Plant Breeding

Plant Breeding is the genetic improvement of crop plants through the study and application of genetics, statistics, agronomy, plant pathology, entomology, and related sciences. Crop plants included are **Maize, Soybean, Sorghum, Sunflower and other crops in conjunction with the North Central Regional Plant Introduction Station.**

An advanced degree in plant breeding offers tremendous job opportunities including, **management and operation of public and private plant breeding programs, research on plant breeding methodologies, bio-technologies, and information technologies to improve breeding efficiency and effectiveness, cultivar development.**

Learning Goals

Demonstrate
Demonstrate comprehensive understanding of scholarly literature in the area of study, i.e., plant breeding.

Hypothesize
Form testable hypotheses and articulate research objectives that, when met, will lead to significant contributions to the field of study.

Conduct
Conduct original research via appropriate data acquisition, analysis, and reporting of data.

Interpret
Interpret research results appropriately, integrating them into the existing knowledge in the discipline.

Communicate
Clearly and accurately communicate research findings orally and in writing, and appropriate use of display items (tables, figures, and other appropriate types of presentation), electronic or other forms of media.

Scholarship
Conduct scholarship, in teams or with independence, in ways that consistently demonstrate ethical practice and professionalism.

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Featured News

Student's Research in Maize Germplasm Leads to Honduras

March 19, 2024

Andrew Hokanson, a senior in agronomy, recently returned from a research trip to Honduras. He received project funding through the CALS Office for Academic Innovation and the Office for Research

Read More

Related Projects

- RII Track-2 FEC: Genome Engineering to Sustain Crop Improvement (GETSCI)
- Breeding of plant based protein crops (mung bean and urd bean) using USDA germplasm
- FACT: International workshop on Machine Learning for Cyber-Agricultural Systems
- RESEARCH-PGR: A Genome-level Approach to Balancing the Vitamin Content of Maize Grain
- Plant architecture
- Photosynthesis in sorghum under non-stress, cold and drought stress
- Sorghum breeding program for biofuel production
- "Transgenic Approaches In Managing Sudden Death Syndrome In Soybean"
- Parallel Algorithms and Software for High-Throughput Sequence Assembly
- NRT-DESE: P3 – Predictive Phenomics of Plants
- Hierarchical Modeling and Parallelized Bayesian Inference for the Analysis of RNAseq Data
- Genetic networks regulating structure and function of the maize shoot

Plant Breeding Groups

- Raymond F. Baker Plant Breeding Center
- Raymond F. Baker Plant Symposium
- Double Haploid Facility
- Plant Sciences Institute
- Shared Labs Website

apical meristem
- Low-cost nitrate sensors to populate genotype-informed yield prediction models for next generation breeders
- Development and Evaluation of Improved Strategies for Genomic Selection Via Simulations and Empirical Testing

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