



National Institute of Food and Agriculture
www.nifa.usda.gov

AFRI Regional Bioenergy Coordinated Agricultural Projects

Bill Goldner, Ph.D.
National Institute of Food and Agriculture – USDA

BIOMASS 2012
July 11, 2012



National Institute of Food and Agriculture Sustainable Bioenergy

- Facilitate system-based approaches for development of sustainable supply chains for the production of biofuels, biopower, and bioproducts.
- >\$100 M NIFA annual investment in 2012
 - Agriculture and Food Research Initiative: \$46 M
 - Biomass Research and Development Initiative: \$40 M
 - Small Business Innovation Research: \$4 M
 - Non-competitive: ~\$15 M



Regional Approaches to Bioenergy Systems

– Coordinated Agricultural Projects (CAP)

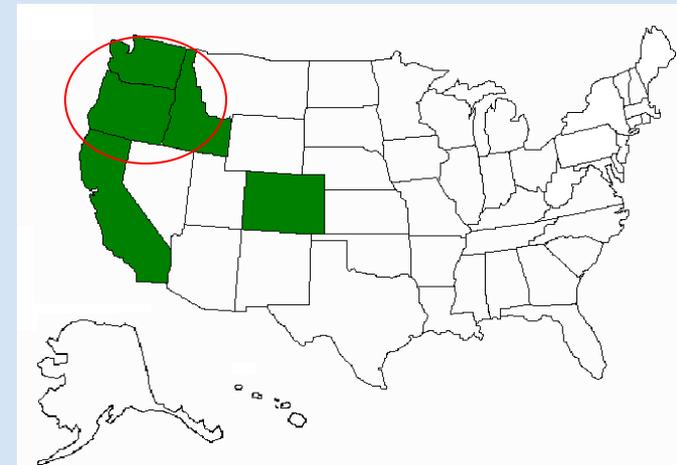
- **Regional partnerships**
 - Academic, government, non-government, industry
- **Work back from targets to develop entire supply chains**
- **Build on existing infrastructure and previous investments**
- Integrate Research, Education, and Extension/Tech Transfer
- **Robust sustainability analysis: Impacts on ...**
 - **Economics, rural communities, and the environment**
- Targeted Feedstocks (perennial grasses, energy cane, sorghum, woody biomass, oil crops)
- 2010: 5 awards totaling ~\$136 M over 5 years



System for Advanced Biofuels Production from Woody Biomass In the Pacific Northwest

PD: R Gustafson, U Washington, \$40,000,000 (5 years)

- 27 Key Personnel from 5 Universities, a Community College Consortium, and 2 Industrial Partners from 5 States:
 - Biogasoline, renewable aviation fuel
 - Purpose-grown poplar
 - Greenwood Resources
 - Bioconversion and fuel production
 - ZeaChem, Valero

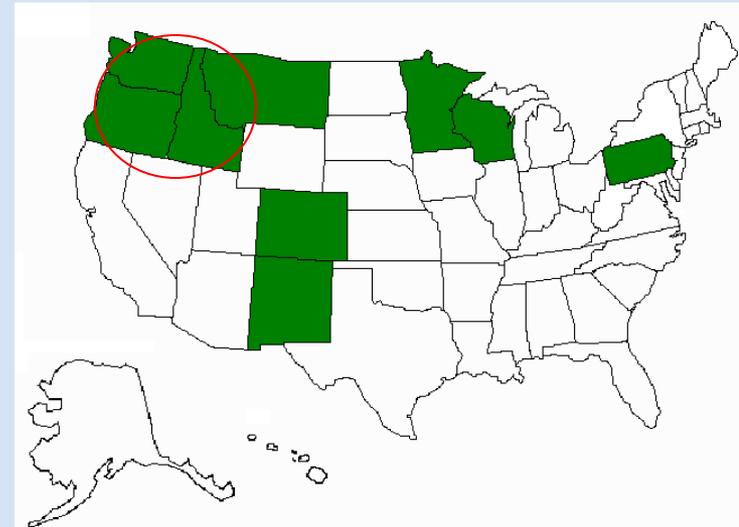




Northwest Advanced Renewables Alliance (NARA): New Vista for Green Fuels, Chemicals, and Products

PD: R Cavalieri, WA St U, \$40,000,000 (5 years)

- 41 Key Personnel representing 9 Universities, 3 Federal Partners, and 4 Industrial Partners from 9 States:
 - Renewable aviation fuel, value-added industrial chemicals
 - Woody biomass residues, purpose-grown trees
 - Weyerhaeuser, Greenwood Resources
 - Bioconversion and fuel production
 - Gevo, Catchlight, Chevron

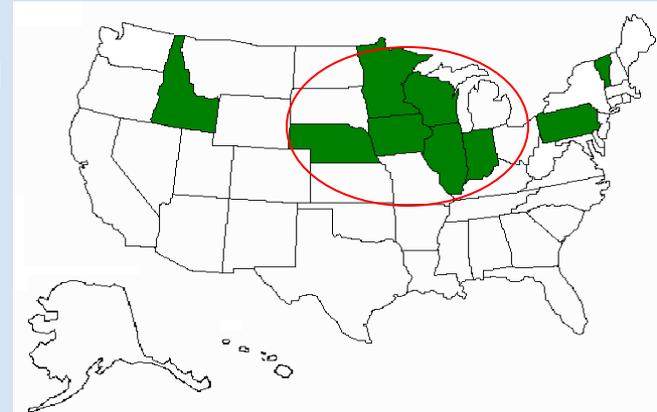




Agro-ecosystem Approach to Sustainable Biofuels Production Via the Pyrolysis-Biochar Platform

PD: K Moore, IA St U, \$25,000,000 (5 years)

- 19 Key Personnel from 7 Universities and 5 Federal Partners from 9 States:
 - Biogasoline
 - Switchgrass and other perennial grasses grown on marginal lands and as buffers separating traditional row crops from streams, river, and lakes.
 - Logistics, pyrolysis and fuel production
 - ADM, John Deere, Vermeer, Conoco-Phillips





A Regional Program for Production of Multiple Agricultural Feedstocks And Processing to Biofuels and Biobased Chemicals

PD: V Kochergin, LA St U, \$17,300,000 (5 years)

- 37 Total Key Personnel from 5 Universities, 1 Federal Partner, and 7 Industry Partners in 7 States:
 - Biobutanol, gasoline, isoprene and other industrial chemicals
 - Energy cane (ARS, SRU) and sweet sorghum (Ceres)
 - Logistics (John Deere)
 - Bioconversion to sugars, fuel and chemical production
 - Virent, Genencor, Optinol,
 - MS Processes, Intl.





Southeast Partnership for Integrated Biomass Supply Systems (IBSS)

PD: T Rials, U Tennessee, \$15,000,000 (5 years)

- 48 Total Key Personnel from 4 Universities, and 4 Industrial Partners located across 5 States in the Southeastern Region, California and Texas:
 - Aviation fuel, biobutanol, diesel
 - Woody biomass (southern pine), purpose-grown trees (Arborgen), and switchgrass (Ceres)
 - Bioconversion (Dupont-Genera), thermochemical conversion (Rentech/ClearFuel)

