



National Institute of Food and Agriculture  
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# **Biomass Research and Development Initiative (BRDI)**

## **Briefing for Biomass R&D TAC**

**May 22, 2012**

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**National Program Leader, Agricultural Materials**





## Biomass Research and Development Initiative FY 2012

- Focus on advanced biofuels
- Interest in small scale processing
- Interest in rural-based processing and manufacturing
- Interest in biobased industrial products/chemicals
- Funding range \$3M - \$7M
- Required integration of:
  - feedstock development/production, feedstock logistics,
  - feedstock conversion, product development
  - system analysis, e.g. life cycle analysis, impacts on food/feed supply



## Biomass Research and Development Initiative FY 2012

- **USDA contribution - FY 2012 \$40 M authorized, \$25M available**
- **DOE contribution - FY 2012 \$7M**
- **DOE Office of Biomass and Golden Field Office administer pre-application process**
- **USDA-NIFA administers the invited full application process**
- **FY 2012 solicitation announced March 2012**
- **178 Pre-applications currently under review**
- **Invited full applications due August 3**
- **Awards not later than September 30**



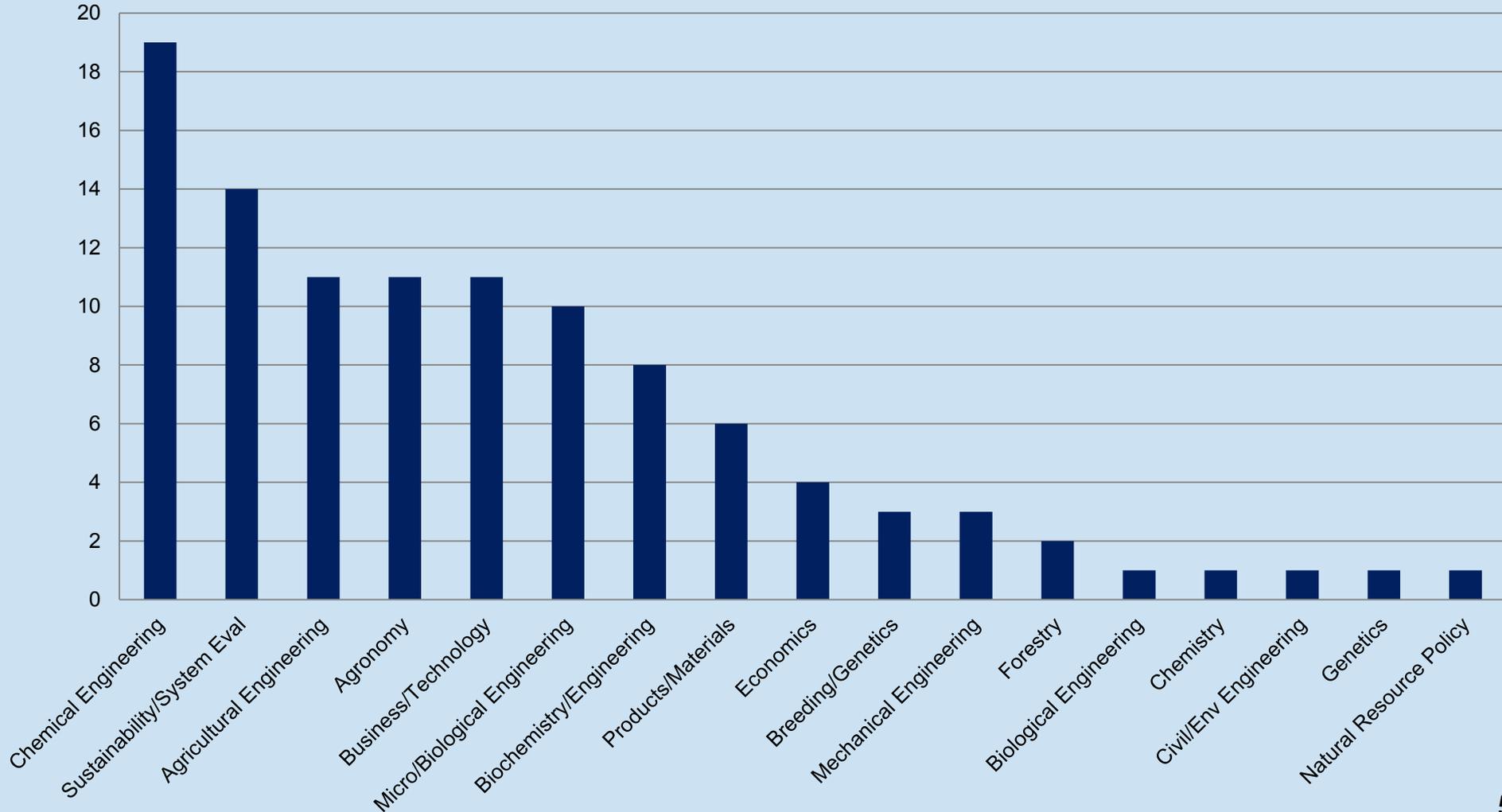
## Biomass R&D Initiative Progress

### ANALYSIS OF PROGRAM PERFORMANCE

- **Legislative requirements**
  - annual solicitation
  - scientific peer review
  - minimum 15% funding for each technical area
  - cost share
  - consortium-based multidisciplinary awards
  - geographic diversity
  - annual report to Congress

