



TREE FUND Report



Sept. 2013

Hyland Johns project engages young scientists in soil studies

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Providence Academy students completed another successful summer collecting data on Autumn Blaze maples trees in a project begun in 2012 with funding from a [Hyland R. Johns grant](#).

The research project is evaluating the effects of five different soil treatments on the establishment of newly planted Autumn Blaze maples. Students identified an initial expected boost to leaf chlorophyll and tree growth provided by fertilizer, compared to bare soil control trees in the first three years of the experiment. This boost provided by fertilizer disappeared as the trees became established. The research group has hypothesized that the roots have grown beyond the treatment ring and are gathering nutrients primarily from soil outside the treatment rings. Research focusing on the soil has revealed that compost can provide a nice boost to soil phosphorus when needed and that none of the treatments significantly alter the profile of soil bacteria and fungi.

This result, while not as exciting as observing change caused by the treatments, indicates that commonly used soil treatments including compost, wood mulch and fertilizer do not cause large scale dramatic disruptions to the communities of bacteria and fungi in the soil. From an environmental perspective, this is a positive result.

Shown below are Dr. Yvonne Boldt and Mackenzie presenting a poster on the soil bacteria and fungi at the ISA conference in Toronto this past August; Brendon analyzing bacterial DNA in the lab of Dr. Les Werner (collaborator from the University of Wisconsin, Stevens Point); and Henry collecting trunk diameter data.

