Doctor of Plant Health

Educating leaders for tomorrow's sustainable plant production systems

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A myriad of national and international issues challenge the economic and environmental sustainability of U.S. plant production systems, e.g. resiliency in the face of a changing climate, feeding an ever increasing population, etc. For these production systems to be sustainable at all levels, they must be more knowledge intensive, creating a greater need for individuals with comprehensive skills necessary for diagnostics, problem-solving, and systems management. One critical component of these management systems is the incorporation of Integrated Pest Management (IPM) programs that extend across disciplines. From a weed-science perspective, a major constraint to IPM adoption and use includes the lack of capacity for systems-level knowledge necessary to effectively implement biointensive management programs, for example.

The Doctor of Plant Health (DPH) is a professional degree focused on developing highly capable plant practitioners. The DPH program emphasizes a broad interdisciplinary education across all plant-related disciplines. Practical training and experience are the focus, rather than a total focus on research. This educational concept is comparable to other health practitioner degrees (e.g., M.D., D.V.M.). The DPH program requires 100 graduate credit hours, plus internships or practicums. Unique aspects of this University of Nebraska–Lincoln program include:

- The core curriculum provides significant depth across all major disciplines involved in plant health (agronomy/horticulture, entomology, plant pathology, soil science, weed sciences).
- Experiential learning through required internships provides an opportunity to develop skills in integrated problem-solving and managing plant production systems.
- Flexibility through electives and internships hone professional interests and bolster training credentials.
- Diagnostic training across all disciplines is an important program component to enable effective identification and management of all issues affecting plant health.
- Development of soft skills is emphasized including communication, leadership development, problem-solving, and integrated thinking.

Doctors of Plant Health apply science to improve plant management systems. Academic contributions by the Department of Agronomy and Horticulture are critical to the success of this program and its students. The depth of agronomy and horticulture exposure for DPH students is significant (28 cr). Agronomic and horticultural coursework that is required of all DPH students includes:

- AGRO 826 – Invasive Plants (3 cr)
- AGRO 896 – Interplant Competition (3 cr)
- 4 cr from any of the following, with permission
  - AGRO 812 – Crop and Weed Genetics (1 cr)
  - AGRO 813 – Turgrass and Landscape Weed Management (1 cr)
  - AGRO 822 – Integrated Weed Management (1 cr)
  - AGRO 823 – Herbicide Action in Plants (1 cr)
  - AGRO 896 – Regional Weed Science Contest (1-2 cr)
  - AGRO 896 – Pest Resistance Management (2 cr)
  - AGRO 896 – Technology of Pesticide Application (1 cr)

- AGRO 806 – Plant Ecophysiology: Theory and Practice (4 cr)
- AGRO 807 – Plant-Water Relations (3 cr)
- AGRO 811 – Crop Genetic Engineering (2 cr)
- AGRO 835 – Agroecology (3 cr)
- HORT 824 – Plant Nutrition and Nutrient Management (3 cr)
- AGRO 855 – Soil Chemistry & Minerology (3 cr)
- AGRO 860 – Soil Microbiology (3 cr)

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Points of Distinction

A Leader	The Doctor of Plant Health program is one of only two comparable programs in the world. The other is the University of Florida Doctor of Plant Medicine program.
Interdisciplinary	The major focus of the program is to educate professionals who are able to comprehensively manage plant production systems.
Experiential Learning	Internship opportunities for DPH students have been found across the United States and internationally. They have included experiences related to teaching, extension, and applied research, in addition to diverse industry experiences.
Flexibility / Customized program	The DPH program provides significant flexibility for the student to tailor their education and experiences to enhance their progress down their chosen professional career path.
Meeting employer needs	Numerous prospective employers have expressed the need for the type of graduates this program produces.
Connections	The DPH program has expanded UNL's connections through a number of industry and agency connections.
Success	Thus far, the 27 graduates from the DPH program have all found employment, and demand by employers for intern opportunities is high.