Investigating the effect of arbuscular mycorrhizae on *Crocanthemum canadense* (L.) Britton propagated in tissue culture

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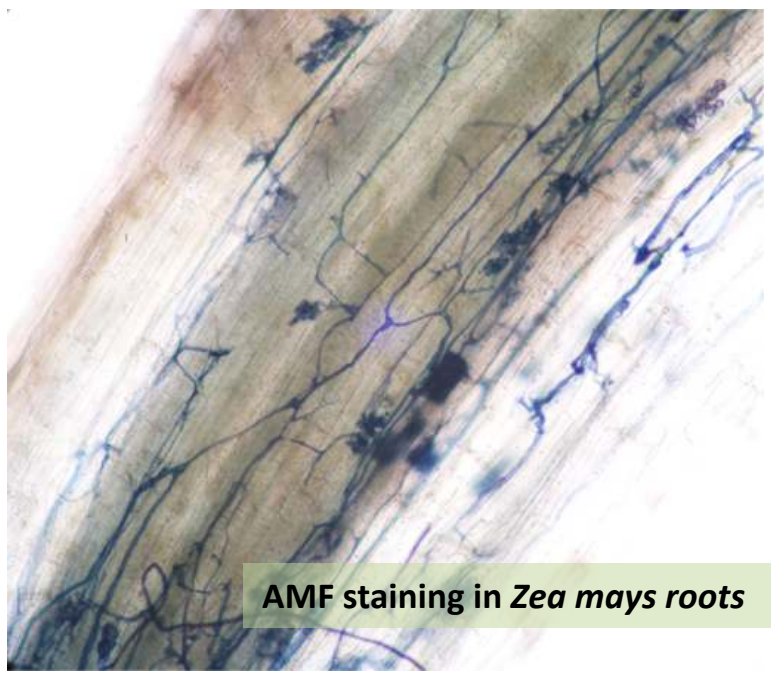
Crocanthemum canadense (L.) Britton

Rockrose (*Crocanthemum canadense* (L.) Britton), is a small herbaceous perennial found in dry, sandy barren ecosystems in eastern North America. This rare plant is classified as critically imperiled in Nova Scotia as populations are increasingly in decline. Nova Scotia has two distinct populations located in sand barrens in Kings County.

Objective: To determine if arbuscular mycorrhizal species have a significant effect on the growth and overall health of tissue culture propagated *Crocanthemum canadense* (L.) Britton (Rockrose). With increased knowledge on this symbiotic relationship, advanced methods can be determined for the re-introduction and conservation of these plants in their nutrient poor, native sand barren environment.



AMF staining in *Zea mays roots*

Trap cultures in the K.C. Irving Centre (Phytotron A)

Methods:

1. Propagate plants using tissue culture
2. Create trap cultures with native soil and *Zea mays* to increase viable spore propagules and to create a soil inoculum
3. Out-plant tissue cultured Rockrose plants into various soil mixtures to determine the most effective soil mixture for trial
4. Out-plant tissue cultured grown Rockrose in successful soil mixture with varying soil inoculum ratios

<u>Currently:</u> Assessing overall health and survival of plants

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