

USDA Update on the Biobased Economy



Todd Campbell

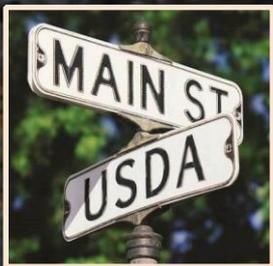
Energy Policy Advisor

BIOMASS RESEARCH AND DEVELOPMENT
TECHNICAL ADVISORY COMMITTEE MEETING

JUNE 5 , 2014

USDA Update on the Biobased Economy

- **Agricultural Act of 2014 Title IX**
- **Foundation for Food and Agriculture Research**
- **Biomass work from Agricultural Research Service and National Institute for Food and Agriculture**
- **2012 Census of Agriculture- Renewable Energy**



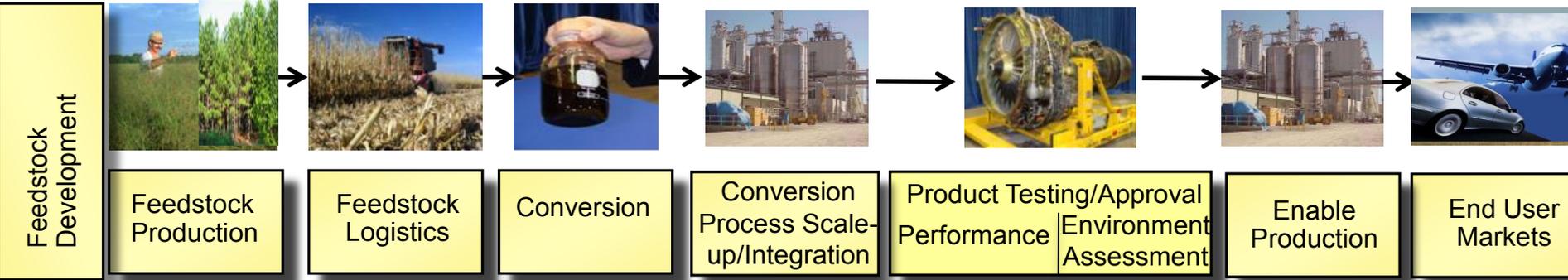
Agriculture Act of 2014 -Title IX Authorization

- **9002: BioPreferred Program: \$3 million per year FY14-18**
- **9003: Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program: (\$100MFY14, \$50M in each FY15,16)**
- **9004: Repowering Assistance: \$12M available until expended**
- **9005: Bioenergy Program for Advance Biofuels: \$15M per year FY14-18**
- **9006: Biodiesel Fuel Education Program: \$1M per year FY14-18**
- **9007: Rural Energy for America Program: \$50M per year FY14-18**
- **9008: Biomass Research and Development Initiative: \$3M per year FY14-17**
- **9010: Biomass Crop Assistance Program: \$25M per year FY14-18**
- **9012: Community Wood to Energy Program**



USDA Supply Chain Approach

www.usda.gov/energy



Feedstock Development & Production

**Feedstock pathways
Integration
Scale Up
Commercial Production**

**Efficiency
Improvements
Biofuels
Heat and Power
Biobased Products**

Research & Education

**Technical & Financial
Assistance Programs**

Outreach



Business & Industry (B&I) Program

FY 2013 Business and
Industry Loan Program

12 projects

11 states

\$48.8 million



- **Laurel Biocomposites received a \$5 million loan for equipment and working capital to convert distillers grain into a new biobased product that replaces and/or enhances traditional petrochemical-based resins in various plastics.**
- **When operational, the company will produce 48 million pounds of finished bio-resin product.**



B&I and BioPreferred Program Mix

- **Laurel Biocomposites obtained USDA BioPreferred Program product certification for bio-resin in 2013; 62% biobased content**
- **Certification quantifies 'biobased' -- amount of new carbon vs. total organic carbon in product**
- **Bioplastic pellets used in the shipping, lawn and garden, agriculture, and automotive industries**





