



United States Department of Agriculture
Research, Education, and Economics

Biofuels: Agriculture R&D

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Renewable Fuel Standard-2 Requirements

	Annual Biofuel feedstock	production
	billion liters	
Corn grain ethanol	56	
Advanced biofuels:		
Cellulosic ethanol	61	
Biodiesel	4	
Other advanced biofuels	15	
Total biofuels required	136	



Present Situation

- The U.S. is producing 42 billion liters of biofuels per year, but not on a trajectory to reach 136 billion Congressional target by 2022
- Challenges exist with the match between current ethanol biofuels and existing petroleum infrastructure
- Many projects have been funded, but relatively little attention has been given to the biomass component of the supply chain



National Biofuels Strategic Plan



- President Obama's May 5, 2009 Memo directing formation of Interagency Working Group
- *Growing America's Fuels* released February 03, 2010 by the IWG
- Present agency coordination and implementation plans developed

President's Biofuels Interagency Working Group
Growing America's Fuels
February 03, 2010

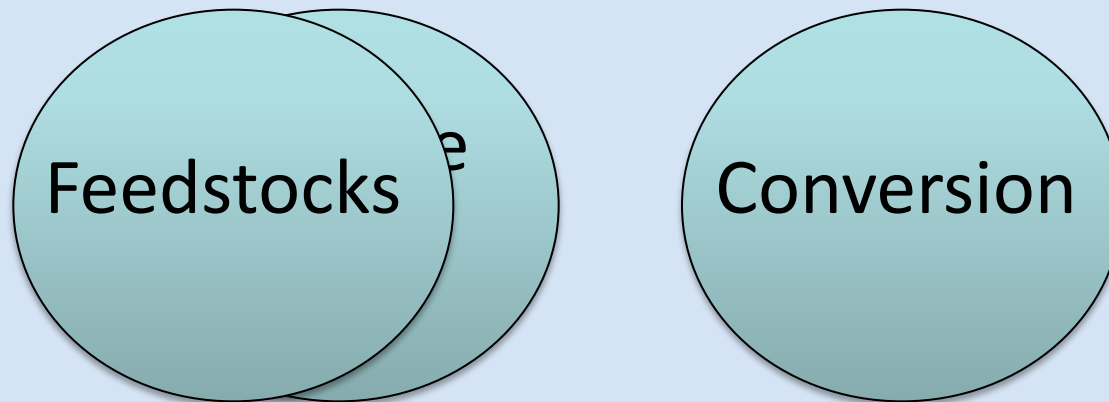


New Government-Wide Approach

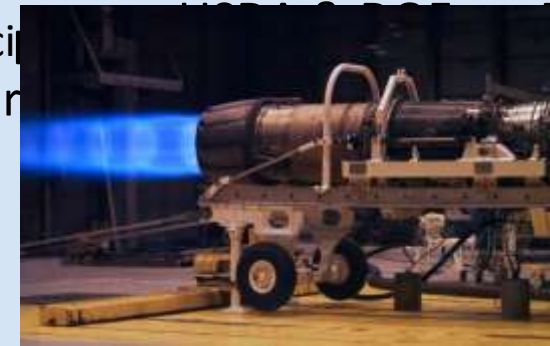
- Manage backwards from targets – use a supply chain systems approach
- Establish lead agency responsibilities for each supply chain segment – science with deliverables
- Focus resources on advanced biofuels – butanol, gasoline, diesel, & jet fuel
- Regionalized feedstock strategies – match biomass production with conversion systems to minimize transaction costs and create rural wealth



