EVALUATION OF SPRAYABLE LATEX MULCHES IN NURSERY APPLICATION

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Abstract --The use of latex mulch has been increasing steadily for nursery operations each year. There are two brands of latex mulch and both seem to perform well. The material is currently used as an organic mulch replacement to stabilize the seedbed surface and edges. It protects the seed and seedbed from rain and wind erosion until germination is complete. Using proper equipment, the material is relatively easy to apply.

Latex mulches have been used in a number of applications throughout the United States. They have been applied as a soil stabilizer in both turf and nursery uses; but more specifically, for nursery use, the products have been used to stabilize soil on seedbed surfaces and edges (Chapman 1988, Sharp 1988, Stauder 1988, Stringfield 1988). The latex mulch is applied under or over conventional organic mulches, or used as a replacement for mulch. The latex mulches have been shown to actually increase seed germination percent when compared to organic mulch (Stauder 1988). Geotech[2] has been used on an experimental basis at several nurseries for a number of years and is currently used on an operational scale at many sites. Most operational uses for the material have been in the area of conifer production. More recently, Geotech has been used in the operational production of hardwood seedlings. It appears to work well for a variety of species, with seed sizes ranging from sweetgum through that of bur oak. A new material, Agrilock[3] , has been used in the production of pine and hardwood seedlings by at least one nursery and appears to perform similar to Geotech.

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2. Geotech is a product of National Starch and Chemical Corporation.

3. Agrilock is a product of Swift Adhesives.

The use of a trade name does not constitute an endorsement by the Illinois Department of Conservation.

Latex mulch consists of a copolymer resin that is diluted in water and applied directly to soil. The material then cures in about two hours into an invisible film which forms a crust with the soil surface. This holds the soil particles in place and prevents erosion; however, moisture can still penetrate the surface while allowing the young seedlings to emerge.

APPLICATION

Latex mulch has been applied using both boom sprayers and hydromulchers, with the 800 gallon hydromulchers being the preferred. The mulch is generally mixed at a rate of one part product to ten parts water. A defoamer may be added to the mix or the mechanical agitator should be removed from the sprayer to reduce foam generated by the material. Depending on its size, the seed must be covered with 1/8 to 1/2 inch of soil to prevent any direct contact with the latex mulch. Also, before latex mulch application, the bed surface must be moist to insure good penetration of the material, which is 1/8 to 1/4 inch optimum. Some nursery managers actually irrigate for a short time after sowing to insure adequate moisture. The recommended rate of application is 500-550 gallons of mixture per acre, but this has been varied depending on seed size and time of planting. Larger volumes have been applied to fall sown seedbeds.

Most organizations that are using a latex mulch on an operational basis use a hydromulcher equipped with a double or triple boom system with staggered nozzles. The most popular nozzle size to supply the necessary volume and achieve the desired coverage is the Tee-Jet 8020 flat fan.

The Geotech or Agrilock is usually mixed in the field using water from the irrigation system. A transfer pump is used to transfer the latex mulch from 55 gallon drums to the sprayer.

CONCLUSION

While the majority of latex mulch use has primarily been at southern nurseries producing pine seedlings, there is an interest in its use for hardwood production and particularly in the northeast area. In fact, many nurseries are experimenting with the compound for use on hardwood seedbeds. While the products may have worked well for fall application in the South, it may not persist through the harsh northern winters.

LITERATURE CITED

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