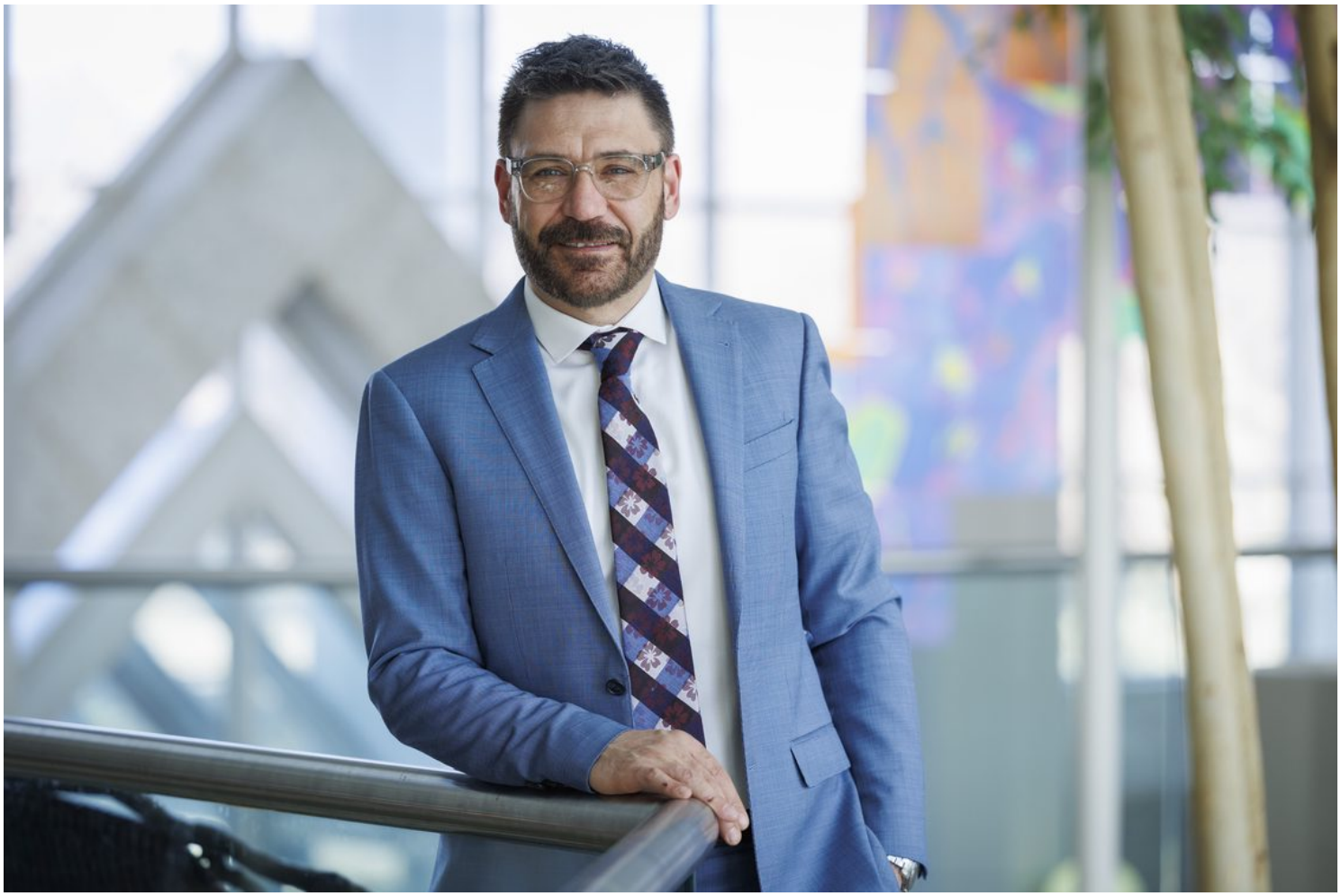
CDC INSIDER

Director’s message



Welcome to the second addition of the CDC Insider, our biannual newsletter dedicated to sharing insights and updates from the Crop Development Centre (CDC) at the University of Saskatchewan.

As the Director ofthe CDC, I am thrilled to connect with each of you, and provide a snapshot of ouractivities and the exciting advancements we've made in the past six months.

