

Recycling wood ash: increasing forest productivity on peatlands in a responsible way

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Abstract

Increasing use of wood fuels is increasing ash production. Instead of dumping ash into landfills its nutrients could be recycled in a sustainable way. Drained peat soils, naturally poor in phosphorus and potassium, may require fertilization to sustain balanced growth of tree stands. In many studies wood ash, containing phosphorus and potassium, has enhanced tree growth strongly. Other benefits of ash include enhanced natural regeneration of spruce and birch. Environmental considerations do not compromise ash application, instead it can offer benefits. Higher volumes lead to higher water use and decreased need for ditch cleaning thus lowering loading of solids to the water courses. Higher amount of coarse roots gives better support for the harvesting machines thus decreasing site erosion. Ash increases CO₂ emissions from soil, but also increases sequestration of CO₂ in the growing stand, and does not increase heavy metal contents of plants or nutrient leaching to water courses.