FY2014 BioPreferred/Biobased Product Goals

Procurement Preference – USDA and Federal-Wide

- **Begin including biobased clauses in all new janitorial/custodial and operations and maintenance procurements immediately.**
- **Expand this requirement to include all USDA construction, food service, and vehicle maintenance contracts in the next three months.**
- **Purchase biobased products valued at \$1,000,000 Department-wide during FY 2014.**
- **Support Federal government goal of \$10,000,000 in biobased product purchases during FY 2014.**

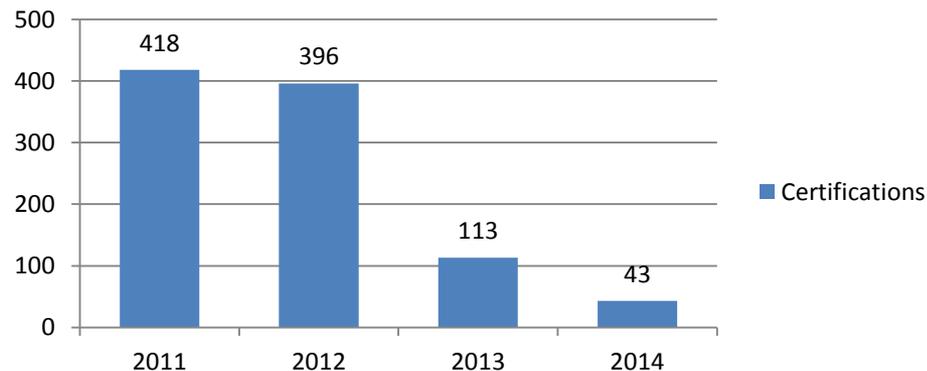


FY2014 BioPreferred/Biobased Product Goals

Voluntary Product Certification/Labeling

- **Conduct research to demonstrate impact of USDA certification on awareness and sales of upstream and finished biobased products.**
- **Regain industry and supply chain uptake of this market tool after diminished activity from early 2013 – mid 2014.**

Number of USDA Product Certifications





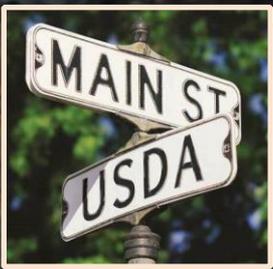
Rural Energy for America Program Rural Development

- **Accepting applications for Renewable energy systems (including commercially available technology for liquid biofuel, solid biofuel and biogas) and energy efficiency improvement loan guarantee, grants and combinations.**
- **For fiscal year 2014, USDA plans to award up to**
 - **\$12.3 million in grants with applications due July 7th (same deadline for combination applications)**
 - **\$57.8 million in loan guarantees due before July 31st**
 - **Additional REAP funds provided by the Farm Bill will be made available with a subsequent notice.**
- **Information on how to apply for REAP funding and on the application deadlines (which vary by project type) is available on page 25564 of the [May 5, 2014 Federal Register](#).**



Biomass Crop Assistance Program Farm Service Agency

- Provides financial assistance to establish, grow and deliver biomass for energy or bio-based products
- Establishment and annual payments
 - capped rate for perennial crops at \$500 per acre (\$750 for SSD)
- CHST program matching payments for collection, harvest, storage, and transportation of eligible material for use in a qualified biomass conversion facility
 - \$1 for each \$1 per ton, up to \$20 per ton
 - not less than 10%, not more than 50% per year
 - Funding available beginning June 9th
- More information found through www.fsa.usda.gov



Wood to Energy Initiative Forest Service

- **Wood to Energy Initiative Grants**
- **Wood to Energy (W2E)** for wood energy projects that require engineering services final design and cost analysis. Some or all of the woody biomass must come from National Forest Service System lands. Deadline 6/3/2014.
- **Statewide Wood Energy Team Cooperative Agreement** support collaborative statewide wood energy teams that advance the installation of commercially viable wood energy systems in the public and private sectors that use woody biomass generated from National Forest System lands and other land ownerships. Deadline was 5/20/2014
- More information at <http://www.na.fs.fed.us/werc/swet/>



