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.

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.

Application Deadline:

Ongoing
Entry: Fall, Winter, Spring

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:
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Graduate Program Assistant:
Tara Israel
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Departmental Graduate Faculty with Research Areas

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  
hjeard@uoguelph.ca  
Oilseed physiology & agronomy

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

Chris L. Gillard  
Ridgetown Campus  
cgillard@uoguelph.ca  
Dry bean agronomy & pest management

Bernard Grodzinski  
E.C Bovey Building  
bgerald@uoguelph.ca  
Photosynthesis, carbon partitioning and productivity, manned space program

David C. Hooker  
Ridgetown Campus  
dhooker@uoguelph.ca  
Field crop agronomy

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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lukens@uoguelph.ca  
Bioinformatics, genetics of stress tolerance

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

Mary Ruth McDonald  
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Diseases & integrated crop management of vegetables

Barry J. Micallef  
Crop Science Building  
bmicalle@uoguelph.ca  
Physiology & genetics of vegetable crops

Manjusri Misra  
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Bio-based new materials & green nanotechnology

Amar Mohanty  
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Bioeconomy related to biobased materials, biofuels & biorefinery

Joshua Nasielski  
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Field crop agronomy and crop physiology, eastern and northern Ontario

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

Manish N. Raizada  
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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  
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robinso@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  
kschne01@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  
jsubrama@uoguelph.ca  
Tree fruit genetics, breeding & biotechnology

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

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

Cheryl Trueman  
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ctrue@uoguelph.ca  
Vegetable disease management

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

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