

Charlie Banks

I am a third-year biology student, and I am currently enrolled in BIOL 3413 Research Topics. I have been interested in the conservation and restoration of salt marshes since last semester when I took BIOL 3293 Flora of Nova Scotia course. My future plans are to apply to dentistry school, but my main interests are in plant biology. I enjoy doing research because I get to do hands-on work as well as learning new things. It makes me feel like I can contribute to restoration and conservation efforts. I love doing research at the Irving Centre because it has a huge greenhouse with beautiful plant collections as well as the herbarium, which is home to thousands of plant and fungi specimens! The people who work at the Irving Centre are extremely helpful and everyone seems to be interested in research of any kind! My favourite memory about research has to be when Alain, Zoe and I went to collect seeds from the Wolfville mud flats. We collected enough seeds that could be used for my project as well as for other research at the Irving Centre. The goal of my research project was to investigate how to propagate two native Nova Scotia plant species. *Iva frutescens* (maritime marsh-elder) is a native species of salt marsh shrub that is currently limited to Yarmouth and the Minas Basin in Nova Scotia. Although it is found in Nova Scotia and along the East Coast down to Texas, it is not distributing itself throughout the salt marshes of Nova Scotia. *Petasites frigidus* var. *palmatus* (arctic sweet coltsfoot) is a relatively rare species, native to Nova Scotia. It produces seeds but it reproduces more commonly through asexual division via underground rhizomes. Both species could potentially become species at risk in the future, so it is important that we study these species and their ecological importance.

Viability and Germination Testing of *Iva frutescens*; Propagation Success of *Petasites frigidus* var. *palmatus* Through Rhizome Cuttings

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Objectives:

1. To explore what method yields the highest germination percentage for seeds of *Iva frutescens*
2. To determine the viability percentage of *Iva frutescens* seeds using tetrazolium chloride
3. To determine if *Petasites frigidus* var. *palmatus* could be propagated through rhizome cuttings

Seeds of *Iva frutescens* were collected at the Wolfville mud flats. Seeds were placed into germination trays to test germination rates. The seeds were tested for seed viability using tetrazolium chloride, a chemical that will turn the embryo red/pink when the seeds are viable and respiring. Rhizomes of *Petasites frigidus* var. *palmatus* were cut off from the mother plant and placed into pots for propagation.

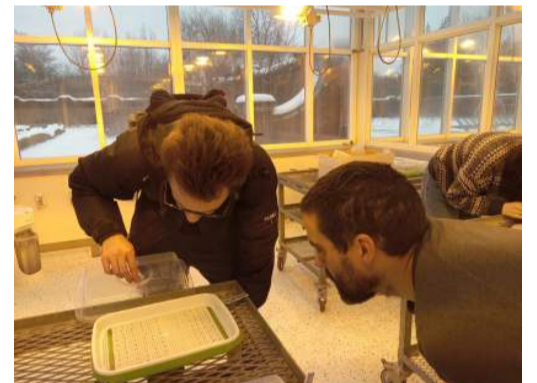


Figure 1. *Iva frutescens* seeds tested with tetrazolium chloride (bottom) and without (top) viewed under a dissecting scope.