finds a killer spot for a food plot but no easy way to create it. Herbicide and fertilizer allows the dedicated hunter to establish "secret spots," natural greenfields that other hunters won't see. Simply mix according to directions into a backpack sprayer and spray the brushy area to kill the undesirable brush. Later return and broadcast fertilizer. This is especially effective in areas of low deer production, attracting deer to a specific area.

Keep in mind extremely dense vegetation may prevent accessibility to wildlife into an area. Use selective herbicides to create wildlife corridors.

### Hack & Squirt to Help the Hardwoods

Bow hunters will find this helpful. Locate

desirable mast trees around which sweet gum, elm, etc. grow, interfering with growth and obstructing the hunter's view. The procedure requires the use of a hatchet, gloves, and a spray bottle filled with imazapyr. For any tree 1 inch in diameter and up, strike it on the side, slashing off the bark, to create an opening. Inject the herbicide by spraying the opening with 1 milliliter of herbicide then walk away from it. It only takes seconds to make one cut. As a rule, make one cut for every 3 inches of tree diameter. Apply 1 ml. per cut.

Managing understory growth and opening up the woods, increases hunter visibility and safety. Improved wildlife viewing allows hunters participating in Quality Deer Management programs extra moments to observe before deciding if a buck meets harvest standards.

*Tes Randle Jolly is a freelance writer and photographer who may be contacted at Jolly's Outdoor Visions, 334-727-4327.*

