



USDA Update on Biomass R&D Activities and Bioeconomy Initiative

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Biomass Research & Development
Technical Advisory Committee
Q2 Meeting

June 15, 2017

- Activities
 - Programs
 - 9003 - Biorefinery, Renewable Chemicals and Biobased Product Manufacturing Assistance Program
 - Biomass Crop Assistance Program
 - Biofuels Infrastructure Program
 - Research
 - Agricultural Research Service
 - National Institute of Food and Agriculture
- Other
 - USDA Reorganization
 - Budget
 - Farm Bill
- Bioeconomy Initiative

Programs – 9003 Biorefinery, Renewable Chemicals, and...



- The Agency recently green lighted 9 new project into Phase 2 of the approval process, totaling approximately \$819 million in loan guarantees and over \$1.3 billion in leveraged private funding.
 - The project outputs are made up of advanced biofuels, renewable chemicals and biobased products.
- The Agency accepts applications on a rolling basis – The next application window cut off date is October 1, 2017.

Programs – Biomass Crop Assistance Program



- BCAP provides financial assistance to owners and operators of agricultural and non-industrial private forest land who wish to establish, produce, and deliver biomass feedstocks.
- **\$15.8 million obligated to support the delivery of 790,000 dry tons to 60 biomass conversion facilities in 18 states. Payments** are made at a **rate of \$20/dry ton** for materials such as corn stover, orchard waste, insect infested wood and fire fuel load reductions.
- Incentivized nearly **1,000 growers** and **landowners** farming nearly **49,000 acres** to establish and produce dedicated, nonfood energy crops. Facilities supported include biofuel, renewable electricity & biobased products.

