

Feeding a Growing World: Plant Science Research and Education Pipeline

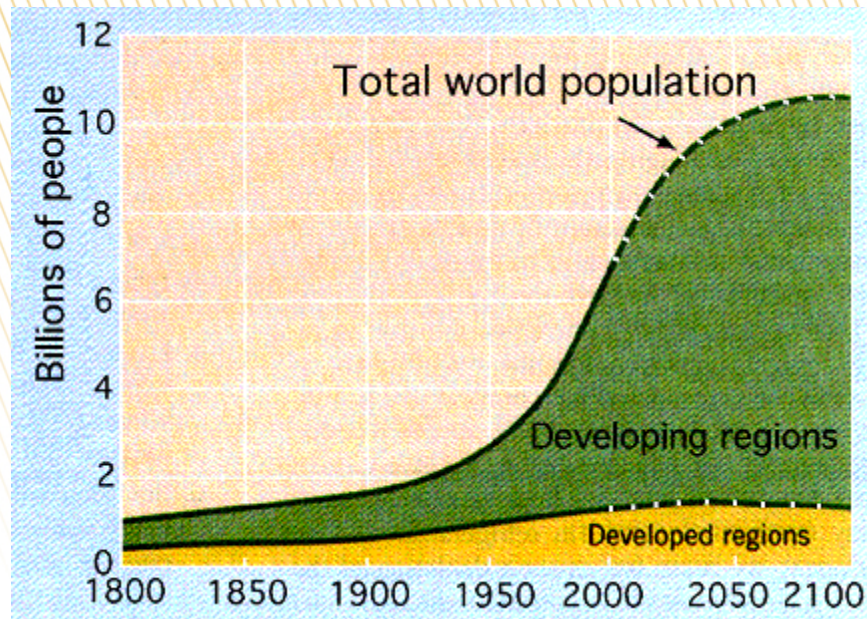
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Jay Akridge and Karen Plaut

February 21, 2014



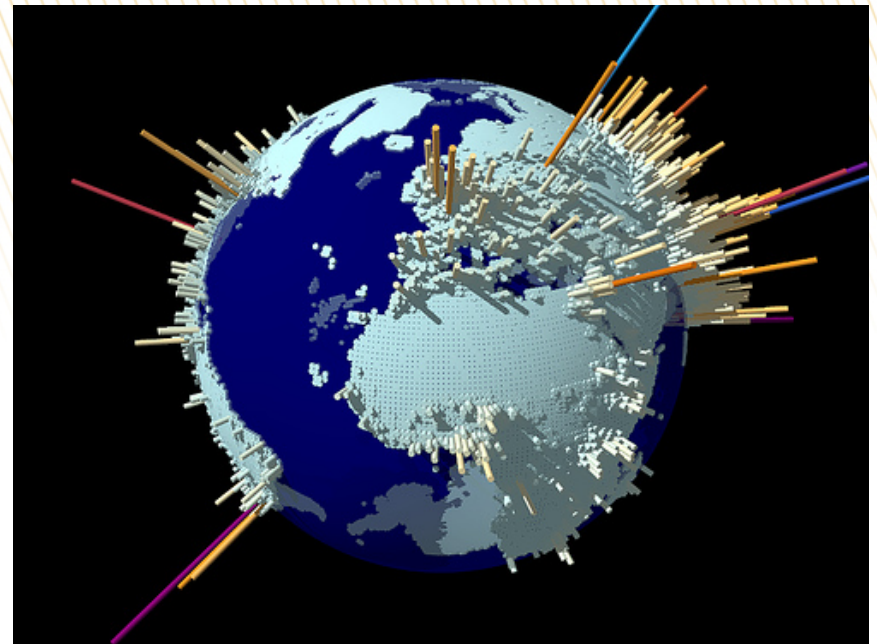
The Challenge....