Biodiesel Fuel Education Program National Institute for Food and Agriculture

- **Educational programs which support advances in infrastructure, technology transfer, fuel quality, fuel safety and increasing feedstock production.**
 - **Funds available \$960,000**
 - **Closing June 27, 2014**



**Research, Education, and Economics
Office of the Chief Scientist**

USDA Biomass R&D Activities

Harry Schomberg

**Senior Advisor Bioenergy and Natural Resources
REE Office of Chief Scientist**

Biomass Research & Development Board

Technical Advisory Committee

June 5, 2014

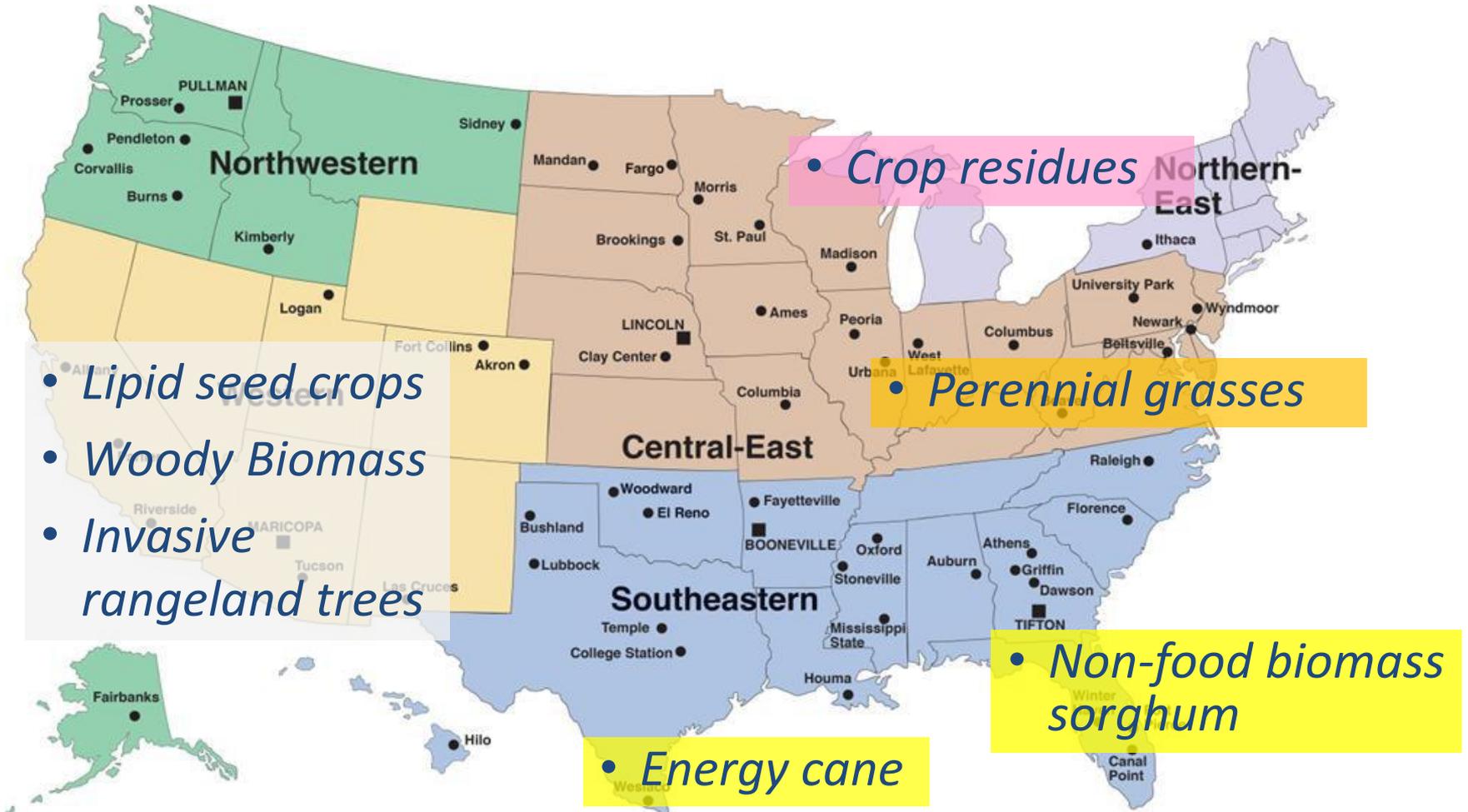


USDA Research Efforts

- Research
 - Physical and social sciences
 - 5 Biomass Research Centers (ARS and FS Leadership)
 - Regional biomass focus
 - Integrate energy biomass crops into food and forestry production systems
 - Increase productivity and improve quality
 - National Institute of Food and Agriculture (NIFA)
 - Agricultural Food and Research Initiative (AFRI) – Coordinated Agriculture Projects (CAPS)
 - Biomass Research and Development Initiative

