Loblolly pine growth across gradients of soil physical disturbance and harvest residue. (S07-eisenbies120518-Oral)

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Abstract:

The timing of forestry operations relative to weather conditions is critical to the best management practices recommended by many states. Wet-weather harvesting (WWH) has been shown to increase compaction and alter the distribution of logging debris. However, the efficacy of some BMP's for preserving long-term site productivity is not known. The purpose of this study was to examine the response of loblolly pine (Pinus taeda) after WWH and dry-weather harvesting (DWH) and 3 site-preparation treatments. Tree response within a 3x3 factorial of soil physical disturbance and harvesting residue was also examined. Second and fifth-year growth were measured on 15 3-ha loblolly pine plantations in Colleton County, SC. There was no difference in the mean tree green-weight biomass on DWH (13.4 kg) and WWH (12.5 kg) flat-planted sites. There was a higher mean biomass on the bedded WWH sites (22.9 kg) versus the bedded DWH sites (18.5 kg). There were no significant differences or interactions within the disturbance and residue matrix. Aeration and drainage are normally the most limiting factors on these sites, but WWH seemed to positively affect water retention during recent prolonged drought.

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