We have had a very productive yearat the CDC. In February, we received support to register 11 new cultivars of wheat, durum, lentil, pea, and

Canaryseed. CDC Faculty were successful attracting over $9.5 million in new funding to support our innovative research and breeding programs. This includes a $7.26 million dollar renewal of the CDC Operating budget through the Saskatchewan Ministry of Agriculture. We are grateful to the Ministry for its continued support and investment to support our core activities.

We continue to advance renewal in the Department of Plant Science and the CDC. We have invested in expanded land infrastructure and have recently purchased a new research farm near Aberdeen, Saskatchewan. This new facility will support, in part, our cereal and flax pathology programs, and will allow expanded activity in agronomy related research. We continue to invest in our people. We are pleased to welcome Dr. Adam Carter as our new wheat and canaryseed breeder, who will be working with Dr. Pierre Hucl as he transitions to retirement over the next five years. We are currently in the process of recruiting a new Lentil and Faba Bean breeder to assume the role of Dr. Bert Vandenberg, who retired earlier in June. We wish Dr. Vandenberg a happy retirement! In addition, we at the early stages of implementing our growth plan and have identified priority areas for hiring additional faculty to support our mission. esistance to biotic and abiotic stresses and quality by leveraging the latest technologies and collaborating with industry partners, government agencies, and farmers. We are dedicated to driving progress and sustainability in the agricultural sector. Training of graduate students remains a top priority, with 34 graduate students currently enrolled in our graduate programs. Since our last update, our faculty have pushed over 50 peer-reviewed publications.

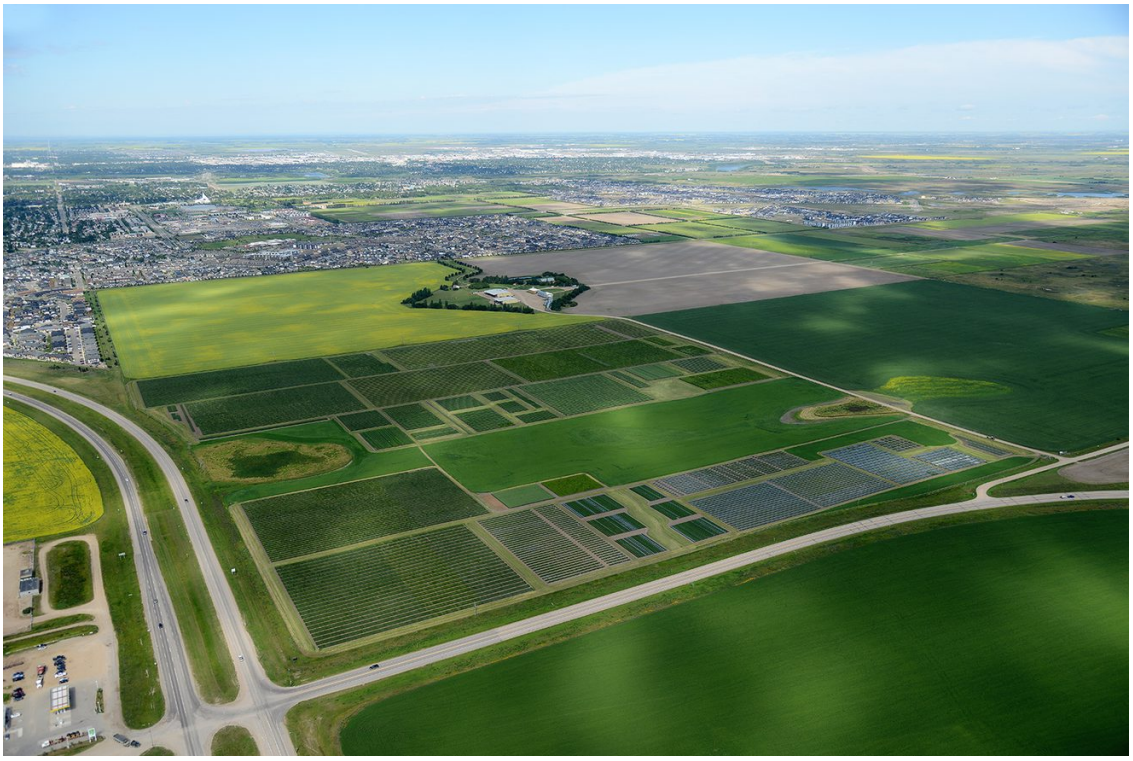
I hope you will enjoy this edition of the CDC Insider. Thankyou for your unwavering support, and I wish you a bountiful and prosperous season ahead.