(United Nations)

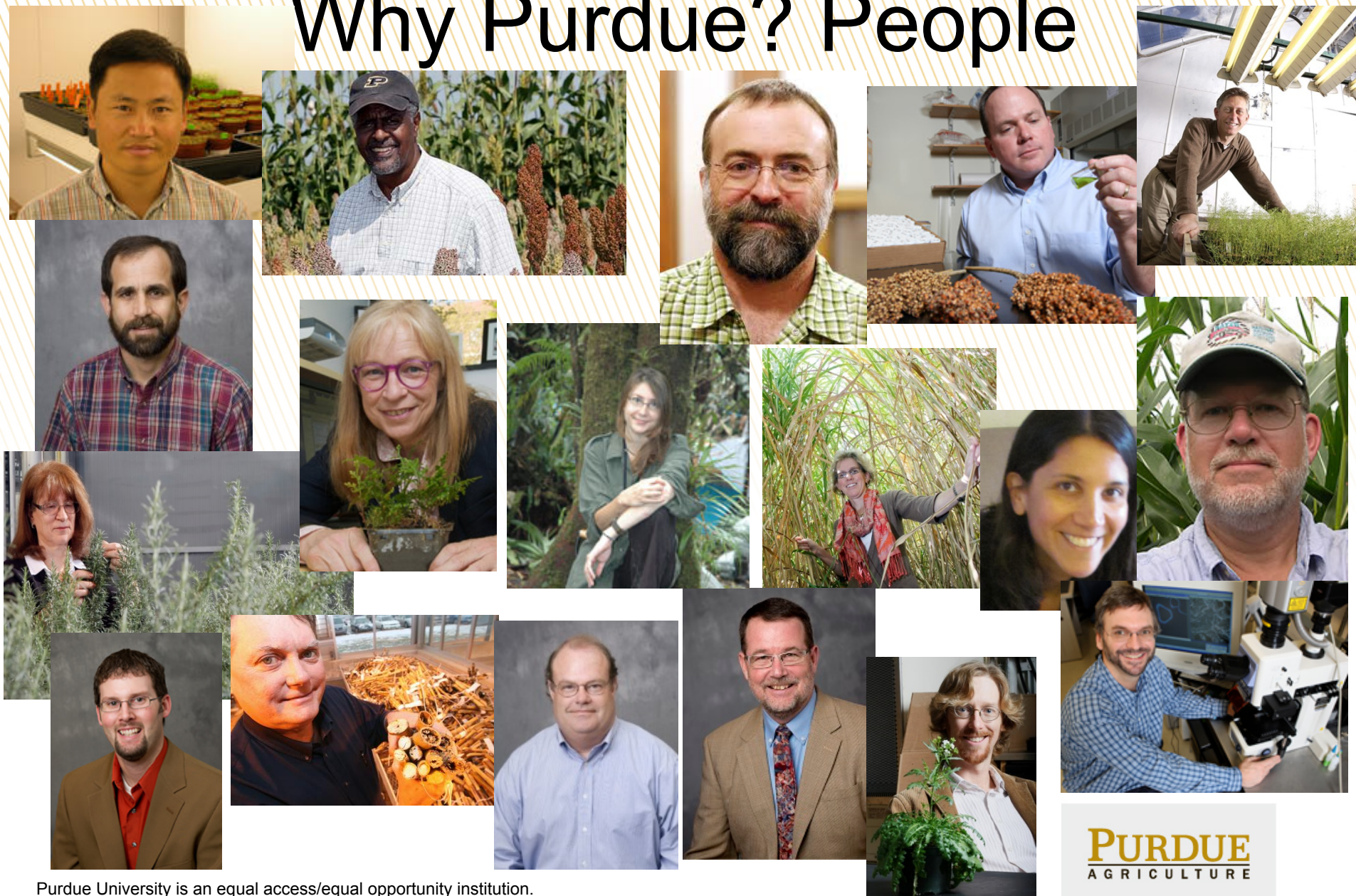
2050: 9.2 billion people

2050: 70% in cities



(<http://affleap.com/world-population-to-reach-9-2-billion-in-2050/>)