Meeting Our National Biofuels Goals



A complete supply chain systems approach



USDA research projects

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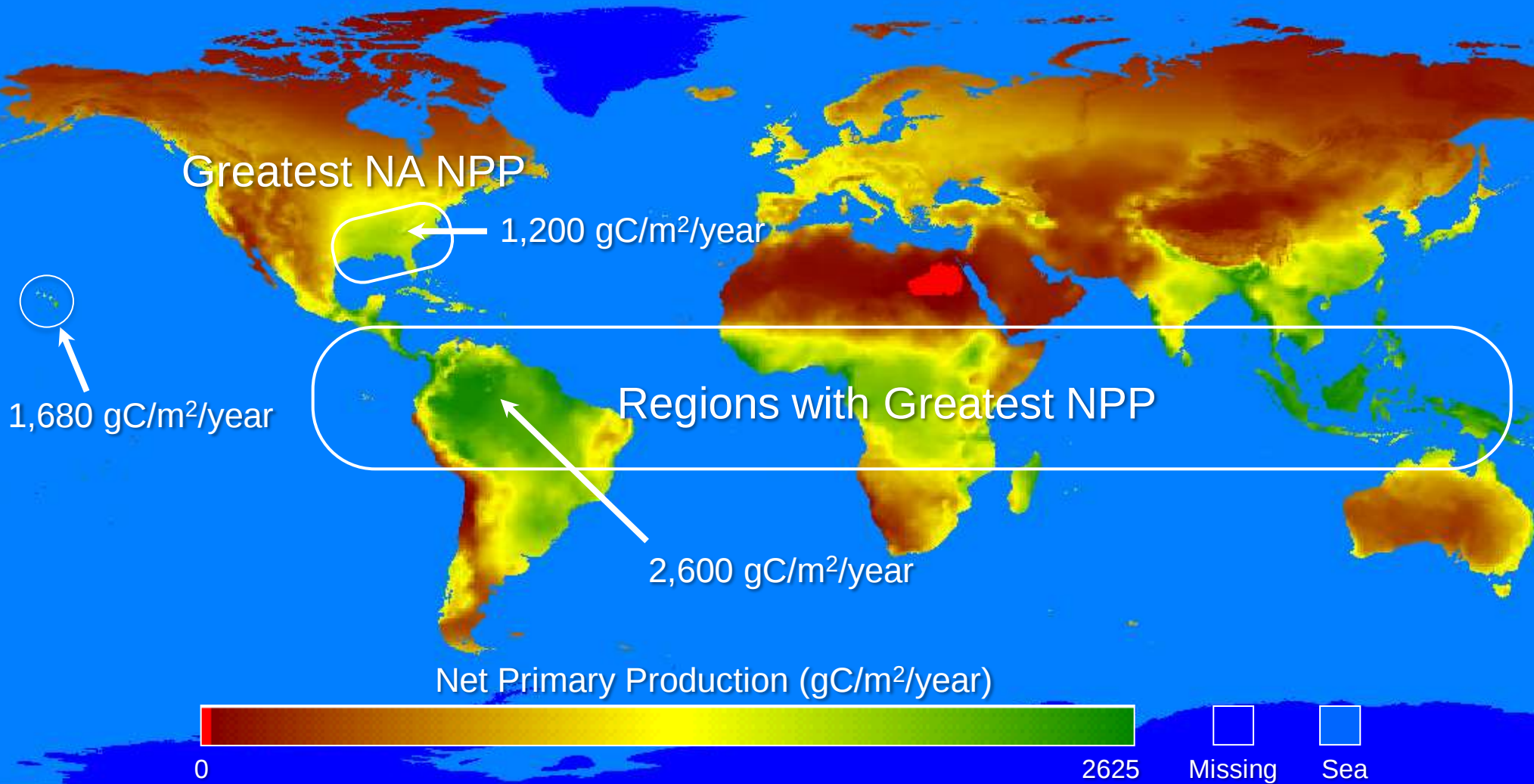
Fuel
purchase
guarantees