Sincerely,

Curtis Pozniak Director,

Crop Development Centre University of Saskatchewan

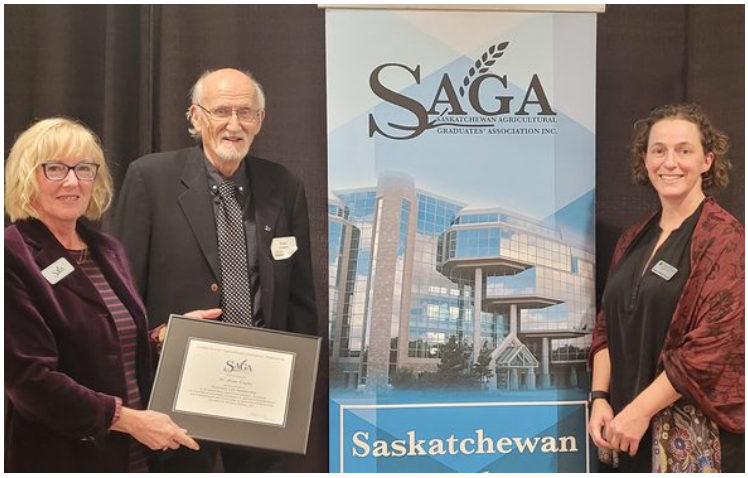
Renewed funding



The Crop Development Centre received a renewed commitment to its operating funds for the next five years through the Province of Saskatchewan's Agriculture Development Fund (ADF). *photo by Airscapes International*

Awards

Dr. Curtis Pozniak was awarded a Queen Elizabeth II Platinum Jubilee Medal on December 14, 2022. The medal marks the 70th anniversary of the queens reign and is intended to honour an individual's significant contribution and achievement to Canada.

