Forest Site and Soil Quality Evaluation for Making Silvicultural and Economic Decisions. (S03-burger130150-Oral)

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Abstract:

Forest site and soil quality evaluations are essential for good forest management and an economically-viable forestry business. Forest site quality has traditionally been measured using a site index, defined as the height of the main canopy trees at a given age. Forest site quality is a function of geology, topography and soils. For plantation forests, geology and topography are fixed, but soils are manipulated much as they are in agronomic systems. Forest soil quality can be improved by tillage, fertilization, and drainage, and can be degraded by erosion, displacement, compaction, and nutrient depletion. The economic implications of changing forest soil quality are central in a forestry business plan. The economic response to tillage and fertilization of many forest soils has been well documented and incorporated in forestry practice. The economic consequences of negative side effects of some forestry practices such as wet-weather harvesting and nutrient depletion are less well known. To better understand management effects on forest soil quality, forest soil specialists are studying ways to index forest soil quality in a fashion similar to that used historically to index overall forest site quality.

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Presentation Information:

Presentation Date: Thursday, November 14, 2002
Presentation Time: 8:40 am

Keywords:

soil quality, forest quality, forest soil management, managing soil quality