

Annual Report

Department of Plant Sciences

January 1, 2014 – December 31, 2014



Photo provided by Dr. Andy Robinson

**Irrigated Potato Weed Control
Research Site
near Inkster, North Dakota**

DEPARTMENT OF PLANT SCIENCES
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A. Significant departmental achievements in research, teaching and outreach during the past year

a. Teaching

Curriculum review. Following consolidation of the School of Food Systems into the Department in 2013, a curriculum review was conducted. The Cereal/Food Science group identified a need for a position in Cereal Chemistry and one in Food Engineering/Food Packaging. They also determined that there was no need for development of additional classes at this time. A new faculty position to teach CFS 460/660 and CFS 461/661 each fall semester and CFS 464/664 each spring semester has been requested.

b. Research/Scholarly/Creative Activities

The following varieties were released by Plant Science Faculty: Gold ND Flax, ND 1406HP and ND Henson soybean, Dakota Ruby Potato, ND Genesis two-rowed barley, Rosie Light and Talon Dark kidney bean, Northern Empress Japanese Elm, and Cinnamon Curls Dwarf Korean Birch.

The NDSU Horticulture project coordinated a team of 275 households in 48 counties that evaluated promising vegetable, herb and cut flower varieties in gardens. This project led to improved gardening practices, higher vegetable yields and healthier diets for North Dakota gardeners.

Over 75% of the spring wheat and 90% of the durum wheat, barley and flax planted in North Dakota, as well as a high percentage of other crops, are planted with varieties that originated from foundation seed maintained and distributed by the NDSU Foundation Seedstocks Project.

	Total
Peer Reviewed Publications (published or accepted)	107
National or International Invited Presentations	104
Research Grants and Contracts (<i>number that are active</i>)	160
Cumulative Amount (<i>total value of active grants and contracts</i>):	\$7,364,824.81

c. Extension/Outreach

A Guide to North Dakota Noxious and Troublesome Weeds, by Rodney G. Lym, received an American Library Association Notable Government Document award.

d. Service

Dr. Berti received the Larson/Yaggie Excellence in Research Award.

Brenda Deckard received the Service-Learning Award.

Dr. Hatterman-Valenti received the Outstanding Faculty Advising Award.

Dr. Mike McMullen was honored with the Distinguished Service to Oat Improvement Award by the American Oat Workers Conference.

Dr. Mohamed Mergoum was honored as a Fellow of the Crop Science Society of America.

Dr. Rebekah Oliver received the Bison Ambassadors Apple Polisher Award that recognizes those that have had an exceptional impact on a student's college experience.

B. Department goals and priorities for the past year, including narrative about progress toward those goals.

New teaching lab. Funding has been approved to build a new teaching lab in the space now occupied by growth chambers in Loftsgard Hall. While the new STEM building is exciting for our campus as a whole, many of the classes taught in Plant Sciences need ready access to greenhouse space. The new teaching lab in Loftsgard will provide our students with the same new teaching technologies available in the STEM building and access to greenhouse space in Waldron Hall that is connected by a skywalk.

C. Department challenges for the past year, including narrative on how those are being addressed.

Continued High Enrollment. The enrollment in the Plant Sciences curriculum reached a record high of 287 students (237 in CWS, 29 in HORT, and 21 in SUTM). The Food Science program had an additional 41 students. The CWS program has more than doubled in six years, from 98 students in 2008 to 237 in Fall Semester 2014. The increases are driven by strong employment opportunities in the region. Many of the CWS students have multiple job offers following graduation. Graduate student enrollment remains strong with 74 enrolled in the Plant Sciences MS and PhD and HORT MS programs, and 26 MS and PhD students in the Cereal Sciences graduate program.

While the undergraduate enrollment increases are exciting, they present challenges, including the need to add extra sections for courses such as PLSC 225 (Principles of Crop Production), PLSC 320 (Principles of Forage Production), and PLSC 491 (Senior Seminar) without additional funding or instructors. The current workload is not sustainable for the long-term. Additional faculty and/or an enrollment cap will be required to keep our courses at the high standards our students expect and deserve.

D. Department goals and priorities for the coming year

Complete the process of eliminating Sports and Urban Turfgrass Management as a stand-alone major. The SUTM undergraduate program will become an option under the Horticulture major and cease to enroll students as SUTM majors by Fall semester 2016.

Develop a plan to update the Plant Sciences Learning Center. The Plant Sciences Learning Center is the only space on campus that is specifically set up for a department's undergraduate students to work and study either in groups or individually for multiple classes.