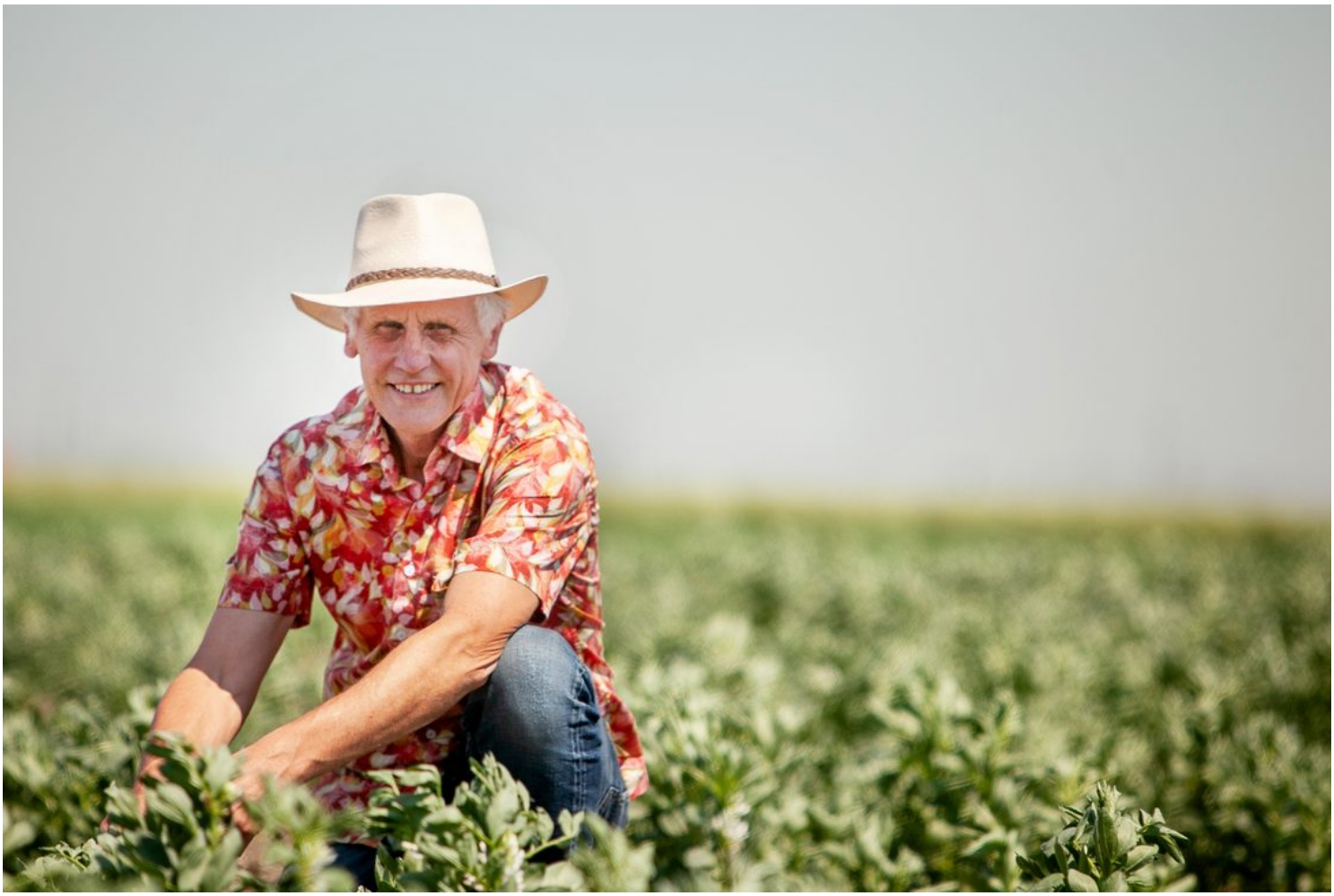


Professor Emeritus Dr. D. Brian Fowler was presented with an Honorary Life Membership from the Saskatchewan Agricultural Graduates Association (SAGA) at their 88th Annual Reunion Banquet on Jan 7, 2023.

Kishore Gali, Research Officer in Pea & Soybean breeding program, who was awarded a Queen Elizabeth II Platinum Jubilee Medal on March 23, 2023. The award was in recognition to Kishore's volunteering services in the Saskatoon community.

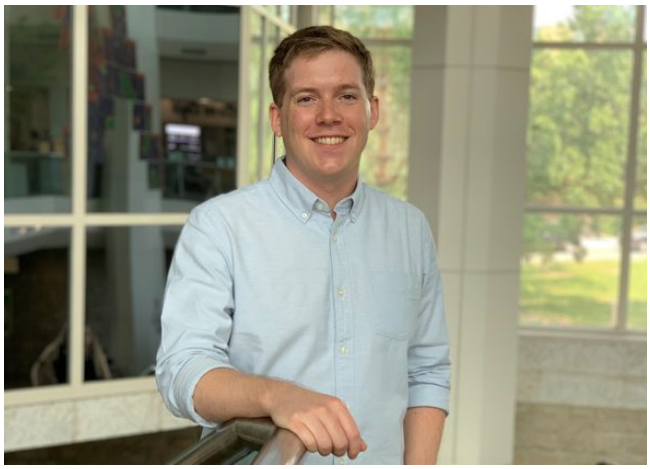
His the Honourable Russ Mirasty.

Dr. Albert (Bert) Vandenberg retirement



Dr. Albert (Bert) Vandenberg officially retired from the University on June 15, 2023. Dr. Vandenberg joined the department in 1991 as a Professional Research Associate and was named the Pulse Crop Research Chair in 1998. supervised over 30 graduate students and was a committee member for 38 Master and PhD students. He published 213 papers in referred journals, and has given several invited presentations on the breeding and adaptation of lentil and fababean. Dr. Vandenberg holds both a BSc and an MSc in Crop Science from the University of Guelph, and PhD in Plant Breeding and Genetics from the Department of Crop Science and Plant Ecology at the University of Saskatchewan where he studied under the supervision of Dr. Alfred Slinkard.