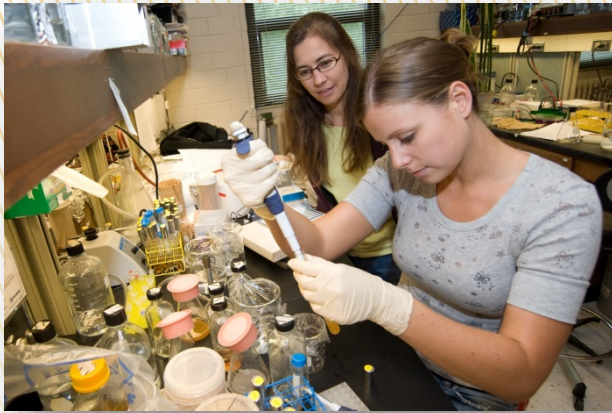
Why Purdue? People



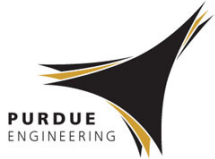
Purdue University is an equal access/equal opportunity institution.

PURDUE
AGRICULTURE

Why Purdue? Facilities



Why Purdue? Partnerships

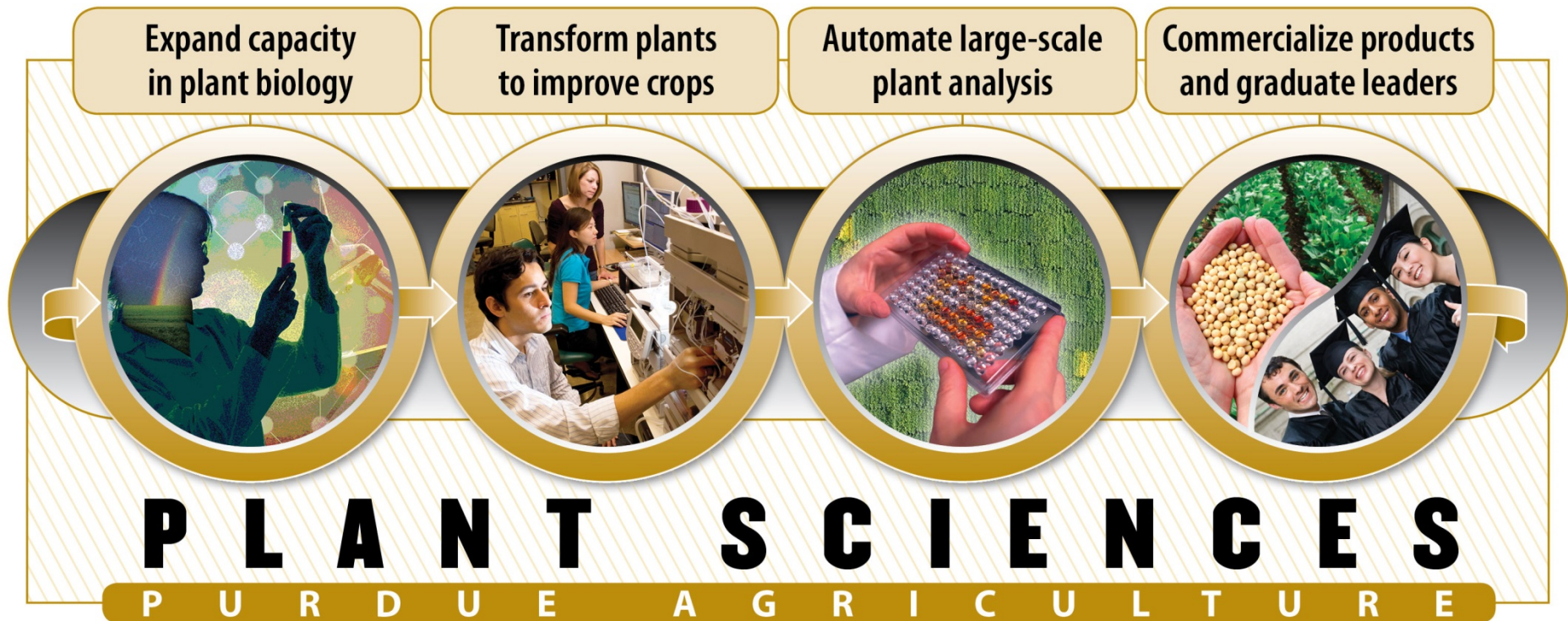


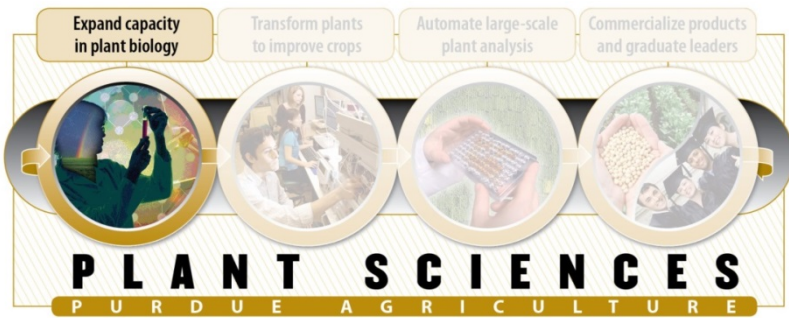
Food and Agricultural Innovation
