

MSc graduate student position, Environmental Stress Physiology

Department of Plant Sciences, University of Saskatchewan

A MSc position is now available in the field of plant environmental stress physiology within the College of Agriculture and Bioresources, Department of Plant Sciences.

Extensive work conducted in the 1970's through to early 2000's have clearly shown the many benefits of Fall Dormant Seeding across various crops including subsequent earlier maturity (which enables crops to avoid mid season heat and drought stress during flowering), significantly higher yield, etc. in the following year. Despite over 40 years of evidence, Fall Dormant Seeding has still not been widely adopted, primarily because of the risk of fall germination resulting in poor plant density in the spring (up to 50% reduced density). Reducing water uptake into seeds in the fall is critical to preventing germination. In seeds, that limiting factor to reduce water uptake is seed dormancy. Insufficient seed dormancy results in greater water uptake into the seed causing freezing damage. Therefore, the Objectives of this project are: 1. To assess genetic variation in seed dormancy and examine impact of seed dormancy on rate of freezing tolerance loss; and 2. To determine the impact of seed source environment on rate of freezing tolerance loss and depth of dormancy. Crops will include cultivars of spice (coriander), pulses (red, yellow and green cotyledon lentils; and green and yellow field peas), cereal (wheat), oilseed [Argentine canola (*Brassica napus*) mustard (*Sinapis alba*, *Brassica carinata*, and *Brassica juncea*).

The MSc student will be paid a stipend of no less than \$25,000 CAD per year at the University of Saskatchewan. Students are also encouraged to apply for the many scholarship opportunities available. Student development and international experience are considered important steps to successful careers. The student will have opportunities to present their work at conferences. For all who are interested in this M.Sc. position, contact Prof. Karen Tanino, karen.tanino@usask.ca and use "MSc position, Plant Environmental Stress" in the subject line.

Deadline for application: no later than March 1, 2022 with a tentative start date of May 1, 2022.