CDC appoints SRP research chair successor



Dr. Adam Carter will be joinintg he Crop Development Centre on July 1, 2023, as an Assistant Professor and SRP Chair in wheat and canaryseed breeding and genetics. Adam completed an MSc in soybean breeding at the University of Guelph, and a PhD in wheat breeding at the University of Saskatchewan, prior to accepting this position.

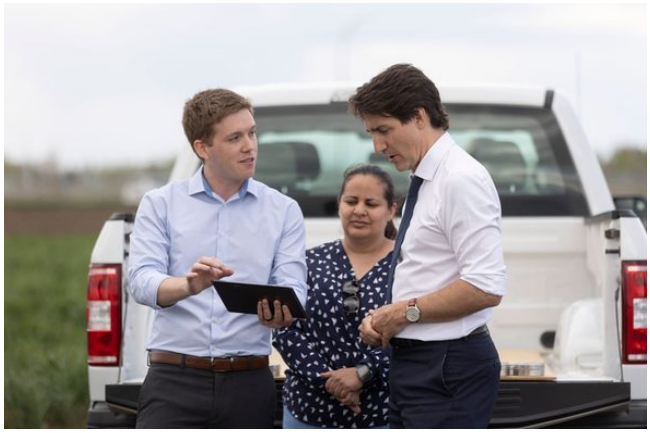
2023 Crop Production Show

Left to right: Hansanee Fernando, Gloria Gingera, Jap Singh, Lindsay Prafke, Marissa Janssen and Curtis Pozniak get ready for the opening of the 2023 Crop Production Show held January 9-12, in Saskatoon SK.

Research technicians Allison Karstens and Everett Boots are photographed at the booth with 40 year recognition trophy.

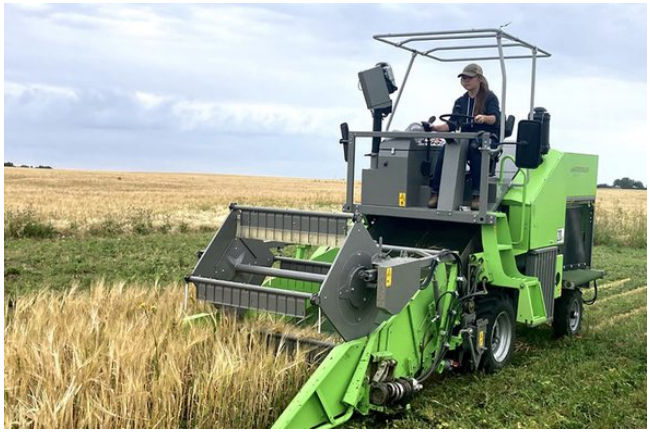
Master's graduate students Jocelyn Leidl and Kaylie Krys are ready and eager to talk to visitors.

News stories



From summer student to PhD: Cultivating an appreciation for plant genetics.

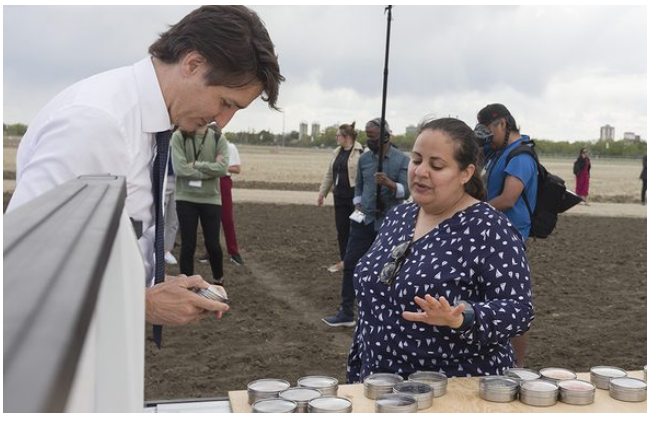
Wheat pathology research a practical way to help producers.



