

Contributions of Biochar and Mycorrhizal Fungi to the Growth of *Geum peckii* (Eastern Mountain Avens)

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Project Objectives

- Collect and identify arbuscular mycorrhizal fungi (AMF) associated with the roots of the endangered plant species *Geum peckii* (Eastern Mountain Avens) using DNA barcoding
- Evaluate the potential effects of using biochar and AMF in out-planting trials of *Geum peckii* from tissue culture to the greenhouse



Photo Credit: Sarah Adams



Photo Credit: Dr. David Kristie

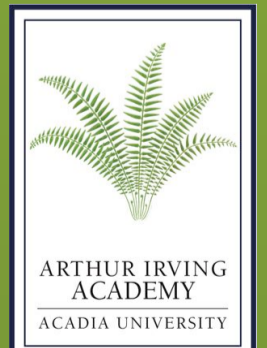
Greenhouse Trials

- Greenhouse trials were completed to investigate out-planting methods from tissue culture to the greenhouse. The seeds were stored in the K.C. Irving Center seed bank, and germinated in the tissue culture lab.
- A mixture of native Brier Island AMF, charged biochar, peat, vermiculite, and perlite were used as the substrate to grow the plants
- AMF and biochar could potentially benefit the plant by increasing nutrient uptake, and decreasing water loss



Identification of AMF

- *Geum peckii* roots from Brier Island were collected as approved by Department of Natural Resources
- *Zea mays* roots inoculated with native Brier Island AMF were propagated in trap pots and collected
- A series of DNA extractions, PCR and gel electrophoresis were completed using nested AMF specific primers
- The samples will be sent to Genome Quebec for sequencing



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