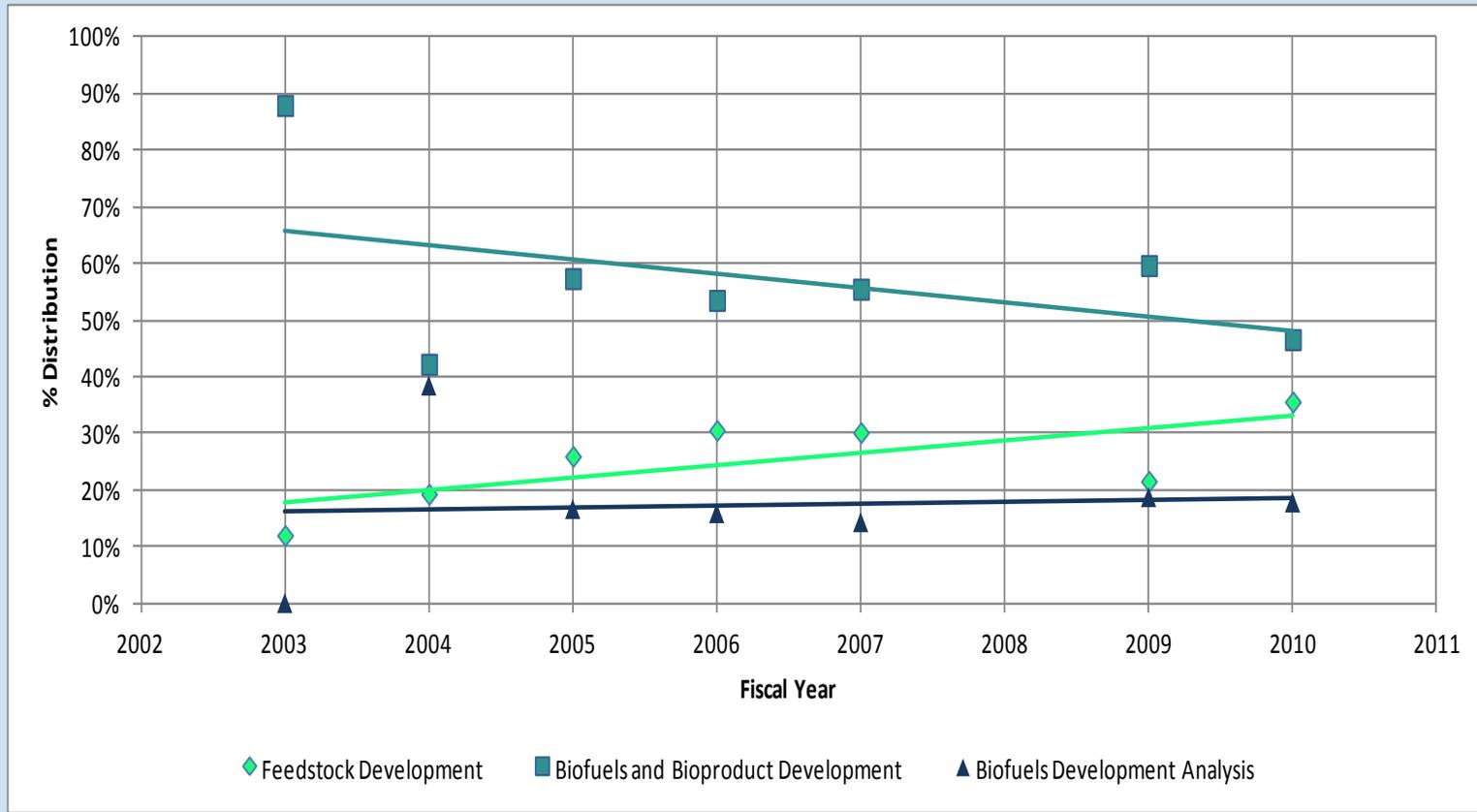


## BRDI Panelist Expertise 2010-2011



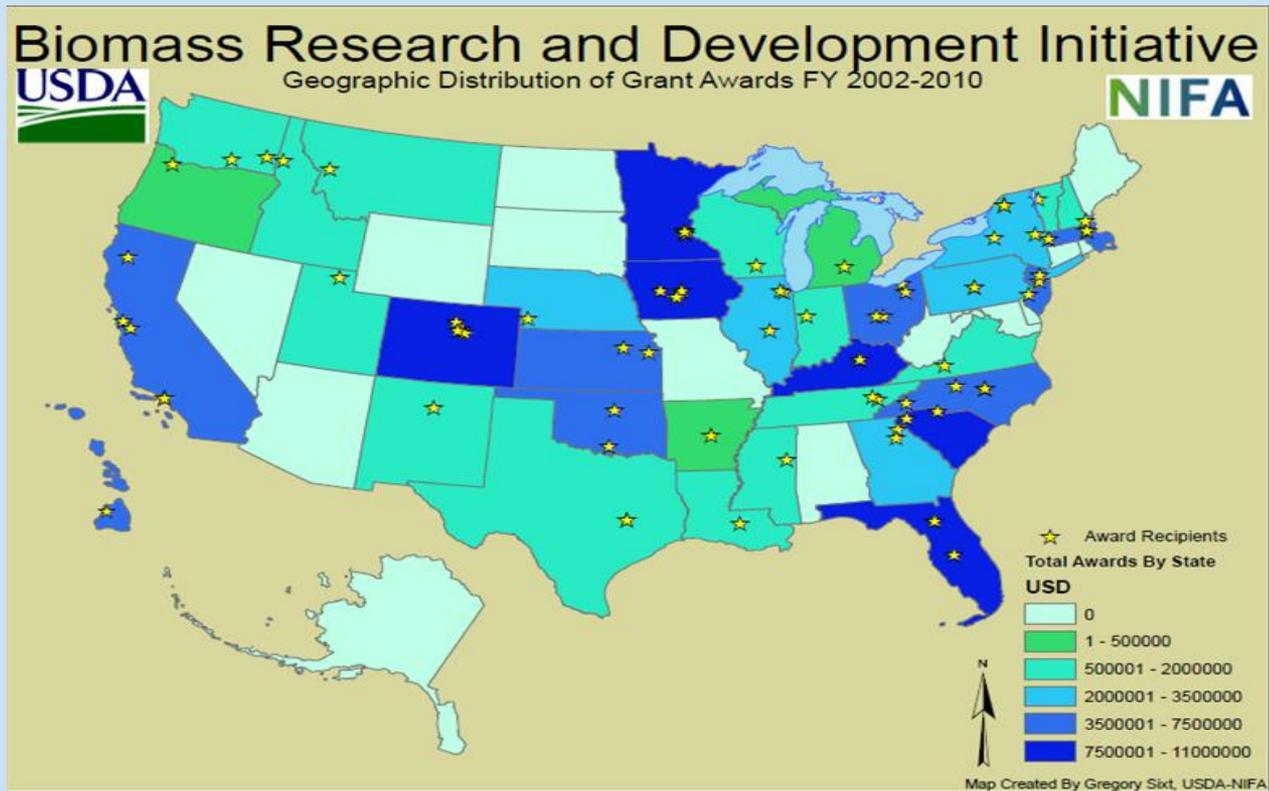


## Trends in Technical Area Investment





# Geographic Diversity of Awards





# Biomass R&D Initiative Progress

## ANALYSIS OF PROGRAM PERFORMANCE

- **Program Objectives**
  - **Technologies for cost competitive biofuels**
  - **High value biobased products**
    - Enhance economic viability of biofuels and power
    - Substitutes for petroleum-based feedstocks and products
    - Enhance value of co-products
  - **Diversity of sustainable biomass for conversion to biofuels, biopower and biobased products**



## Biomass R&D Initiative Progress

### ANALYSIS OF PROGRAM PERFORMANCE

- **Program objectives**
  - Site visits to 19 USDA–funded projects
  - FY 2005 – 2009
  - 2-3 subject matter experts/site visit, primarily from academia, also USDA-ARS, NSF
  - Project evaluations to standardized format
- **Report will be included in the Secretaries' annual report to Congress**



# Biomass R&D Initiative Performance

## Quantifiable Project Output Measures (draft numbers)

Performance Measure	Quantity
IP Protection	
Patents/Applications	12
Provisional Patent Applications	2
Invention Disclosures	1
Publications	
Peer Reviewed	113
Conference/Popular	104
Presentations	168
Students Educated	96
Courses Developed	11
Workforce Trained	92