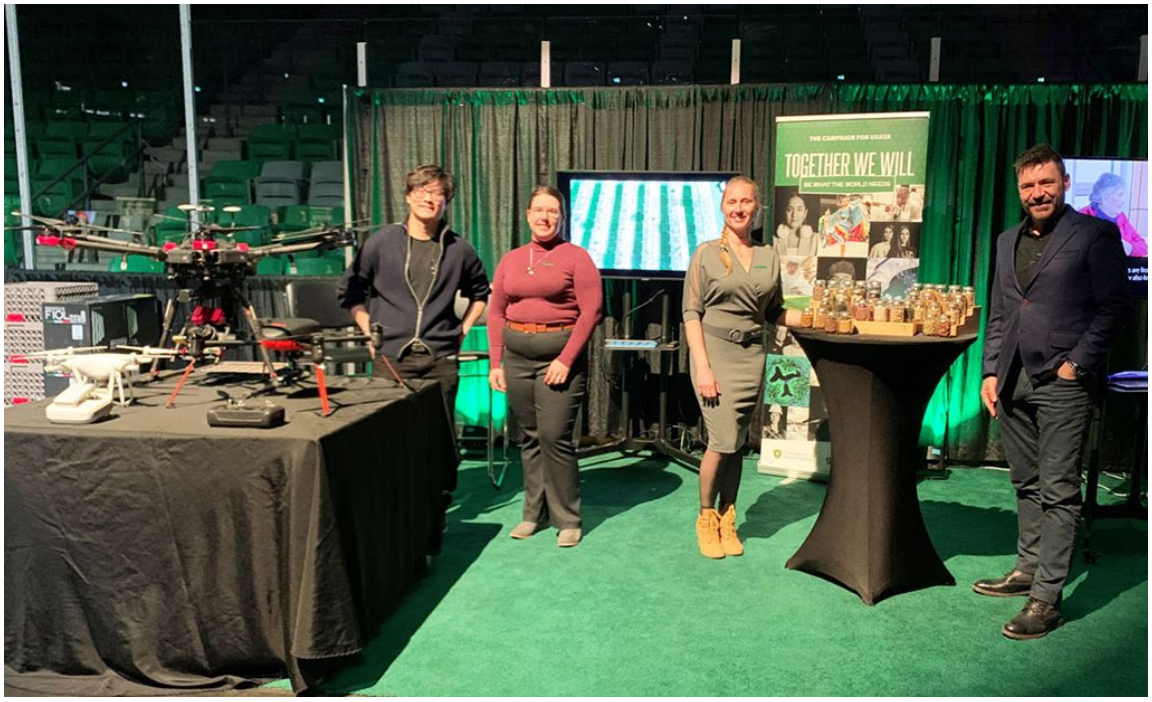
Sask researchers aim to reclaim

USask researcher aims to reduce fertilizer use through plant cross-

CDC durum variety named for its dark awns

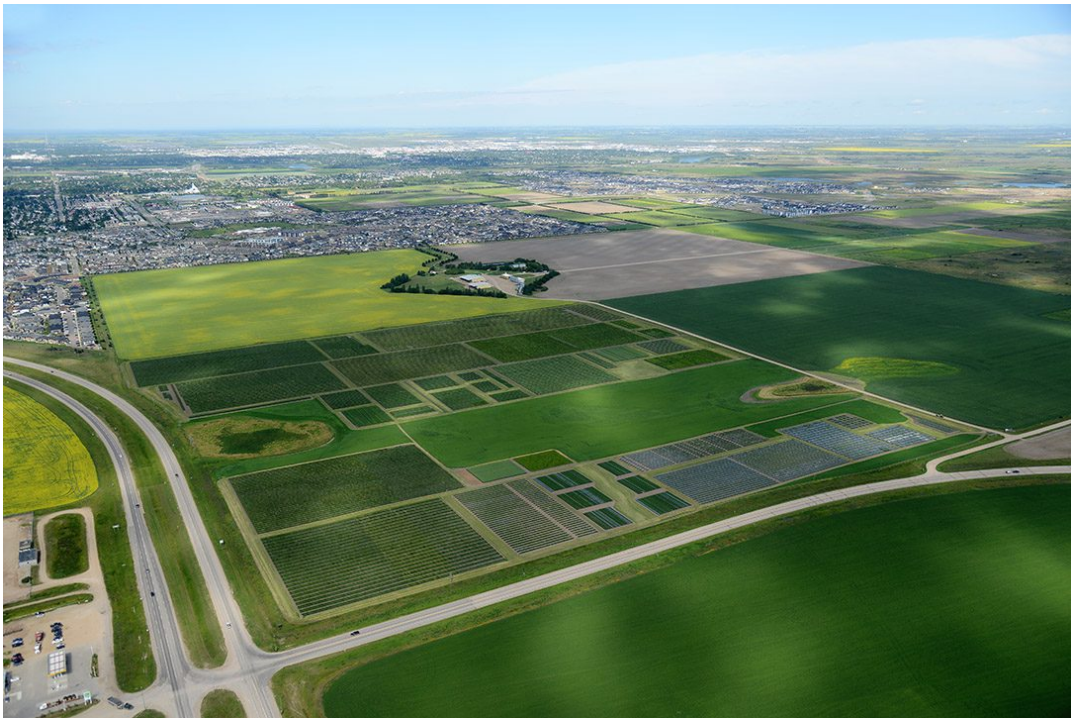


Cool Beans: How Ana Vargas chose the Crop Development Centre for her life's work.



launch the Campaign for the University of Saskatchewan.

Left to right: Seungbum Ryu, Kaylie Krys, Valentyna Klymiuk and Curtis Pozniak



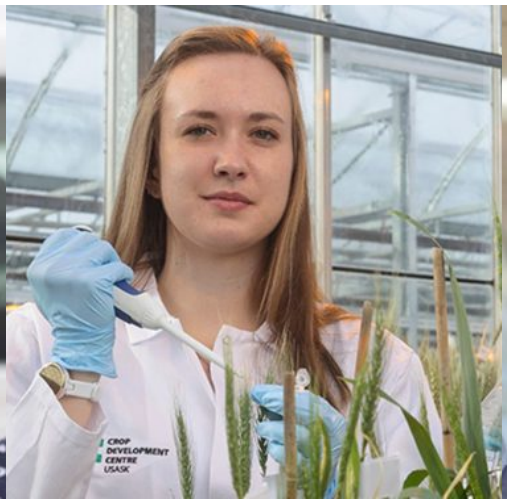
Strengthening agricultural systems through plant-breeding and tools for farmers

