

HYDROMULCHING OPERATIONS AT WEYERHAEUSER'S  
MAGNOLIA NURSERY

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Abstract: Hydro-mulching, using wood fiber, has proven to be an effective method of covering pine seed in nursery beds to assure more uniform germination, less weeds, and less contagious pathogens that are associated with other types of mulch. It also helps to assure less seed and seedbed erosion.

Forest seedling nurserymen, for many years, have searched for an effective material to protect seed and seed beds from erosion. In their search, many things have been used, i.e., burlap, pine straw, sawdust, bark, agricultural crop residue, netting, and wood fiber.

Hydro-mulching, using wood fiber mulch as seed bed covering, was introduced to forest nurseries about a decade ago.

The wood fiber mulch is clean, uniform in size, non-toxic, free of weed seed and fungi that may be present in some other materials.

The Magnolia nursery has used fiber mulch since the beginning of its operation in 1972. That year, with normal start-up problems and near normal weather conditions, the fiber mulch looked good enough to try again.

In 1973, having heard of a soil binder that might aid in holding fiber in place, a test section was set up. This test showed promising results, with a saving of 25 to 30 seed per bed foot over that without binder.

After this test, fiber mulch with binder became operational. Some areas held well, and others did not. It was discovered that the mulch needed a curing time before a heavy rain. Beds that had 48 to 72 hours curing time before a heavy rain stayed in place better than those receiving rain shortly after sowing.

It was found that covering seed lightly with soil before the mulch was applied, aided in keeping more seed in place. If seed is sown on top of the soil, some may be floated to the top of the mulch from force of the mulch hitting the bed.

The present method used is to mix 250-300 pounds of fiber mulch, 10 gallons of binder, and enough water to total 800 gallons of mix, agitating continually. The above slurry mixture is then applied on freshly sown beds at the rate of one tankful/2000 lineal bed feet. This equates to approximately 1500 pounds per bed-acre.

In 1978, two more reasons for mulching seed beds have been noted. Test beds were not mulched, and a late frost followed by high cold winds occurred during germination. Seed not mulched received more damage than those with mulch.

With the extreme hot weather this summer, it is obvious that where fiber mulch is still present, seedlings are taller, greener, and have a better root system.

Method of application is with the trailer type hydro seeder/mulcher, equipped with deflector boards. The machine has an 800 gal. tank, with paddle type agitators and by-pass return, which keeps fiber mulch in suspension.

Seed beds are prepared, seed sown, and lightly covered with soil. The mulch is applied immediately following sowing, and due to other cultural practices, watered with one-half inch water by irrigation.