

BLACK PLASTIC "MULCH" FOR PINE PLANTING

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At the time of planting loblolly pine (Pinus taeda) in the Georgia Piedmont, 4-foot squares of black plastic (polyethylene) with 3-inch holes in the center, through which seedlings protruded, were placed on the surface of the ground. A simple twice-replicated randomized block design, with twenty-five seedlings in each plot, was used to test the effectiveness of this "mulch" for improving survival and stimulating early growth. The soil is a severely eroded Cecil clay, abandoned for row cropping several years prior to planting, and densely covered with herbs and grass. The original B horizon is the present surface soil.

Survival was only slightly better in the mulched plots than in those not treated: 79 and 75 percent respectively after three growing seasons. This is only slightly less for both treatments than after the first growing season.

Height growth was stimulated (though not statistically significant) in mulched plots, probably by vegetative competition control and subsequent release for use by the pine seedlings of soil moisture that would otherwise have been utilized by grasses and herbs. For the three growing seasons, the average annual height increment of mulched trees was 16 inches and nonmulched, 12 inches. This 4-inch average annual growth difference had developed by the end of the second growing season. Average total heights at the end of each year are as follows

Growing season:	<u>Mulched seedlings</u> (inches)	<u>Nonmulched seedlings</u> (inches)
1.....	6	4
2.....	29	20
3.....	50	36