Programs – Biofuels Infrastructure Partnership

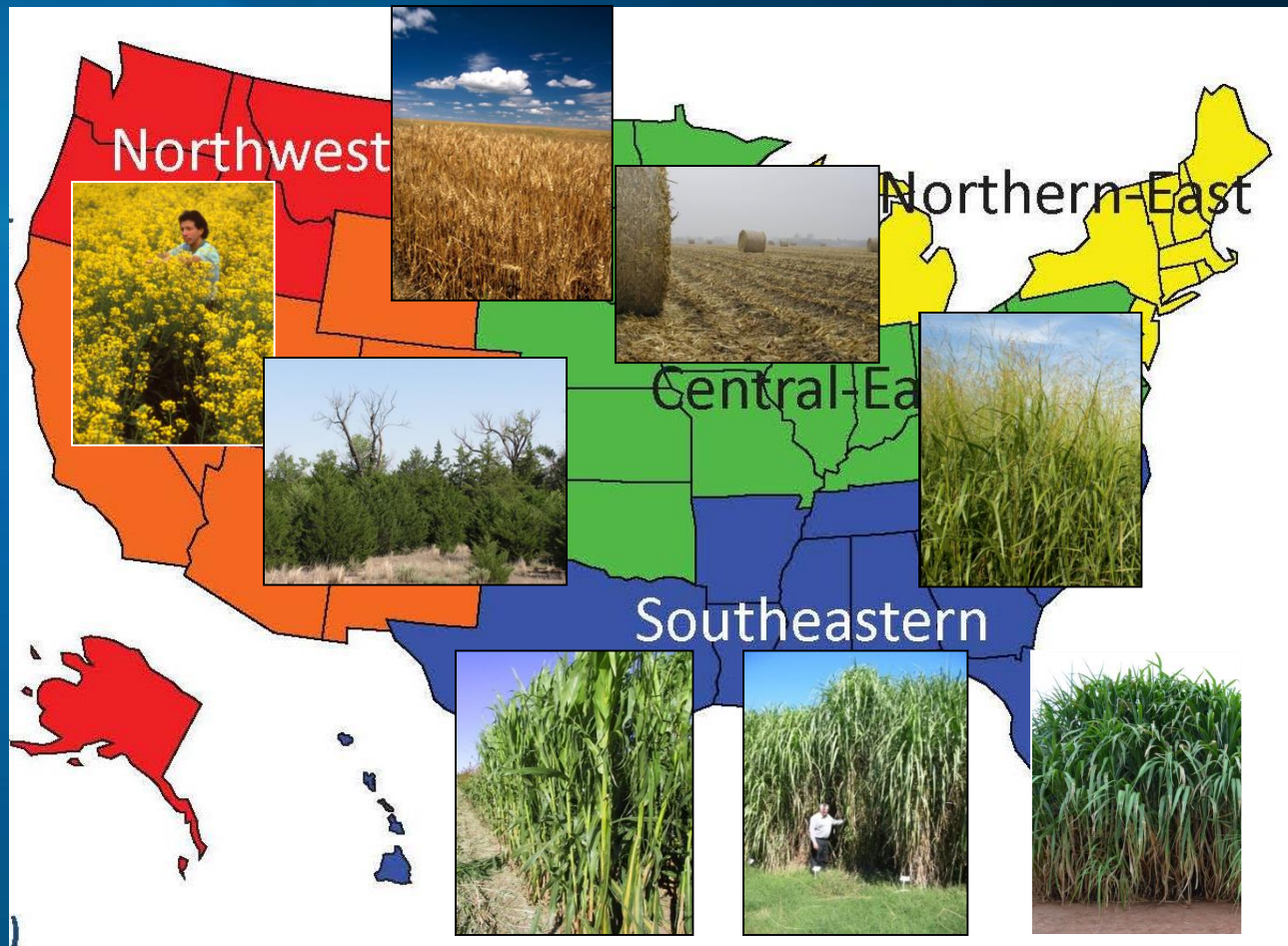


- BIP offers competitive grants from the U.S. Department of Agriculture (USDA) to state-led efforts to test and evaluate innovative and comprehensive approaches to marketing higher biofuel blends, such as E15 and E85.
- \$100 million has been awarded to 20 states in FY 2015, with a more than 1:1 match from private and state resources, USDA estimates that the BIP grants will support nearly 5,000 pumps at over 1,500 fueling stations across the country.
- BIP supported construction has been initiated in all of the 20 States.
- Environmental Assessments have been conducted on over 78 percent of the targeted fueling stations.
- Funding is being provided under Section 5(e) of USDA's Commodity Credit Corporation (CCC) Charter Act.

Agricultural Research Service Regional Feedstocks Focus



- Crop residues
- Winter Barley
- Perennial grasses
- Energy cane
- ***Non-food biomass sorghum***
- Lipid seed crops
- Woody Biomass
- Invasive rangeland trees



