Plant Agriculture: **MSc, PhD**

Plants provide food, raw materials, and a healthy environment, and are the cornerstone for life on earth. Plant Science is key to understanding and enhancing plant life. Research in the Department of Plant Agriculture is divided into four areas: Plant Biochemistry and Physiology, Plant Breeding and Genetics, Crop Production Systems, and Bioproducts.

*plant.uoguelph.ca*

**Program**

Plant Agriculture is strongly rooted in crop science and horticultural science but we now encompass applied bioinformatics; molecular genetics; genomics; field, horticultural and greenhouse crops; plant breeding; turf and grassland studies; environmental sustainability; weed science/ecology; and the use of plant materials for health, fibres and industrial products. Furthermore, we recognize that society’s expectations of agriculture are changing to include a wide range of health and environmental services such as producing food with nutraceuticals, protecting biodiversity, mitigating climate change and providing alternative energy sources.

**Admission Requirements**

As a part of the application package, applicants are required to secure a faculty advisor to supervise their program.

- The MSc requires a Baccalaureate degree in an honours plant science/biology program, or equivalent, from a recognized university or college with at least a B average over the last two years of full-time study (or equivalent).
- The PhD requires a MSc degree by thesis in a field appropriate to the proposed area of specialization with a minimum B average.

**Research Fields**

- Plant Biochemistry & Physiology
- Plant Breeding & Genetics
- Crop Production Systems
- Bioproducts

**Our Faculty**

Faculty have modern labs with state-of-the-art equipment and access to controlled environment growth facilities and numerous field sites distributed over Ontario. Faculty are located on four campuses affording a variety of opportunities and experiences for our students. Our faculty are internationally recognized as leaders in their scholarly activities. Support for research is obtained from a variety of sources including federal, provincial, international, industrial and grower sponsors.

**ARE YOU INTERESTED IN:**

- Increasing plant production efficiency
- Developing new varieties
- Understanding plant growth and development
- Weed control
- Plant-environment interactions
- Discovering new environmentally friendly industrial materials

**CAREER OPPORTUNITIES:**

- Crop Consultant
- Breeder/Geneticist
- Plant Physiologist
- R&D Bio-Based Plastics

**CONTACT INFORMATION**

Graduate Program Coordinator: (until May 2023)
Dr. Andrew Jones
519-824-4120 ext 53016
amjones@uoguelph.ca

Graduate Program Assistant:
Tara Israel
519-824-4120 ext 56077
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Application Deadline:
Ongoing
Entry: Fall, Winter, Spring
Departmental Graduate Faculty with Research Areas

Helen Booker  
Crop Science Building  
hbooker@uoguelph.ca  
Wheat breeding and genetics

Gale G. Bozzo  
E.C. Bovey Building  
gbozzo@uoguelph.ca  
Postharvest physiology & secondary metabolism

John A. Cline  
Simcoe and Vineland Campus  
jcline@uoguelph.ca  
Fruit tree physiology & management

Hugh J. Earl  
Crop Science Building  
hje@uoguelph.ca  
Oilseed physiology & agronomy

Mehrzad (Milad) Eskandari  
Ridgetown Campus  
meskanda@uoguelph.ca  
Soybean breeding & genetics

A. Max P. Jones  
E.C. Bovey Building  
amjones@uoguelph.ca  
Plant propagation and in vitro conservation

Katerina S. Jordan  
E.C. Bovey Building  
kjordan@uoguelph.ca  
Turfgrass science; nematology

Melanie Kalischuk  
E.C. Bovey Building  
mkalisch@uoguelph.ca  
Genomics, pathology, specialty crop improvement

Elizabeth A. Lee  
Crop Science Building  
lizlee@uoguelph.ca  
Corn breeding & genetics

Lewis N. Lukens  
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l lukens@uoguelph.ca  
Bioinformatics, genetics of stress tolerance

Eric M. Lyons  
E.C. Bovey Building  
elyons@uoguelph.ca  
Stress physiology; root biology of turfgrass species

Mary Ruth McDonald  
Crop Science Building  
mrmcdona@uoguelph.ca  
Diseases & integrated crop management of vegetables

Barry J. Micalef  
Crop Science Building  
bmicalef@uoguelph.ca  
Physiology & genetics of vegetable crops

Manjusri Misra  
Crop Science Building  
mmisra@uoguelph.ca  
Bio-based new materials & green nanotechnology

Amar Mohanty  
Crop Science Building  
mohanty@uoguelph.ca  
Bioeconomy related to biobased materials, biofuels & biorefinery

Joshua Nasielski  
Crop Science Building  
nasielski@uoguelph.ca  
Field crop agronomy and crop physiology, eastern and northern Ontario

K. Peter Pauls  
Crop Science Building  
p pauls@uoguelph.ca  
Tissue culture; molecular biology techniques to crop improvement

Manish N. Raizada  
Crop Science Building  
raizada@uoguelph.ca  
Novel proteomics, genome & protein engineering technologies

Istvan Rajcan  
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Soybean breeding & genetics; seed composition, bioproducts, yield stability, G x E, exotic germplasm

Darren E. Robinson  
Ridgetown Campus  
drobinso@uoguelph.ca  
Weed management & horticultural crops

Praveen K. Saxena  
E.C. Bovey Building  
psaxena@uoguelph.ca  
Plant morphogenesis; conservation; medicinal plant biology

Kimberley Schneider  
Crop Science Building  
kschneider01@uoguelph.ca  
Forage and service crops, nutrient cycling, sustainable agriculture

Peter H. Sikkema  
Ridgetown Campus  
psikkema@uoguelph.ca  
Weed management, field crops

Jayasankar Subramanian  
Vineland Campus  
js subramanian@uoguelph.ca  
Tree fruit genetics, breeding & biotechnology & biotechnology

John Sulik  
Crop Science Building  
jsulik@uoguelph.ca  
Precision Agriculture, cropping systems, remote sensing & geographic information systems

Francois Tardif  
Crop Science Building  
ftardif@uoguelph.ca  
Physiology, ecology & molecular biology of herbicide resistance

Rene C. Van Acker  
Johnston Hall  
vana@uoguelph.ca  
Weed biology & ecology; biosafety & novel trait confinement; agronomy

David J. Wolyn  
E.C. Bovey Building  
dwolyn@uoguelph.ca  
Plant genetics; plant breeding; tissue culture; molecular genetics