Outreach Events	270
Learners Reached	16,900
FTEs Supported by BRDI	28
Jobs Created	25
Funding Leveraged Post-BRDI	\$53,730,000
Products Developed	
Genetic	14
Equipment/Process	4
Materials/Chemicals	10
Evaluation Tools	4

## **Biomass R&D Initiative FY 2011 Awards (recommended)**

- **Retrofit dry mill to add value to DG: cellulose fraction converted to ethanol, oil purified to food-grade, protein to non-ruminant feed market**
- **Optimize oilseed crops and production systems to produce jet fuel and diesel**
- **Optimize production and quality of guayule rubber for use in tire formulations, convert bagasse to chemicals and power**



## **Biomass R&D Initiative FY 2011 Awards (recommended)**

- **Utilize dairy manure as source of fertilizer and fiber: anaerobic digestion, fertilizer for oilseed crops/oil for biodiesel/meal for animal feed, convert fiber to ethanol**
- **Optimize production of grasses and pre-treatment for biological conversion to jet fuel**



## Biomass Research and Development Initiative Concurrent Activities

- **FY 2012 competition underway**
- **Five FY 2011 proposals in process for award, formal announcement June 2012**
- **Site visits completed, reports being finalized, next round in planning**
- **Analysis of Program Performance**
- **Data management strategy under development with National Agricultural Library**