Southeastern Region



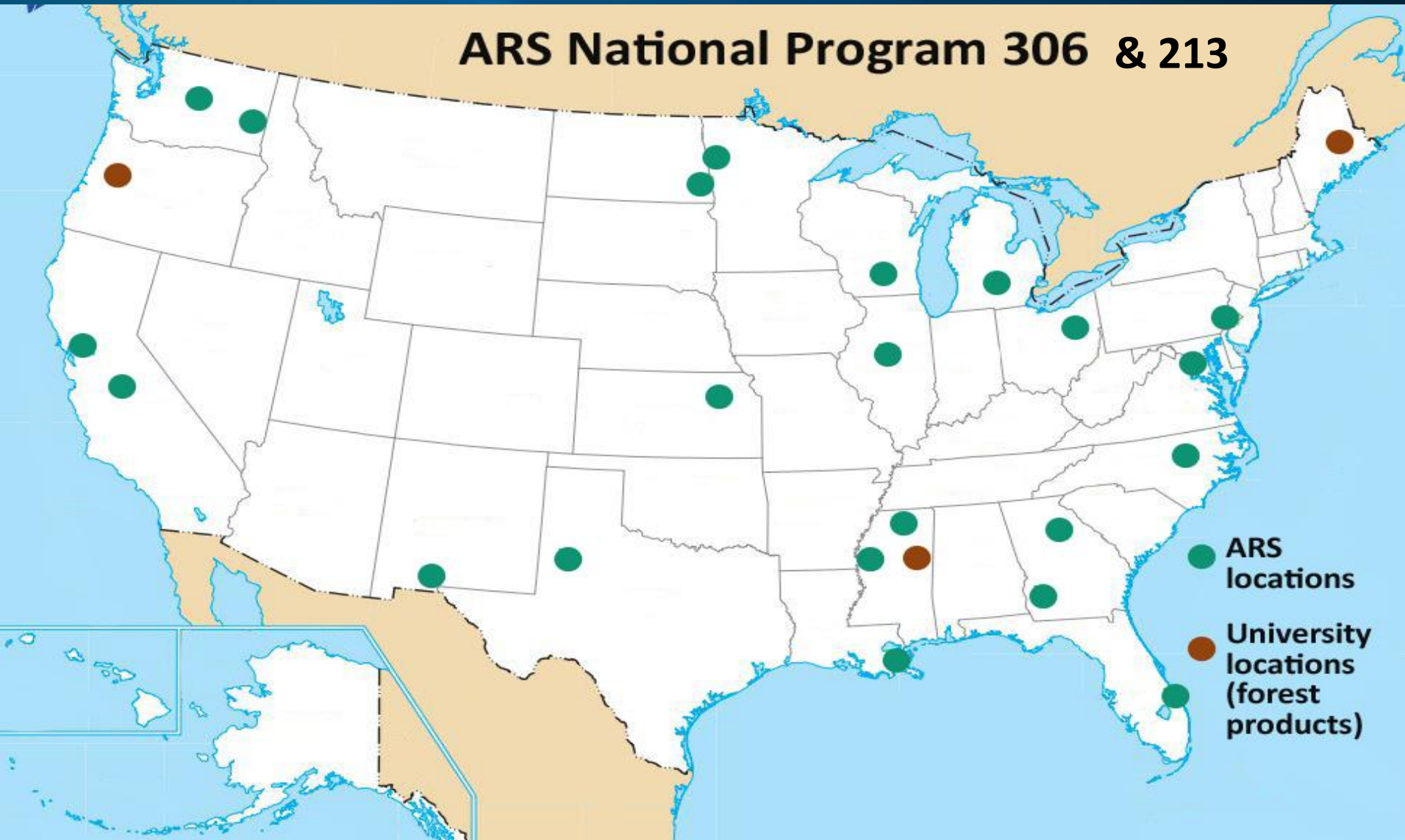
Napiergrass hybrid 10-12 tons/ac



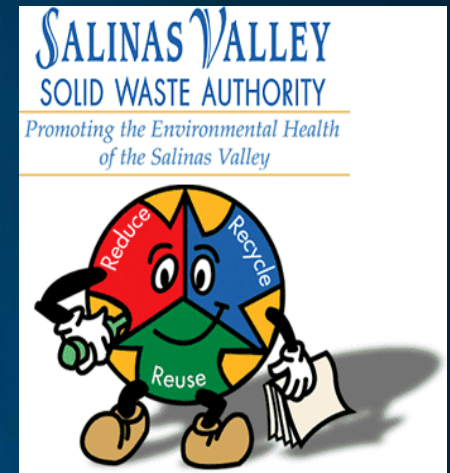
Biomass and Postharvest Utilization



ARS National Program 306 & 213



Solid waste into bioenergy



Guayule natural latex rubber



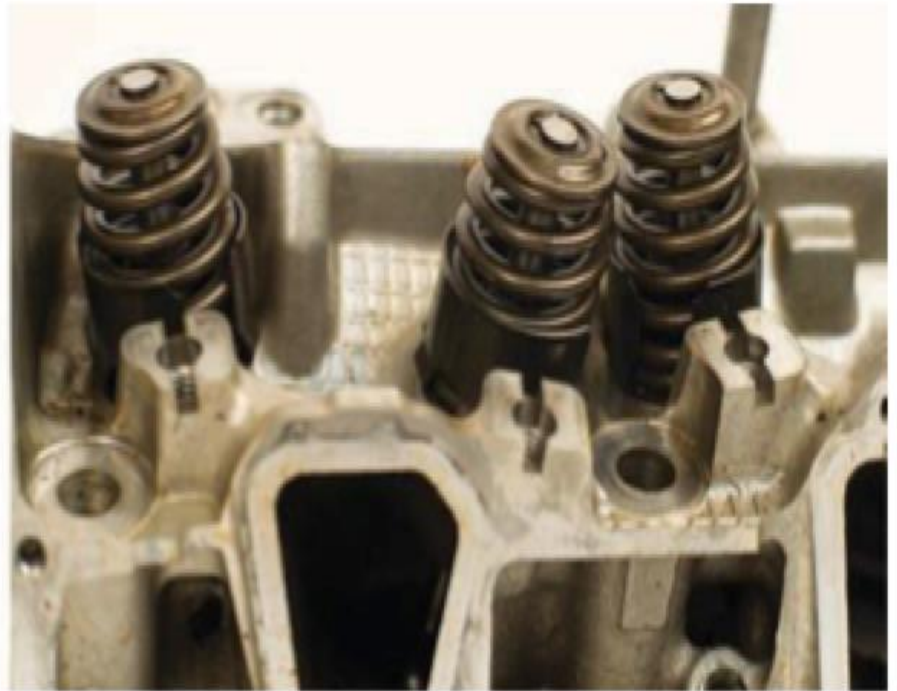
Guayule, native
US desert plant



Patagonia environmentally friendly wetsuits



Estolides: motor oil from plants.



- Las Vegas taxi engine test from a 150,000 mile field trial; estolide motor oil had less varnish, ran cooler and gave greater mileage not attainable with petroleum-based products.

Foods: healthy foods from biomass waste.



 **Abbott**
Nutrition



Cargill

 **Xtend™**
Sucromalt
A new family of slowly digestible sweeteners



 **Cargill**

- 2016 AFRI Coordinated Agricultural Projects (CAPs)
 - Two awards @ \$15 M/5 years. Not yet publically announced.
 - *Brassica carinata* to jet fuel (southeast)
 - *Guayule* to rubber, chemicals, jet fuel (southwest)
- 2017 AFRI Foundational Program
 - Bioprocessing and Bioengineering, just closed.
 - Integration of bioenergy systems into multifunctional landscapes, open.
- 2017 AFRI Bioenergy and Biobased Product Challenge Area
 - Lignin or Nano-cellulose Co-Products, closes 6/28
 - Development and Evaluation of Biomass Feedstocks, closes 6/28

Other – USDA Reorganization



- 2014 Farm Bill directs USDA to examine options for reorganizing the international trade functions at USDA
- Create a new Undersecretary for Trade and Foreign Agricultural Affairs
 - Realigns Foreign Agricultural Service
- Create a new Undersecretary for Farm Production and Conservation
 - Farm Services Agency
 - NRCS
 - RMA
- Undersecretary for Natural Resources and Environment
 - Forest Service
- Many other questions to be answered/addressed

Other – Administration's FY18 Proposed Budget



- Agriculture reduction 21% FY17 proposed FY18, \$4.7 billion in cuts, down to \$21 billion (discretionary funds)
- Discretionary includes funding for Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Rural Development loans and grants, Forest Service, food safety, research and education soil and water conservation technical assistance; animal and plant health; management of national forests, wildland fire, and other Forest Service activities; and domestic and international marketing assistance. .
- Funding for mandatory programs is estimated to be \$116 billion, about \$7 billion below 2017.
- USDA's total outlays for 2018 are estimated at \$137 billion. Roughly 82 percent of outlays, about \$117 billion, are for mandatory programs – providing services required by laws other than annual appropriations acts. These outlays include crop insurance, nutrition assistance programs, farm commodity and trade programs, and a number of conservation programs.