21st Century Opportunities for Indiana

2012



Purdue Moves – Plant Science Research and Education Pipeline

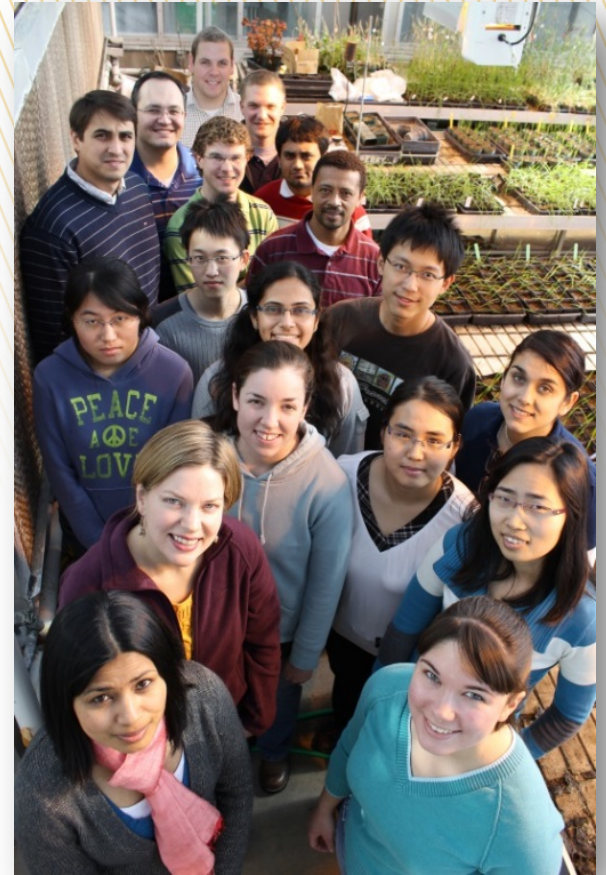


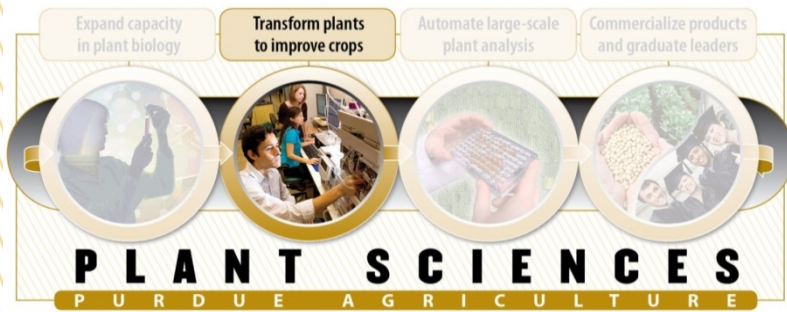


Expand Capacity in Plant Biology

Center for Molecular Agriculture

- 10 New Faculty
- Pre-college Summer Institute
- Undergraduate Research
- Plant Biotechnology Curricula





