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Preliminary Report: Research To Determine the Effects of Wood Ash Additions on Carbon Sequestration In Muskoka Forests

Determination of the effects of ash addition on carbon sequestration rates of forests, requires both above (tree growth) and below ground (root growth, soil respiration) research. We have started that research at Camp Big Canoe east of Bracebridge. Trent University collaborators and FOTMW staff launched the experiment using 40 mature sugar maple trees. For the below ground work, we installed root collars in the 40 plots containing banded trees, and will measure the differences in root biomass among treatments in 2023. To measure differences in tree growth, we banded 40 trees with dendrometers that provide very accurate measurements of the point-in-time tree circumference. We then assigned 8 replicate trees to each of 5 doses of ash - controls with no ash, 2, 4, 6 and 12 tonnes/ha. We added these ash doses in the fall of 2021. We have also begun soil respiration measurements using soil collected from ash treated plots at Camp Big Canoe. It's too soon to determine the effects of ash additions on carbon capture. This will be a graduate student project that runs for the next two years. However, please inquire if you are interested in the preliminary data gathered on soil chemistry and tree chemistry and stem diameter.



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