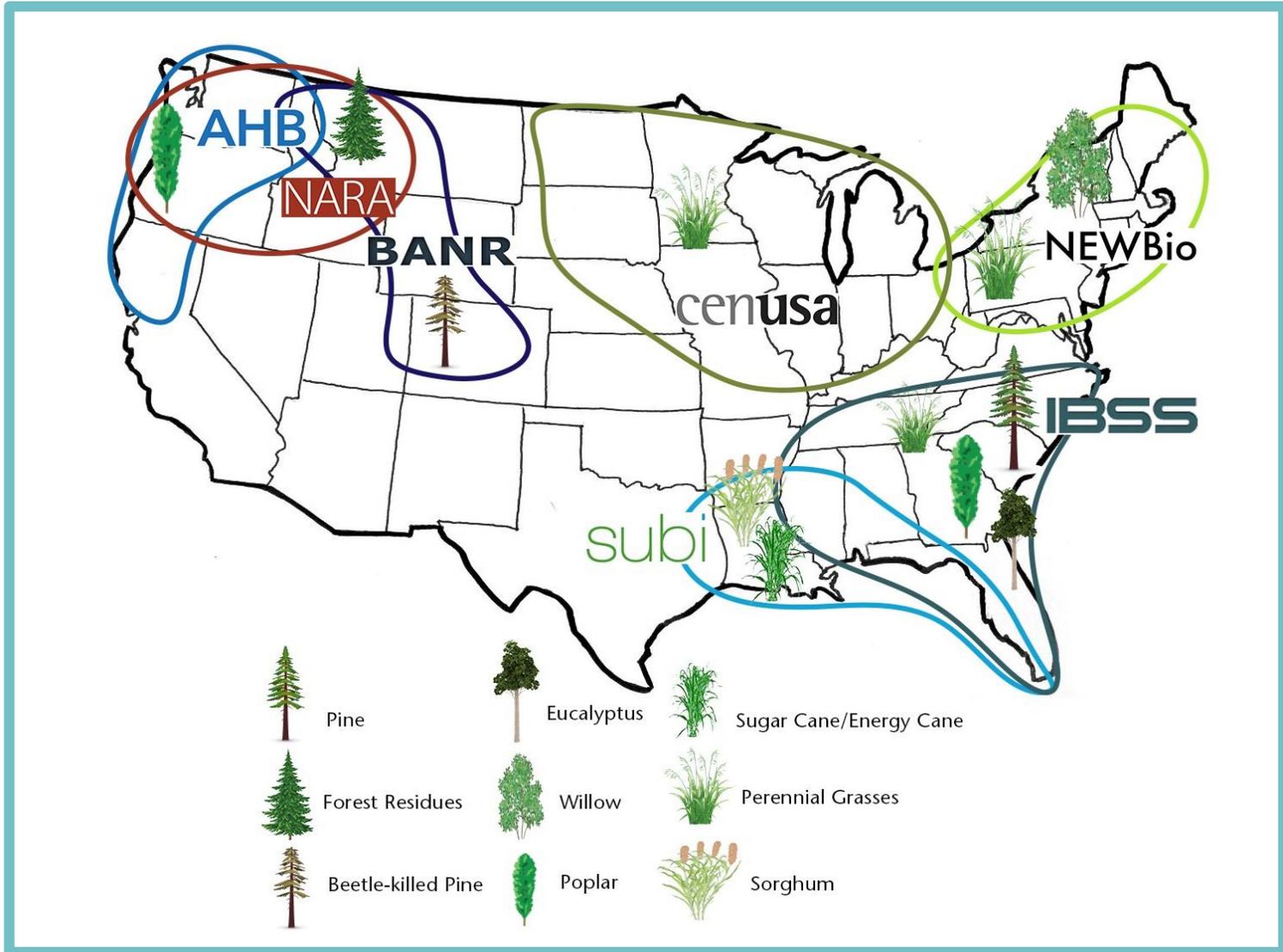


ARS Regional Biomass Centers





AFRI Biofuel Projects





Foundation for Food and Agriculture Research

Sec. 7601 of the Agricultural Act of 2014 (P.L. 113-79) address problems of national and international importance:

- plant and animal health, production and products
- food safety, nutrition and health
- renewable energy, natural resources and the environment
- agricultural and food security
- agriculture systems and technology
- agricultural economics and rural communities



Foundation for Food and Agriculture Research

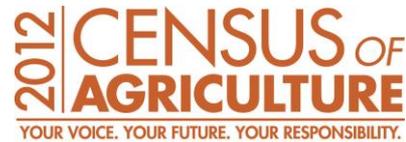
- Independent, non-governmental, nonprofit corporation
 - 7 members from industry
 - 8 members identified by National Academy of Sciences
 - 2 or 3 yr terms initial appointment; 5 yr thereafter
- Ex-officio, non-voting, members
 - Secretary Agriculture
 - Under Sec for REE
 - Administrator ARS
 - Director NIFA
 - Director NSF

\$200 million initially which can only be used when matched at least 1:1 with non-federal funds



2012 Census of Agriculture Renewable Energy

Released May 2, 2014





RENEWABLE ENERGY PRODUCTION