Ensure Efforts are Coordinated

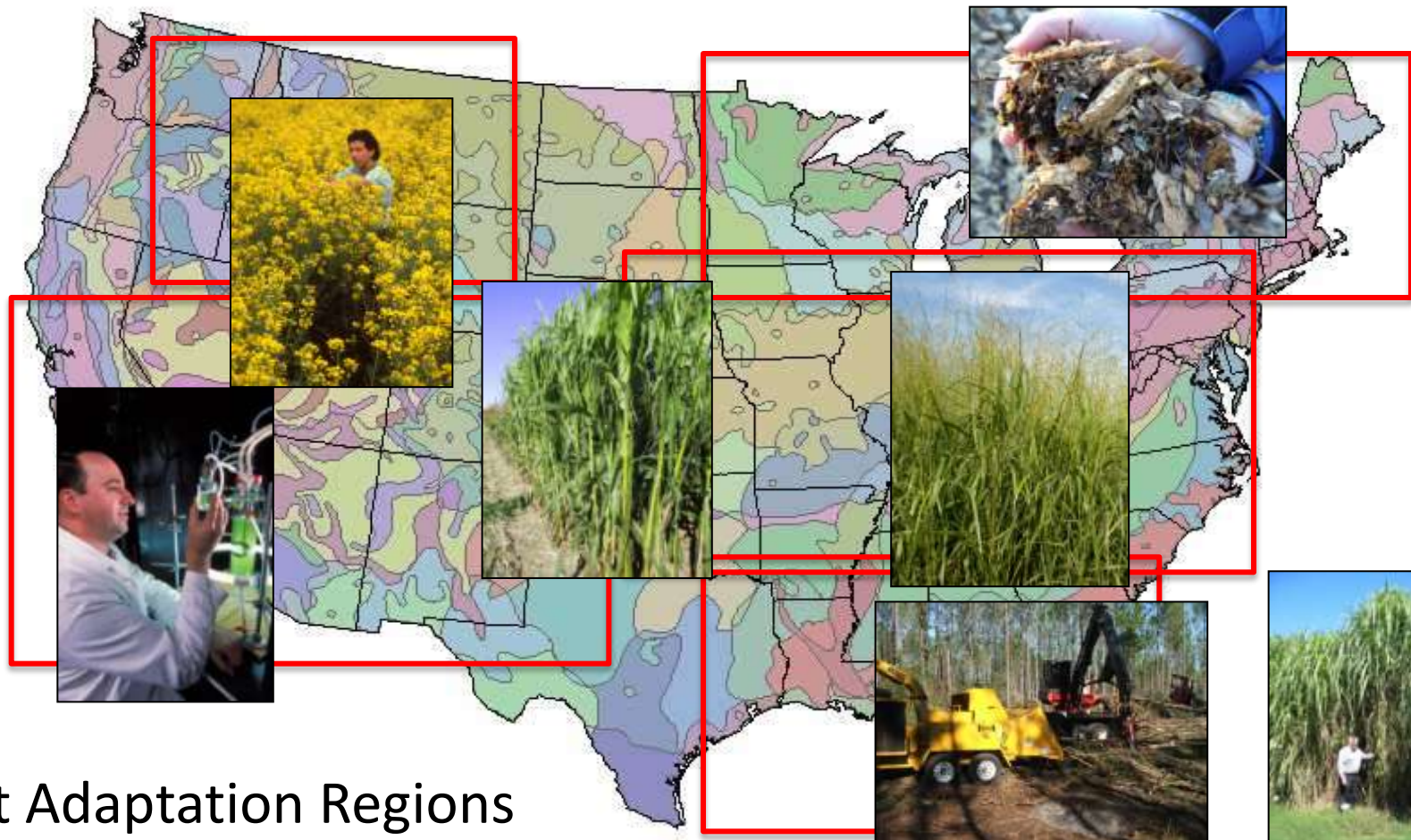
- Utilize USDA nation-wide science infrastructure
- USDA intramural and extramural research and program agency assets
- University partners – traditional and new
- Old Federal partners – Department of Energy
- New partners – Department of Defense, Federal Aviation Administrations-CAAFL, and biotechnology & other technology companies
- Technology commercialization & investment

Work with Natural Limitations





Dedicated Biomass Crops



Plant Adaptation Regions



Common Needs across All Regions

- Introduce adapted high-yielding, input-efficient varieties
- Work with existing natural resources & human capital
- Minimize impacts of biomass crops on other crop and livestock production systems
- Determine risks associated with emergent pests, invasiveness, and gene escape and find solutions
- Economic just-in-time delivery – feedstock harvest, handling, and storage



USDA Research Efforts across Regions

- Networks of national USDA facilities and scientists
- Common purpose – accelerate establishment of a commercial advanced biofuels industry
- Supply chain approach - feedstock development, sustainable production systems, logistics, and value-added co-products
- Emphasis on dependable supplies of dedicated biomass sources – multifunctional landscape approach with farms and forests
- Economic and environmental uncertainties addressed up front



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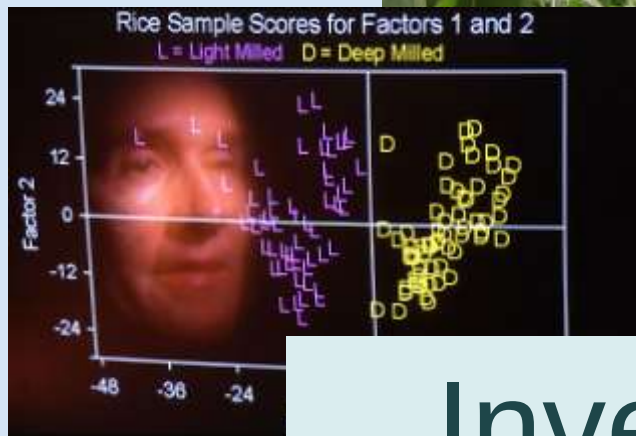


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