

Purdue University

Purdue University is a tier-one university and Indiana's land grant institution, with over 3,000 faculty and 62,000 students on five campuses. According to the 2010 U.S. News & World Report "Top 50 Public Universities" survey, Purdue placed 18th overall among public universities, with Engineering ranked 8th (six specialties in the top 10) and Business 19th (three top-10 specialties). Research and sponsored program expenditures on the West Lafayette campus exceeded \$500M for the University in 2008-2009. In September 2010, the Wall Street Journal reported a survey of corporate recruiters that ranked Purdue University fourth in the nation in preparing its students for the work force. <http://www.purdue.edu/>.

The **College of Agriculture** includes eleven academic departments and two service departments with over 300 faculty and 1400 professional staff, and 300 county Extension educators. Regulatory services currently include the State Chemist Office (feed, fertilizer, seed and pesticides), the Plant & Pest Diagnostic Laboratory, and various marketing boards. In the 2010 academic year, total enrollment within the College of Agriculture was over 3000 undergraduate, graduate and professional students. The National Science Foundation recently ranked Purdue Agriculture 3rd in research expenditures in the agricultural sciences, with over \$130M in 2008-2009.

Faculty from **5 of the 11 academic departments will be** involved in this NIFA project, Agricultural & Biological Engineering, Agricultural Economics, Agronomy, Botany & Plant Pathology, and Horticulture & Landscape Architecture. Faculty within each of the academic departments generally operate or share fully equipped wet laboratories, dry laboratories, greenhouse and growth chamber facilities, and/or field or plant nursery operations. Individual office space is allocated to each faculty and large- or small-scale communal office space is available for students. All offices and computers are connected to, and supported by, the main academic computing facilities. The College of Agriculture is further supported by AgIT computer services. <http://www.ag.purdue.edu/Pages/default.aspx>

Include departments of importance to the grant:

Agronomy provides relevant undergraduate, graduate and Extension education programs. Faculty and students conduct high-impact fundamental and applied research at multiple scales to address immediate problems and anticipate future challenges, actively engage partners in the public and private sectors, and contribute to the development of the national and international agenda for research and education. <http://www.ag.purdue.edu/agry/Pages/default.aspx>

Botany & Plant Pathology disciplines cover plant pathology, molecular biology, physiology, genetics and weed science. Research ranges from applied field and laboratory studies to basic cellular and molecular biology of various plant growth and development systems and host-parasite interactions, in addition to a strong Extension mission in the plant pathology and weed science disciplines. <http://www.ag.purdue.edu/btny/Pages/default.aspx>

Facilities (include all that apply—see <https://ag.purdue.edu/arp/Pages/Centers-Institutes-and-Programs.aspx> for more centers/institutes):

Agriculture Information Technology: AgIT provides support with an organization-wide computing and information system to facilitate effective use and application of information technology in fulfilling the mission of the Purdue College of Agriculture. AgIT supports professionals in each of the academic departments with a broad array of expertise to better serve specialized faculty requests. <http://www.ag.purdue.edu/agit/Pages/default.aspx>.

Agronomy Center for Research and Education: ACRE was established in 1949 as the campus-based field research station for agronomic crops and soils research for departments working on field crops. This 991 acre farm facility is utilized by 53 researchers from 8 departments, conducting approximately 180 basic and applied research projects including plant breeding and genetics, crop production, soil tillage management, plant physiology, soil fertility, weed control, disease and insect resistance and control, and variety performance evaluation for corn, soybeans, small grains, sorghum and alfalfa. <http://www.agry.purdue.edu/arc/arcdesc.htm>

Crop Diagnostic Training and Research Center: The long-term goal of the Center is to provide quality, state-of-the-art training in all aspects of crop production and management. The outdoor laboratories with over 2,000 small plots illustrate insect, weed, disease, fertilizer, and cultural problems common to corn, soybeans, alfalfa, and wheat for use in training and research. The Center, established in 1985, is designed to provide hands-on diagnostic education on recalcitrant and emerging issues in a “real world” environment, and serves as a setting to evaluate new and alternative management strategies. <http://www.ag.purdue.edu/agry/dtc/Pages/default.aspx>

Genomics Core Facility provides services to Purdue researchers on a recharge basis. The core facility provides high-throughput DNA sequencing (Affymetrix GeneChip processing, colony picking, library duplication, rearraying and filter printing services), and low throughput sequencing (determination of the DNA sequence of plasmid or PCR product DNA using a standard vector primer or custom primer, and web-based delivery of the sequence, its chromatogram and BLAST searches). <http://www.genomics.purdue.edu/services/core.shtml>

Plant Growth Facility: The Department of Horticulture & Landscape Architecture opened a \$7.2 M 31,400 ft² plant growth facility in March 1998. This facility consists of 25 greenhouse rooms, two growth rooms, 5 walk-in refrigeration units, 14 reach-in growth chambers, a tissue culture lab, offices and 1260 sq. ft. of potting area. Each 1200-ft² greenhouse room is computer-controlled using sensors, microprocessors, weather station and Priva Computers, Inc. software. Weather station data of light, temperature, humidity, rain, wind speed and wind direction enables the microprocessors to anticipate heating and cooling requirements. The computer ports are linked to Purdue's server network, allowing investigators to log and examine data remotely using dial-in access, or use web-cameras. <http://www.hort.purdue.edu/hort/facilities/greenhouse/default.shtml>

Purdue Agricultural Centers: Purdue University operates eight regional centers to conduct research, education and Extension activities in the geographic/climatic areas representative of the agronomic lands of the state of Indiana. The sites vary in size between 220 and 2500 acres. Approximately 250 field day events with more than 10,000 attendees are conducted annually. The various audiences represent the wide diversity of agriculture stakeholders in Indiana including state and federal agencies, national and international agribusinesses, local and regional producers, commodity groups and interested citizens, and all levels of the educational system from kindergarten through university faculty. Financial, logistical and technical support for field studies, including machinery and labor, is supplied through the office of Agricultural Research Programs. <http://www.agriculture.purdue.edu/PAC/index.html>

Purdue Life Science Fluorescence Imaging Facility: This facility is a joint effort of the Colleges of Agriculture and Science for researchers in the life sciences. Its mission is to enhance discovery, facilitate the inclusion of cell biology in all life science research, and make it possible for all Purdue researchers to have access to the highest quality imaging technology including state of the art Zeiss upright LSM 710 spectral scanning laser confocal microscope, inverted Zeiss AxioImager, and Intavis InSitu VS pro prepartive and hybridization obotic. <http://www.agriculture.purdue.edu/clsm/>

Purdue University Computing Center: PUCC is one of the largest and most varied academic computing centers in the United States. Researchers requiring parallel computing can access an Intel Paragon and IBM RISC Cluster and several smaller work-stations. All departments use a network of personal computers and work-stations linked campus-wide to PUCC, the Purdue Engineering Computer Network (ECN), Purdue Library networks, and all have access to Internet.

Name of other institution

Example (from Ohio State website) The Department of Horticulture and Crop Science is an engaging program filled with in depth learning experiences, scientific discovery, research opportunities, and respected academics. We have two majors, Sustainable Plant Systems and Professional Golf Management. Our Sustainable Plant Systems major prepares students for successful careers in the fields of Agronomy, Horticulture, Landscape Design and Management, and Turfgrass Science. Professional Golf Management helps students become PGA professionals. With its devoted faculty and staff, the Department of Horticulture and Crop Science is committed to providing an excellent educational experience for each student. Students will have opportunities to join clubs, research projects, and internships that provide additional educational experiences outside the classroom.

Facilities: