

Smart Herbicides

By *Michelle Isenberg*
BASF Professional Vegetation Management

The key to growing a healthy and profitable pine stand starts before the first seedling is planted. The beginning stage in the process is called site preparation. This practice is vital to create conditions that allow new forests to thrive. Effective site preparation removes competitive weed species, thereby assuring higher pine survival rates and faster growth.

Aside from combating competitive species, site preparation is also necessary to alleviate site limiting factors such as a high water table or hard compacted layers in the soil that will inhibit root development. Successful site preparation helps landowners avoid problems and unanticipated costs later in the reforestation cycle.

For example, sweetgum is a pesky hardwood, adaptable to many different soil and site conditions. Following a prescribed burn or cutting, it actually sprouts vigorously from roots, stumps or limbs in the soil, growing multiple sprouts where only one occurred before the treatment.

Today, landowners and timber producers who plan for the long term have turned to site preparation using smart herbicides as a way to accomplish competition control. Smart herbicides provide a cost-effective method that's more controllable and effective than relying solely on mechanical treatments or prescribed burning alone. Designed to target specific plant species, smart herbicides penetrate and move all the way through undesirable plants, such as sweetgum, killing them at their roots. With hardwood brush out of the way, sunlight reaches the forest floor and pines do not have to compete for nutrients and water.

Smart herbicide site preparation can lead to an optimal rotation age six years sooner than mechanically prepared sites and fifteen years earlier than natural stands. Even with a shorter rotation, her-

bicide site preparation produces more pulpwood and saw timber than either mechanical site preparation by itself or natural regeneration. In addition, smart herbicide site preparation minimizes impact on soil and wildlife habitat quality versus mechanical treatments.

Alabama forest landowner and former Auburn University football coach Pat Dye agrees. "Some of the areas on my property where I established pine trees had to fight thick pasture grasses in order to survive," Dye said. "Looking back, if I could have controlled the grasses early

on, my pines could be even bigger than they are now. Since that opportunity was missed, I've been going back into those same areas and using herbicides to control the grasses. I know this will give my trees the fighting chance they need."

Where to Begin

Before beginning any site preparation, seek the advice of a certified forester or product specialist. Planning a smart herbicide treatment requires a professional evaluation of your specific needs and a prescription to ensure the correct herbi-



Site preparation treatment with smart herbicides eliminates the hardwood competition and accelerates pine stand growth, which allows landowners to start thinning sooner and get a faster return on investment.

cides are applied at rates that will provide long-term control of the competing vegetation.

Site preparation usually occurs during the months of June – October when hardwoods are actively growing. Actively growing hardwoods will absorb the herbicide better, making the treatment more effective. On coastal plain sites dominated by evergreen shrubs, a longer season is possible.

Application Methods

The site prep method a landowner selects depends on the specific needs of a forest. Factors ranging from the slope of the land, plant species dominance, and proximity to residential areas must be considered.

Smart herbicides may be applied by air or ground – both are effective. Smart herbicides may also be used along with bedding and sub-soiling or ripping. For example, coastal plain states often have a high water table, requiring landowners to create raised beds to allow the newly planted pines to grow on unsaturated soil. The use of bedding with herbicides is successful when the aim is to combat competing vegetation as well as avoid soil-limiting factors.

The total cost of herbicide site preparation depends on a number of factors such as:

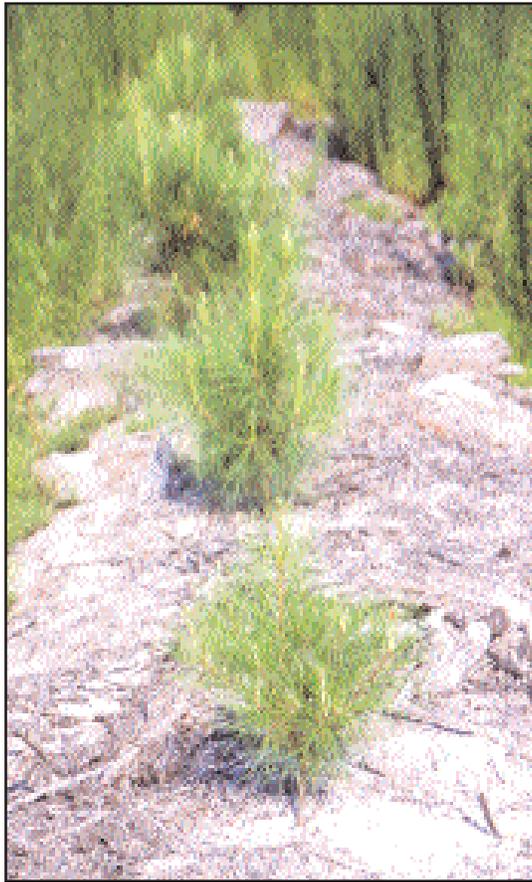
- volume of water required for coverage of tract.
- number of acres being treated.
- location of tract.
- access to tract with equipment.

Good site preparation with smart herbicides can greatly increase the chance of a pine's survival during the first critical years of its life. As Coach Dye testifies, "The smart thing to do is to control the competition right from the start."

If performed properly, site preparation with smart herbicides also features a number of other benefits beyond timber growth:

- provides better access for planting.
- facilitates burning by browning vegetation.
- minimizes erosion and soil disturbance.

In addition, landowners who use smart herbicides for site preparation find that



Good site preparation with smart herbicides can greatly increase the chance of a pine's survival during the first critical years of its life.

they use less herbicide over a period of time and achieve improved control of the undesirable understory in older stands. After implementing an ongoing program of proper herbicide application, most landowners achieve a consistent decrease in the presence of unwanted vegetation.

Smart Herbicide Considerations

Herbicide site preparation success depends on several factors. The density and composition of weeds, combination of herbicides used, and timing of application are vital to successful results.

Smart herbicides must be chosen carefully. The length of time the herbicide will provide brush control is just as important as the types of vegetation it will eliminate. Long-term control is critical because hardwoods and brush that recover will compete with a new stand of pine trees.

In addition, landowners should avoid choosing "discount" herbicides. The cheapest herbicide may prove to be the most expensive in the long run — if

landowners have to waste time and money re-treating hardwood re-sprouts or if they lose pine volume to hardwood or herbaceous competition. Landowners should seek out well-established herbicide brands to ensure consistent results.

Getting the Most from Your Land

Proper land management is essential to continually improving the value of your forest. It begins with site preparation. Smart herbicides can provide the most effective method of site preparation by providing long-term control of the weeds and brush that compete with desirable timber for needed nutrients, sunlight, and water. And they can do it at about 40 percent of the price tag for intensive mechanical site preparation, according to the *Forest Landowner Manual*.¹

Pine reforestation represents a substantial investment of time and money. Today's progressive landowners know that it makes sense to get the most out of it from the very beginning. 🌲

¹Dubois, M.R., Straka, T.J., Crim, S.D., and Robinson, L.J. "Costs and cost trends for forestry practices in the South." *Forest Landowner*, Volume 62 Number 2, 34th Manual Edition. 2003.

Michelle Isenberg is a forestry products specialist & associate wildlife biologist for BASF Professional Vegetation Management and is based at Lake Martin, Alabama. She works with landowners to help establish pine stands and meet their overall forest-land management objectives. For more information on how smart herbicides can be used for your site preparation needs, visit www.forestryfacts.com or call (800) 545-9525.

"Smart herbicides" is a trademark of BASF Corporation. Always read and follow label directions. © 2003 BASF Corporation. All Rights Reserved.