The mission of Purdue Agricultural Programs is to serve the citizens of Indiana, the United States, and the world through:

Discovery that expands the realm of knowledge and develops solutions to problems relevant to the agriculture, food, health, and natural resources sectors.
Purdue University is an Equal Opportunity/Equal Access institution.

ARP Research Expenditures

Constraints and Challenges

- Accountability
- Scholarship
- Integration
- Capital Resources
  - Equipment
  - Infrastructure/Renovations
- Basic versus Applied
  - NRC/Mission/Translational
- Technology Transfer
- Disciplinary Balance
- Retirements
- Recruitment/Retention
- Startups
- Faculty Development
- Diversity
- Relevance
- Federal Budget
- Training Relevance
- Support Personnel
- Monetary Resources
- Technology Training

The Perfect Storm

- Federal and trade deficits
- Budget and tax cuts
- Post-9/11 defense and homeland security needs
- Anti-terrorism, Iraq, Afghanistan
- Hurricanes, Tornadoes, Typhoons, Tsunamis
- Pandemic flu
- Double research portfolio

http://www.nnvl.noaa.gov/hurricane2005/katrina1615z-050829-1kg12.jpg
National Funding Trends

- NIH, NSF, and USDA funding is flat or increasing at a rate barely approaching inflation
- Agencies seek to fund large, interdisciplinary projects
- Increased focus on development of human capital as well as problem solving (broader impacts)

<table>
<thead>
<tr>
<th>Agency</th>
<th>2007 Budget (CR)</th>
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<tbody>
<tr>
<td>HL Security</td>
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<tr>
<td>NASA</td>
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<td>NSF</td>
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<tr>
<td>DOE</td>
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<tr>
<td>USDA</td>
<td>-6.4%</td>
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</tbody>
</table>

Conundrum

Increasing Demands

Budget Cuts

- Ensure food safety and health
- Provide information and knowledge to improve environmental stewardship
- Improve economic return to agricultural producers
- Strengthen our communities and families
- Develop new and more competitive crop production practices and products and new uses for diverse crops and novel plant species
- Lessen the risks of local and global climatic change on food, fiber, and fuel production.
- Develop new and more competitive animal production practices, products, and uses
The page contains several bullet points under different sections. Here is the text as a plain text representation:

### ISDA Strategic Plan
- Hardwoods sector
- Agriculturally-derived energy
- Livestock production and local economic development
  - Sound production practices
  - Public understanding
  - Appropriate land use
- Double pork production
- Science-based regulatory standards
- Diversified farming and value-added opportunities
- Food processing
- Agricultural/trade policy and foreign market opportunities

### Purdue’s plan of work for Indiana:
- Natural resources and environment
  - Plants and their systems
  - Animals and their systems
- Agricultural, natural resources, and biological engineering
  - Food/non-food products
    - Development, processing, quality, and delivery
  - Economics, markets, and policy
- Human nutrition, food safety, human health, and well-being
- Family well-being
- Youth development
- Economic, community development

### Opportunities
- Integrate
  - Multi-state/Multi-institution
- Reinvigorate Tripartite Mission
  - Multi-disciplinary
  - Competitive
- Broaden goals beyond production and efficiency
- Increase inclusiveness
  - Food and fiber production
  - Human and animal health
  - Social and economic health
  - Environmental resource stewardship
  - Positive economic, social, environmental force
- Social acceptance of agricultural systems
- Pharmaceutical, nutritional, and biobased products
Opportunities

- Centers and Institutes
- Intellectual communities
  - Aquaculture - Soybeans - Bioenergy
  - Epigenetics - Water - Plant biology
  - Specialty crops - Corn
- Collaborations with other colleges
- Strategic and Joint hires
- Discovery Park
  - Nanotechnology - Energy
  - Biosciences - Environment
  - E-Enterprise - Oncology
  - Regenstrief - Cyber
  - Learning - Entrepreneurship

Big Science/New Paradigms

Environmental, economic, and social impact of agricultural innovations

- Fundamental knowledge
- Scale/location of evaluations
- Examples:
  - Cropping systems and greenhouse gases
  - Nutrient leaching/water contamination
  - Traits
  - Nutrition/Obesity/Comparative Medicine
  - Food safety
  - Interactomes, and -omics
  - DHS initiatives
  - Site remediation
  - Animal waste/odor management
  - Bioproducts and bioenergy
  - Economics of environmental cost-benefit

Ionomics - Linking genetics with high throughput elemental-profiling