HARDWOOD SEEDLING PRODUCTION, SEEDING, AND WEED CONTROL

Charlie E. Peevy, Louisiana Forestry Commission
Columbia, Louisiana

At the Columbia Nursery, I believe, we have more different species and healthier weeds than any other nursery in the South, and if we are not careful, they get in our seedbeds.

Our irrigation water comes from a lake which is a potential source of weed seed that we will probably have to tolerate. From this lake and our seedbed mulch, pine straw, we seem to gain a couple of new weeds each year.

The Commission began producing hardwood seedlings at the Columbia Nursery in 1959 to learn the techniques, which included weed control methods, for growing the various species with success. Since that time, many chemicals have been tried for weed control.

As we all know, hand-weeding is one of the big factors in making hardwood seedlings more costly to grow than pines.

Oak acorns are collected in the fall. To save labor and space required for stratification, they are planted in November. All other species are planted in March and April, except the species like cottonwood that ripen in May or June.

The larger seed, such as acorns, tupelo gum, and baldcypress, are planted in four drills on freshly prepared seedbeds whereas the small-seeded species are usually broadcast on well prepared beds.

We believe that an ounce of prevention is worth a pound of cure. We have used chemical weed control in our cover crops. Treflan is applied at the rate of 1 quart per acre for premerge. To help control nutgrass, Eptam is applied at the rate of 1 gallon per acre, 2 weeks before planting the cover crop.

To get back to the actual weed control in hardwoods, we have tried several chemicals. Mylone has been used at the recommended rate for oaks and sycamore. This material was applied to the seedbeds and then watered into the soil. It can be used for fall or spring planting. After application, there is a 2-week waiting period before planting. We have experienced from 50 to 90 percent weed control. It will also control soil organisms. The seedlings grow about one-third larger in height where mylone is used.

Methyl bromide properly applied has given very good weed control. But due to cost and labor involved and inconvenience of application, we have drifted away from its use.

Dymid.--In preparation for fall planted hardwood, Dymid was applied with a spray rig at the rate of 1 gallon of herbicide per acre in 75 gallons of water. Then the land was double disked.

Treflan.--For spring planting, Treflan was applied in the same manner and the area immediately double disked to get the herbicide incorporated into the soil. The rate of application was 1 quart per acre.

One advantage of these two herbicides--there is no waiting period before planting.

Varying results have been obtained from Dymid and Treflan. We get from 75 to 90 percent weed control for the first 35 days, then the weeds and grass start coming up. Success with these materials depends on how well it is incorporated into the soil.

We have not found any way to completely eliminate the old hand-weeding. Herbicidal oils cannot be used on any hardwoods, except sweetgum and cypress.

Drilled seedlings are easier to hand-weed than those on broadcast beds because a hoe can be used between drills. Hand chemical weeding can also be done between the drills.

Dacthal, a pre-emergent herbicide, was used this year on three beds of sycamore. It was applied after the seed were planted, with a spray rig before applying the straw mulch. It gave control of some grasses and weeds for a few weeks.

We experimented with TOK E-25, a selective herbicide put out by Rohm and Haas. The same application procedure was followed as for Dacthal. It also gave some weed and grass control for a few weeks.

Our experience with Dacthal and TOK E-25 is too limited to draw any real conclusions for their use in hardwood weed control.

With our nutgrass, water weeds, and other new weeds that we inherit each year, we are still looking for a chemical to help us solve our weed problem.

While we are discussing hardwood seedling production, I would like to mention the experiments we have done with top and root pruning. Last year, we root pruned some 2-0 sycamore and cherrybark oak by running a flat blade about 6 or 8 inches under the seedling beds. Also pruned the tops by cutting them about 6 inches from the ground early in the spring and again in early summer. The seedlings came back out and put on normal top and root growth.

We pruned the tops out of some 1-0 sycamore last year by raising the bush hog to cut the seedlings to about 10 to 12 inches high. This was done early in August. These plants came out and made very good seedlings. It was hard to tell where they had been cut off.

This year, we cut some 2-0 stock of sycamore back to 2 inches. The seedlings were 3 and 4 feet tall when this was done early in the spring. In the early summer, these seedlings were clipped the second time. The seedlings have come out and are looking real good.

I think it will depend on the desires of the cooperators, if pruning is a good practice.