Transform Plants to Improve Crops

- Invest in plant genome engineering facility
- Build in versatility for various crops
- Invest in teaching lab upgrades

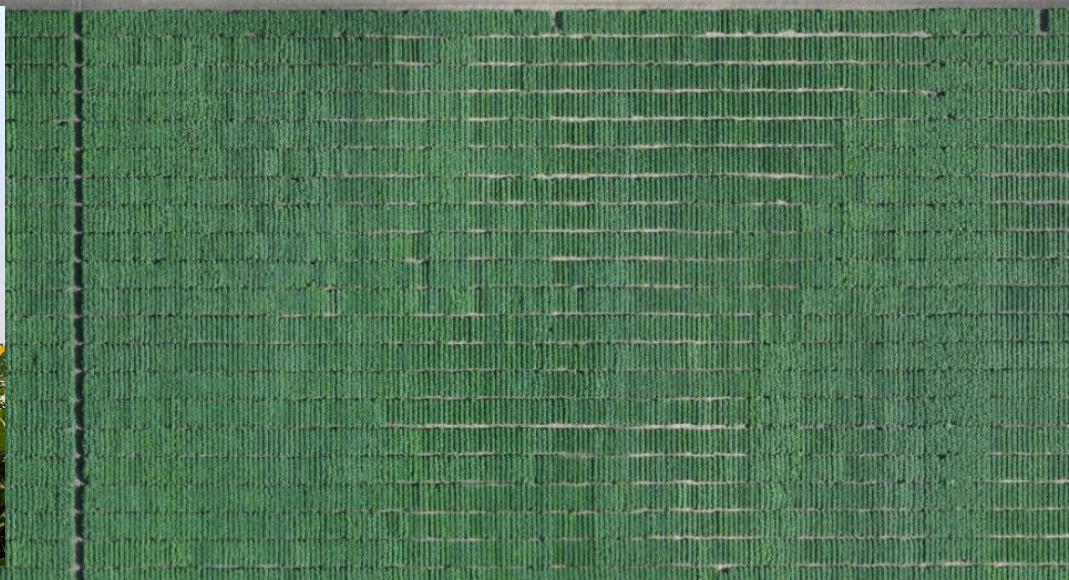




Automate Large Scale Plant Analysis

- Agronomy Farm (ACRE) becomes phenotyping platform to examine physical characteristics of plants
 - 1100 acres of crops
 - Data command and control center
 - Seed and plant storage
 - Lab for phenotyping tools and storage
 - Student entrepreneurship lab

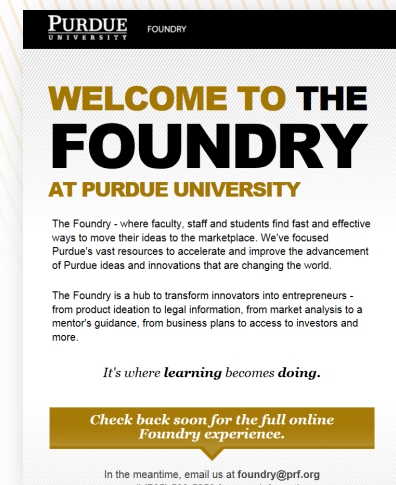


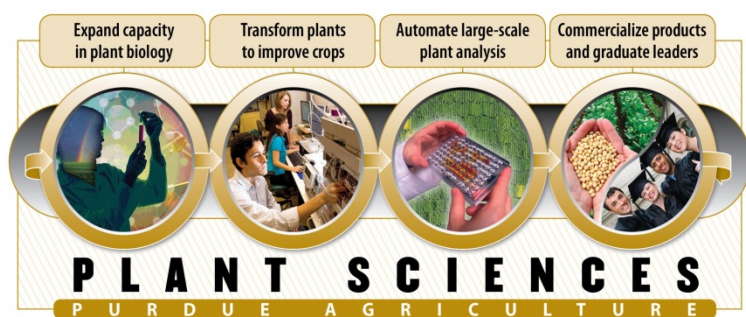




Commercialize Products

- Invest in capacity/partnerships to move intellectual property to market
- Develop incubator space at Purdue Research Park
 - Food products
 - Other products



