

GRADUATE STUDENT STIPEND:

PHENOTYPING CANOLA – SENESCENCE AND POD SHATTERING

The position: We are looking for a highly motivated graduate student interested in gaining an MSc (or PHD) in Plant Sciences, in the developing area of phenotyping. This position requires a BSc (or MSc for the PHD) in plant science / agronomy / applied biology. This is a great opportunity to obtain experience in field imaging technology and apply state-of-the-art techniques to canola to help make stress and seed shatter-resistant crops. Saskatoon is home to the globally leading crop and Saskatchewan is the heartland of canola production. The project is in collaboration with AAFC (Saskatoon- Canola Genetics and Breeding) and the University of Saskatchewan (Department of Plant Sciences) on a project funded by the Global Institute for Food Security.

Research objectives: The research will characterize a 51-member canola (*Brassica napus*) diversity panel collection known as the NAM Founder in the field. We will be measuring changes in biomass, pod development and progression of harvest index through old fashioned crop physiology and pairing these measurements with state of the art phenotyping techniques. The phenotyping methods use both moving platforms (tractor mounted) and drones (aerial): light interception, spectral reflectance, biomass estimation and biomass partitioning. The goals are to 1. estimate biomass potential and yield development, harvest index development and pod maturation and to 2. specifically develop techniques to dissect traits associated with pod drying and pod shattering. Tools that result from this project will be used to: i) study stress resistance; ii) investigate pod shatter resistance; and iii) further genetic analysis and fine mapping of imaged phenotypes of the spring *B. napus* Nested Association Mapping (NAM) population, which is based on the panel of 51 diverse founder genotypes studied in this project.

To apply: Funding is up to 2.5 years for MSc (3 for PHD), based in the Department of Plant Sciences, University of Saskatchewan, and at AAFC Saskatoon. AAFC Saskatoon is housed on the University of Saskatchewan's campus, in immediate proximity to Plant Sciences. Preference will be given to individuals with plant and field experience, at least one or more of the following areas (physiology, genetics, big data), and a proven track record of meeting deadlines /publishing research. The stipend is competitive at federal rates, currently \$25,000 CAD for MSc (\$ 27,000 for PHD). Preference will be given to applicants available to start in May. Non-Canadian applicants must be eligible to study in Canada. Candidates whose first language is not English and whose degrees are not from a university that instructs in English must provide a certificate of English proficiency (TOEFL of 86 or more with 19 or more in each category, or IELTS of 6.5 or more in each category). The MSc position is available now, and applications will be considered until the position is filled.

Interested candidates should e-mail a short (1/2 page) cover letter, current CV /resume outlining relevant research & work experience (2-3 pages), contacts for three references, English proficiency, and copies of degree transcripts as a single document in pdf format. This pdf file will be named "PHENOCAN and your name". Send the file as an e-mail attachment to rosalind.bueckert@usask.ca , with the e-mail subject line "PHENOCAN and your name" We will contact the best qualified applicant/s to proceed to an interview and formal application.

Contacts:

Dr. Rosalind Bueckert, Crop Physiology, Dept. Plant Sciences, University of SK, Saskatoon, SK S7N 5A8

Email: rosalind.bueckert@usask.ca +1- 306-966-8826

OR

Dr Sally Vail, Canola Breeding, AAFC Saskatoon, 107 Science Place, Saskatoon, SK S7N 0X2

Email: Sally.Vail@AGR.GC.CA +1- 306-385-9482