	2007 Farms	2012 Farms
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Renewable energy systems*

23,451

57,299

Wind rights leased to others

N/A

10,181

* Indicates significant change



RENEWABLE ENERGY PRODUCTION 2012

	Farms
Solar Panels	36,331
Geoexchange Systems	9,403
Wind Turbines	9,054
Biodiesel	4,099
Ethanol	2,364
Small Hydro Systems	1,323
Methane Digesters	537



TOP 10 RENEWABLE ENERGY STATES

Top States	Farms	Most common system
California	5,845	Solar panels
Texas	4,824	Solar panels
Illinois	3,046	Biodiesel
Iowa	2,463	Geoexchange systems
Indiana	2,397	Solar panels
Pennsylvania	2,234	Solar panels
Ohio	2,094	Solar panels
Colorado	2,013	Solar panels
Missouri	1,823	Solar panels
Minnesota	1,702	Geoexchange systems



RENEWABLE ENERGY PRODUCTION, 2012

TENURE OR PRINCIPAL OPERATOR

Production on Farm Operation	Full Owners	Part Owners	Tenants
Solar Panels	26,247	8,239	1,845
Geoexchange Systems	6,339	2,849	215
Wind Turbines	5,194	3,301	559
Biodiesel	1,740	1,904	455
Small Hydro Systems	1,021	242	60
Methane Digesters	332	182	23
Ethanol	869	1,232	263



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THANK YOU