



WORLD-CHANGING RESEARCH

The Purdue Plant Sciences Pipeline brings together multidisciplinary research and education to move discoveries from the bench to application and commercialization.

EXPAND PLANT BIOLOGY



Investing in people

- ▶ Hire new faculty
- ▶ Attract pre-college students into STEM
- ▶ Promote undergraduate research in plant biology
- ▶ Stimulate student and faculty collaboration
- ▶ Train students for high-tech science careers

AUTOMATE PHENOTYPING



Analyzing big data for real results

- ▶ Utilize advanced sensing and imaging to measure plants
- ▶ Develop high throughput platforms in the field and in the greenhouse
- ▶ Link greenhouse discoveries to basic biology and the field
- ▶ Develop multidisciplinary solutions

DRIVE INNOVATION



Developing Smarter Agriculture™

- ▶ Link physical & biochemical observations of plants with genetic information
- ▶ Use high performance computing to integrate data from sensors, images, maps and more
- ▶ Provide a robust analytic platform for big data

FOSTER ENTREPRENEURSHIP



Moving technology from research to application

- ▶ Develop venture capital Ag-celerator™ fund for plant science innovators
- ▶ Commercialize crop varieties, traits, plant products, and data analytic tools
- ▶ Promote academic innovation among faculty and students
- ▶ Extend profitable innovations to farmers

PURDUE MOVES



PURDUE WILL LEAD THE WAY IN DELIVERING **HIGHER EDUCATION AT THE HIGHEST PROVEN VALUE** AND IN PROVING THAT STUDENTS LEARN AND GROW WHILE THEY ARE HERE.



- Mitch Daniels, President

The **plant sciences initiative** is a component of **Purdue Moves**, a series of university initiatives announced by President Mitch Daniels in 2013 to broaden Purdue's global impact and enhance educational opportunities for its students.

More than
\$20 MILLION
invested in plant sciences
research since fall 2013



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Few universities can match the depth and breadth of Purdue's research capabilities and talent, especially in relation to the critical grand challenge of food security.

Feeding a growing world population will require Smarter Agriculture™. The Purdue Plant Sciences Initiative brings together multidisciplinary researchers to develop new, more functional crop varieties.

➤ **Indiana Corn and Soybean Innovation Center** - world class field phenotyping laboratory at Purdue will bring a truly cross-disciplinary approach to developing plants to meet global grand challenges. Opening Spring 2016.



➤ **Beck's Molecular Genetics Teaching Lab** - student-centered, state-of-the-art learning facility accommodates twice the number of students in genetics laboratory courses each semester.

➤ **Cross-disciplinary collaboration** - researchers from agriculture to engineering to computer science are collecting massive data sets to identify and select the most promising plants for future research or application.

➤ **Ten new faculty positions** in basic plant biology are being filled and five new field science faculty have already been filled.