By: FOOD SECURITY REPORT VIA GLOBE AND MAIL

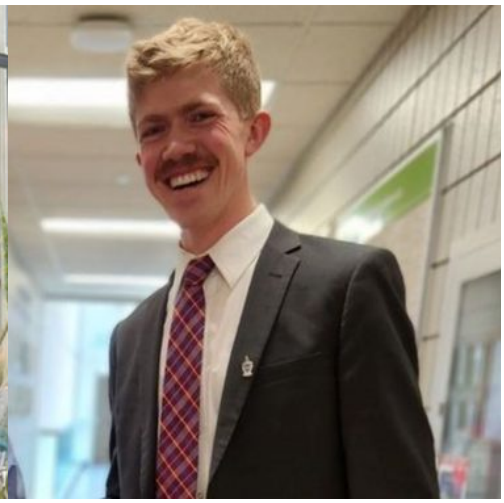
(photo:Airscapes)

Recent graduate students defending

Adam Carter defended his PhD thesis entitled “High-Throughput Phenotyping and Genomic Prediction in Multi-Environment Plant Breeding Field Trials” on Wednesday April 12, 2023.

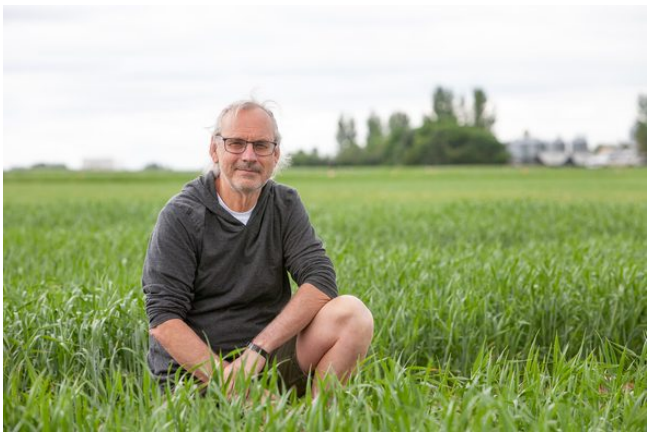


Mackenzie Hladun defended her MSc thesis entitled “Increasing Fusarium Head Blight Resistance Breeding Resources in Bread Wheat” on Wednesday March 29, 2023.