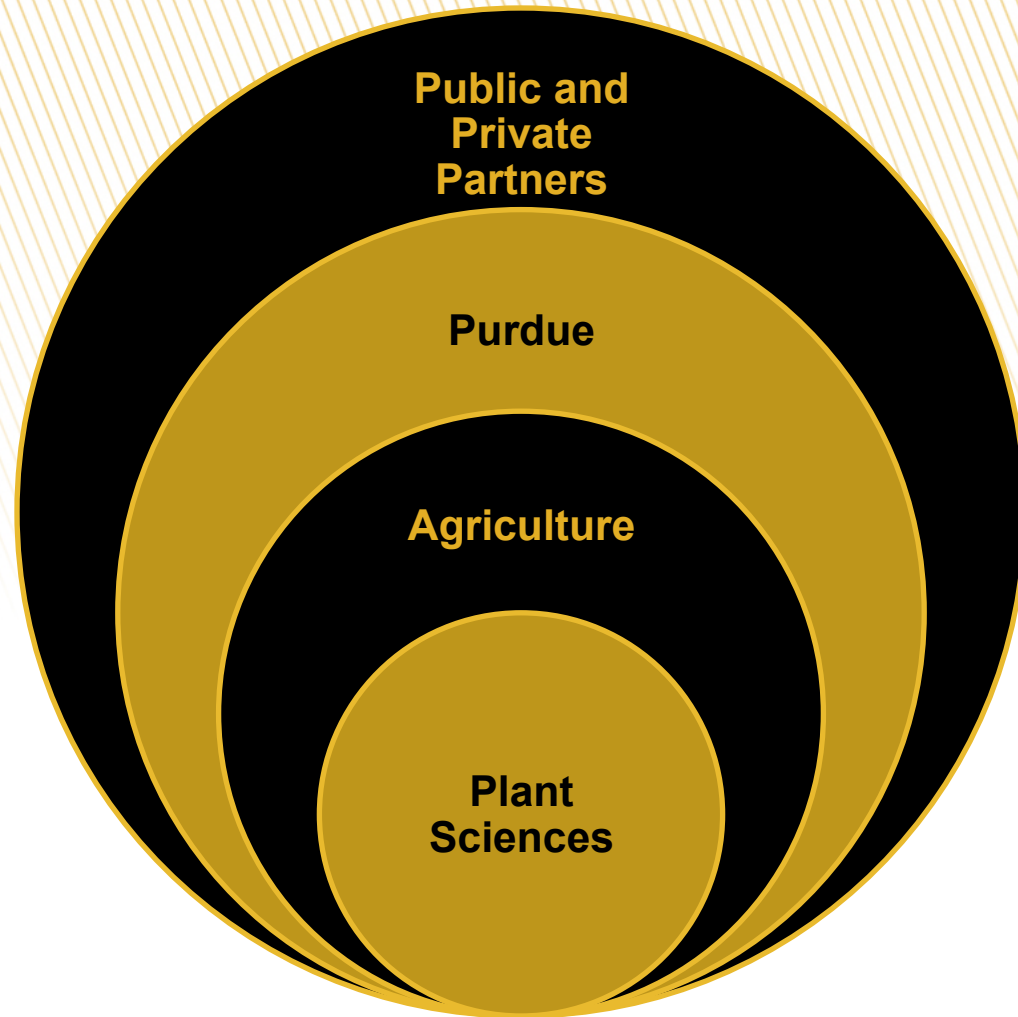


Student Engagement

- Molecular Agriculture Summer Institute
 - Recruit students into STEM
 - Fellows program for undergraduate research
- Plant Biotechnology Curricula
- Certificate in Entrepreneurship and Innovation



A Platform Investment...



Plant Science Research and Education Pipeline

- <https://ag.purdue.edu/arp/Pages/plantsciences.aspx>

