

Horticulture and Urban Agriculture

Department Information

- **Department Head:**
Richard Horsley, Ph.D.
- **Graduate Coordinator:**
Marisol Berti, Ph.D.
- **Department Location:**
166 Loftsgard Hall
- **Department Phone:**
(701) 231-7971
- **Department Web Site:**
www.ag.ndsu.edu/plantsciences/ (<http://www.ag.ndsu.edu/plantsciences/>)
- **Application Deadline:**
International applications must be completed with the Graduate School by October 1 for spring, March 1 for summer, and May 1 for fall. • Domestic applications should be completed with the Graduate School at least 2 months prior to the start of classes.
- **Credential Offered:**
M.S.
- **English Proficiency Requirements:**
TOEFL iBT 71, IELTS 6; Duolingo 105

The Department of Plant Sciences offers graduate studies leading to the Master of Science (M.S.) degree in Horticulture and Urban Agriculture. Areas of specialization in Horticulture include breeding and genetics, biotechnology, physiology, propagation, public horticulture, sports and urban turf grass management, and production and management of horticultural crops such as woody plants, potatoes, vegetables, and herbaceous ornamentals.

The Horticulture and Urban Agriculture is located in Loftsgard Hall, which provides a state-of-the-art facility for collaborative research in plant sciences, ranging from basic studies and biotechnology to the more traditional applied areas. Campus also offers state-of-the-art greenhouses and extensive growth chamber facilities, as well as field plots including an orchard and vineyard.

The NDSU Horticulture Research Farm is located 25 miles west of campus with research plots involving high value crops, woody ornamental plants, and certified organic. Located within the NDSU Horticulture Research Farm is the NDSU Dale E. Herman Research Arboretum. This arboretum is the largest collection of woody ornamental plants in all the Northern Great Plains.

Graduate student numbers per faculty member are limited, so the student gets adequate personal attention and works closely with their adviser in research. Final selection of the adviser will be made on the basis of the student's interest, availability of space in the researcher's laboratory, and a common desire of the student and professor to work together.

The Horticulture and Urban Agriculture graduate program is open to all qualified graduates of universities and colleges of recognized standing. Applications must be submitted directly to the NDSU Graduate School. To be admitted with full status to the program, the applicant must meet Graduate School and department admission requirements.

For admission requirements visit <https://www.ndsu.edu/gradschool/apply> (<https://www.ndsu.edu/gradschool/apply/>)

Financial Assistance

Correspondence with one or more departmental faculty members before and during the application process is not compulsorily but is encouraged. Applicants will not be considered without a department faculty member who has agreed to serve as the major advisor and can offer a Graduate Research Assistantship (GRA). To read more about our research teams and find faculty contact information, please visit <https://www.ndsu.edu/agriculture/academics/academic-units/plant-sciences/research> (<https://www.ndsu.edu/agriculture/academics/academic-units/plant-sciences/research/>).

A twenty-hour (half-time) GRA is provided to each accepted student based on scholarship and potential to undertake advanced study and research. The annual stipend varies based on the research project and will not be less than \$20,000 annually.

In addition to the stipend, graduate assistants who meet the hours worked and training requirements each semester receive a graduate tuition waiver. Students are responsible for differential tuition, student and course fees, and tuition for non-graduate level credits taken.

The Horticulture and Urban Agriculture program has numerous annual scholarships ranging from \$1000 to \$1500 each for outstanding Horticulture graduate students.

Degree Requirements

In the first year, each student, in conjunction with their advisor, will form a supervisory committee, create a plan of study that meets disciplinary requirements below as well the goals of the student, and develop a research proposal paper for submission to the department.

The M.S. program requires the completion of at least 30 credits, during which an overall GPA of 3.0 or better must be maintained. The M.S. degree may be earned by either of two options. The Plan A: Thesis Option emphasizes completion of a research project. The Plan B: Comprehensive Study Option requires more course work and instead of conducting research and presenting a thesis, the candidate presents a paper or papers to the supervisory committee, demonstrating ability for scholarly study and written expression.

Candidates working toward either Plan A or Plan B must pass an oral defense, present a public Exit Seminar on the thesis research or comprehensive study, and have their thesis/paper accepted by the Graduate School to complete the degree.

Code	Title	Credits
M.S. Plan A - Thesis Option		30
Required Courses		
PLSC 724	Field Design I	3
PLSC 790	Graduate Seminar	1
PLSC 798	Master's Thesis	10
Additional Credits (13 credits must be didactic**)		16
Students focusing on Plant Breeding and Genetics must take and earn a B or better in		
PLSC 718	Genetics & Plant Improvement	
PLSC 631	Intermediate Genetics	

Code	Title	Credits
M.S. Plan B - Master's Paper Option		30
PLSC 724	Field Design I	3
Additional 600-700 level courses (18 credits must be didactic**)		21
PLSC 790	Graduate Seminar	1
PLSC 797	Master's Paper	3

** Didactic credits are graduate courses numbered 601-689, 691; 700-789, 791; and 800-889, 891.

Faculty

David Wenhao Dai, Ph.D.

North Dakota State University, 2001

Research Interests: Woody Plant Physiology, Biotechnology

Harlene Hatterman-Valenti, Ph.D.

Iowa State University, 1993

Research Interests: High-Value Crop Production

Chiwon W. Lee, Ph.D.

Purdue University, 1977

Research Interests: Vegetables, Floriculture, Biotechnology

Deying M. Li, Ph.D.

Iowa State University, 2001

Research Interests: Sports Turf Management

Esther E. McGinnis, Ph.D.

University of Minnesota, 2013

Research Interests: Extension Horticulture, Native Plants, Perennial Hardiness, Floriculture

Asunta L. Thompson, Ph.D.

University of Idaho, 1998

Research Interests: Potato Breeding

Todd West, Ph.D.

Southern Illinois University, 2004

Research Interests: Woody Plant Improvement

Qi Zhang, Ph.D.

Kansas State University, 2007

Research Interests: Turfgrass Stress Physiology

Alan J. Zuk, Ph.D.

Kansas State University, 2005

Research Interests: Sports and Urban Turfgrass Management