



Ontario Invasive Plant Council's Call for Proposals

November 2016

The Ontario Invasive Plant Council is a not-for-profit formed in 2007 committed to the collaboration of organizations and citizens in order to more effectively respond to the threat of invasive plants in Ontario. The OIPC is happy to announce that in fall 2016 we will be putting out a call for proposals on a range of invasive plant research topics. Each of the following topics has been identified by our Research and Control Committee, and we are now seeking academic partners to help us fill in these knowledge gaps.

Project Specifics

Being our first year, the budget for this call for proposals is modest. We have roughly \$1200 and we are seeking to make the biggest collective impact possible. All proposals will be considered by our funding review committee, but ultimately the proposal(s) that best fit our funding budget and identified knowledge gaps will be deemed successful.

Preferred Knowledge Gaps

Examples of questions we would like answered:

Potential literature searches or surveys

- Questionnaire to cities and towns in Ontario with municipal composting facilities regarding the temperature the facilities reach and how this related to the viability of composted invasive plant material: Do they monitor the temperatures, and if so how frequently; What are the fluctuations in temperatures over the day/seasons at each? Do these composting facilities test to see whether weed seeds survive composting?
- What temperatures are required to kill the seeds of European/common buckhorn, glossy buckthorn, dog-strangling vine (2 species), garlic mustard, wild parsnip, common reed, *Phragmites*, Japanese knotweed (and root fragments), and other invasive plants of concern (scientific names available) (also a possible longer term field/lab study)?
- When (size we assume or perhaps colour), do European and glossy buckthorn seeds become viable (one strategy in some managed sites is to cut off berried branches – do they need to be removed from the site or could they, at an early stage, be left on site?)
- Can mycorrhizae be used to amend soils so native plants are better able to survive? How do we determine the right mycorrhizae (i.e. buy what is available in a garden shop or plant nursery)? Is this even a viable remediation option?



Longer-term research studies (MSc/PhD)

- How long do seeds of invasive plants persist and are able to germinate in the soil? What factors influence this viability?
- Is the toxicity of wild parsnip sap (furanocoumarins) related to soil chemistry/composition? Are leaves of year-1 plants of wild parsnip and giant hogweed toxic in year 1 only or also in year 2 and beyond (what test organism could be used to study this)?
- Do earthworms facilitate invasion of non-native plants into ecosystems? If so, which sites are more susceptible? Are mycorrhizae important in this invasion? Which worm species have the most potential impact? How can we manage for such inevitable invasions?

Biochemistry questions

- Does the level and toxicity (furanocoumarins) in wild parsnip and giant hogweed sap vary during the day (early morning, mid-afternoon, evening)?

Other Considerations

- We are happy to entertain proposals on other topics that fit align with the OIPC's mission

Next Steps

If you are interested in submitting a project proposal under the 2016 call for proposals, please email the OIPC Project Liaison, Colin Cassin at colin@oninvasives.ca no later than **November 30th 2016** indicating your interest in being considered by the funding committee and a brief (400 words max.) project proposal. Each proposal must clearly indicate the value of funding being requested. All successful projects will require applicants to submit a summary of findings and may be asked to present their research at the next OIPC Annual General Meeting (fall 2017).