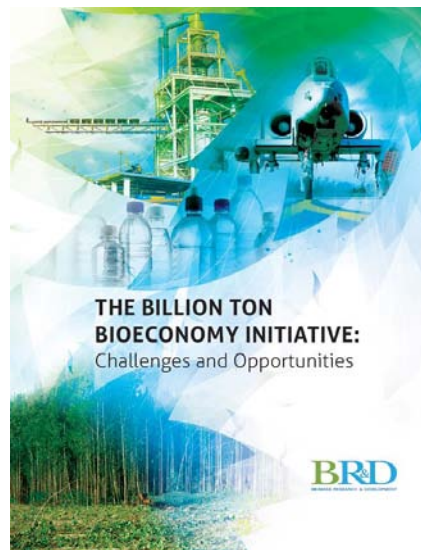
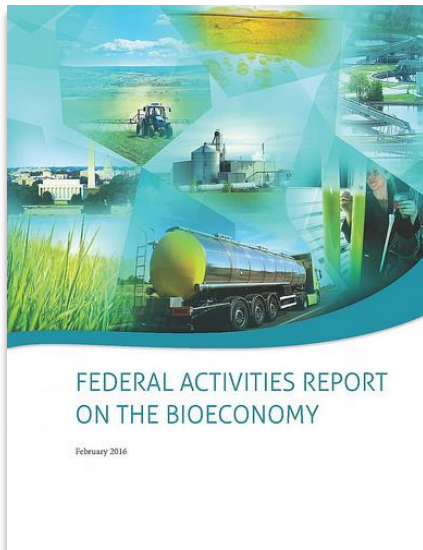
Other -Administration's FY18 Proposed Budget



- ARS – Peoria National Center for Agricultural Utilization Research to close (bioproducts work is done)
- ARS -Louisiana, Houma Sugarcane Research Unit to close
- ARS 10% Staff Reduction

- Rep. Conaway and Sen. Roberts indicated that they expect to have new farmbill completed on time (10/1/18)
- Both Indicated President's proposed budget is not place to debate farmbill
- Dairy, conservation, SNAP, and weak commodity prices ...

A Path Forward for the Bioeconomy Initiative



FARB

- Released in February 2016

Challenges & Opportunities

- Released at Q4 TAC Meeting in November 2016

Action Plan

- Target release this summer at DOE's annual conference—Bioeconomy 2017

Through the Interagency Working Groups, the Action Plan will be developed with attention to:

- Technical strategies developed in the FARB.
- Critical challenges and opportunities previously identified by stakeholders (including the Federal Strategy Workshop and the ATIP Regional Forums).
- Cross-cutting activities and interagency collaborations aimed at building a national coalition in support of the Bioeconomy Initiative.



Bioeconomy Initiative: Action Plan Workshop – April 5-6, 2017

- **Workshop Goal:**
 - To develop a roadmap of cross-cutting federal activities and collaborative actions to catalyze the expansion of a sustainable domestic bioeconomy
- **Day 1 Breakout Sessions:**
 - Discussed IWG specific challenges to expanding the bioeconomy; key goals and approaches to achieve a billion ton bioeconomy; existing programs, planned activities, and new agency actions to implement the Bioeconomy Initiative; and short-term, mid-term, and long-term milestones to measure successes, with respect to agency roles and responsibilities and resources needed.
- **Day 2 Breakout Sessions:**
 - Identified processes and mechanisms for achieving the overarching vision of the Bioeconomy Initiative as well as its goals, actions, and milestones.
 - Discussed crosscutting topics: knowledge transfer, technology deployment, project financing, stakeholder engagement, and industry collaborations.

- Action Plan to be released – Summer 2017
- Chapters on cross-cutting themes:
 - Industry partnerships
 - Knowledge transfer
 - Project finance
 - Technology deployment
 - Stakeholder engagement
 - Engagement of participants in the various bioeconomy supply chains
 - Communication to
 - the general public
 - industry
 - the press regarding the presence and value of the bioeconomy

**Thank you for your attention and serving
on this important Technical Advisory
Committee**

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