

Scalping for Site Preparation on Longleaf Pine Sites

Purpose:

Scalping is a mechanical means of site preparation and should be used when attempting to plant longleaf pine on agricultural sites, whether the site was in pasture or cultivation. The only exception would be fields with steep slopes where erosion is likely to occur. Scalping a field means that the upper layer of soil and/or sod is peeled back. Ensure that scalping is done with the contour and scalp several months prior to planting.

Scalping is often done in conjunction with ripping or subsoiling to fracture any hardpan. Seedlings root growth is enhanced with subsoiling resulting in better seedling survival and growth.

Subsoiling and scalping should always be done on the contour.

Benefits:

Several studies in recent years have shown that longleaf pine seedlings survived at greater rates and grew faster when they were planted on land that had been scalped prior to planting. It is generally easier to get adequate survival on cutover sites than in fertile old fields recently removed from row cropping or pasture use. Scalping outperformed herbaceous release, disking, benomyl root dips, and insecticide applications in these same studies. Scalping is beneficial due to:

1. Reduced weed competition
2. Improved moisture relations
3. Reduced pressure from certain root pathogens
4. Reduced insect damage

First and foremost, scalping helps control competition during the first growing season.

Considerations:

Scalping has the potential of causing erosion. There is also a problem with seedling survival if:

1. The scalping is too deep
2. The scalped rows do not have time to settle prior to planting
3. Scalping is not done with the contour of the land

General Information:

Ensure that scalping is done with the contour and scalp several months prior to planting. Scalp as shallow as possible. On cultivated fields, 2-3 inches is deep enough. When sod is present, it may be necessary to scalp 4-5 inches deep to remove rhizomes and root systems of perennial grasses. Scalping sometimes produces large clods of rolled up sod and soil turned over by the scalping plow. It may be necessary to run an implement to break up the clods and level the field.

Often scalpers are modified fire plows. Some mechanical tree planting machines have optional blades mounted in front of the planting machine so that scalping and tree planting are done simultaneously. The scalped width is generally about 2 – 2 1/2 feet.

For best results, scalp and rip the rows several months prior to planting. This will allow the soil to settle prior to planting. Never plant the seedling directly in the soil rip. Instead, plant a few inches to the side of the rip to prevent the seedling from settling down in the ripped slit.

Plant the seedling shallow. If the terminal bud is covered with soil, the seedling will not survive. The terminal bud should be about $\frac{3}{4}$ of an inch to 1 inch above the ground in a scalped row.

It will probably be necessary to follow up with a chemical release if the grasses begin encroaching on the scalped area.

Sod scalpers are available from the Mississippi Forestry Commission in Wiggins for \$5 per acre.

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