David MacTaggart defended his MSc thesis entitled “Quantifying the Diversity of Agronomic Traits of *Cicer Milkvetch* (Astragalus cicer L.) Germplasm Collections Using UAV-Based Imagery” on

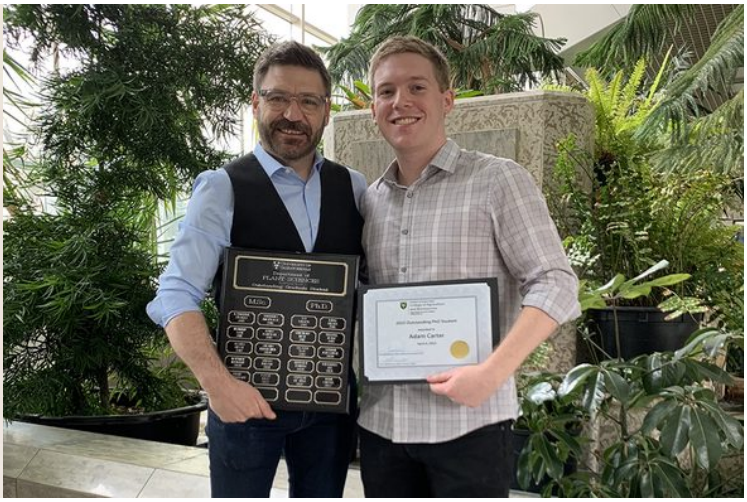
CSA Distinguished Agronomist



Dr. Pierre J. Hucl was awarded the 2023 Canadian Society of Agronomy Distinguished Agronomist award in recognition of his outstanding contributions to agronomy.

Graduate students awards

Loveleen Dhillon was awarded a Canadian Plant Breeding Innovation Scholarship (CPBI) for her research entitled Bolstering Nitrogen Fixation in Pea. The CPBI scholarship aims to recognize the achievement and innovation ofyoung plant breeders in Canada.



Adam Carter was selected as the most outstanding PhD student in the department for the year 2022. Students are nominated and judged based on their academic achievements, research & teaching contributions, leadership, service qualities, reliability and communication skills.

Recent publications

Neupane, S., Wright, D.M., Martinez, R.O., Butler, J., Weller, J.L. & Bett,K.E. (2022)
Focusing the GWAS Lens on days to flower using latent variable phenotypes derived from global meltienvironment trials.

Dhillon LK, Lindsay D, Yang, C, Zakeri, H, Tar'an B,Knight JD, and Warkentin TD (2022) Biological nitrogen fixation potential of pea lines derived from crosses with nodulation mutants. Field CropsRes

Zhou J, Gali KK, Jha AB, Tar'an B, and Warkentin TD(2022) Identification of quantitative trait loci associated with seed

H. Wang, B. Coulman, Y.G. Bai, B. Tarʹan, B. Biligetu.2023. Genetic diversity and local adaption of alfalfa populations (Medicago sativa L.) under long-term grazing. Scientific Report. 13,1632

D. R. MacTaggart, B. Biligetu, H. A. Lardner, 2023. Assessment of diverse cicer milkvetch (Astragalus cicer L.) germplasmfor agro-morphological traits under a stockpiling system. Can. J. Plant Sci.

Tambong, J., Xu, R., Fleitas, M.C., Hubbard, K.,Chabot, D., and Kutcher, H.R. 2023. Phylogenomic insights on the Xanthomonas translucens complex, and development of a TaqMan real-time assay forspecific detection of pv. translucens on barley. Phytopathology April 19, 2023

Wang, L., Michel D., Zhang W., El-Aneed A., FobertP.R., Ruan Y., Berraies S., Cuthbert R. & Kutcher H.R. 2022. A high-throughput fast chromatography tandem mass spectrometry (FC-MS/MS) based method for deoxynivalenol (DON) quantification in cereal grain. PhytoFrontiers,2(4): 322-330.