Energy Title Recommendations for 2007 Farm Bill

Planting for the Future: Crop breeding and Cropping Systems

Sustainable practices for production of biofuel feedstocks are indispensable to the successful development of the United States (US) bioeconomy. The US bioeconomy must be shaped by policies, practices, and actions that secure the nation's ability to sustainably increase the capacity to produce food, feed and fiber on limited arable land while providing feedstocks for biofuel refineries. The economic transition before us is only possible if we enlist the knowledge and support of US certified professionals in agronomy and soils, crop breeders, crop scientists, agronomists, soil scientists, livestock producers, and agricultural economists. **The American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America (ASA/CSSA/SSSA)** are aware of the vast challenges that lie ahead, but are confident that with the application of scientific expertise in the areas of crop breeding, cropping systems development and soil management, the goals of long-term sustainability and increased feedstock production can be reconciled.

The Agricultural Risk Act of 2000 authorized, and the 2002 Farm Bill Energy Title and Energy Policy Act of 2005 further modified, the Biomass Research and Development Act of 2000 which mandated the establishment of a Biomass Research and Development Initiative (BRDI). Objective 3 of BDRI directs managing agencies, USDA and DOE, to ***"develop a diversity of sustainable domestic sources of biomass for conversion to biobased fuels and biobased products"***. This objective has resulted in funded projects focused on biotechnology and molecular genetics of biomass feedstock development. While these areas are important to the progress of the bioeconomy, crop breeding and cropping systems research are fundamental to its success.

It is essential to bridge the gap between fundamental biological discovery and the reliable expression of new traits in the field, with successful incorporation of varieties having these advanced traits into crop rotations and cropping systems. Crop breeding and cropping systems research are the only means of assuring high performance of feedstock crops in the field. This critical research gap must be filled to ensure sustainable biomass production and thus a sustainable bioeconomy. Therefore, the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America recommend the modification of **2002 Farm Bill Energy Title SECTION 9008 (revised by the Energy Policy Act of 2005: SEC. 307. [7 U.S.C. 7624 note]) entitled the "BIOMASS RESEARCH AND DEVELOPMENT INITIATIVE" as follows:**

✓In (a) "IN GENERAL", insert "cooperative agreements" after "competitively awarded grants" and before "contracts", and insert "such as USDA agencies and/or colleges and universities" after "entities" and before "to carry research".

✓Under (b) "OBJECTIVES", add a new (4) "cropping systems and management practices that maintain the capacity of our agricultural lands to continue to produce food, feed, and fiber and dedicated feedstocks for U.S. renewable energy needs, while safeguarding our national soil resource; and"

- ✓Under (b) "OBJECTIVES", add a new (5) "explore new resources for bioenergy."

- ✓Under (c) "PURPOSES", add a new (5) "to ensure sustainable, profitable production of food, feed, and fiber from U.S. agricultural lands while developing innovative cropping and agro-forestry systems that can supply the goal of 1 billion tons of biomass annually by 2030."

- ✓Strike the current section (d) "TECHNICAL AREAS" subsection (1), and insert in its place "the science of sustainable production and harvest of feedstock through the development and breeding of crops and the creation and modification of cropping systems that increase the effectiveness of inputs necessary for plant growth and production--such as light, water, carbon dioxide, plant nutrients, crop protection chemicals, and fuels--needed for the production of raw materials for conversion to biobased fuels and biobased products, including"

- ✓In (d) "TECHNICAL AREAS" subsection (1) (B) after "methods" and before "to achieve" insert "and systems".

- ✓In (d) "TECHNICAL AREAS" subsection (2) insert "crop plants with enhanced characteristics to facilitate conversion and" before "technologies".

- ✓Under (e) "ADDITIONAL CONSIDERATIONS" subsection (2) add "sustainability and" before "the environmental".

- ✓Under (e) "ADDITIONAL CONSIDERATIONS", add a new (4) "to assess the impacts that global demand for and global production of crop inputs, such as fuel and fertilizer, have upon the security of food, fuel, feed, and fiber production in the U.S."

ASA/CSSA/SSSA suggest that these modifications be accompanied by language authorizing appropriations of $40 million per year from 2008 to 2012. These monies will be designated for a dedicated crop breeding and cropping systems program for biofuel feedstocks. This is a portion of the total $200 million per year currently authorized in the Biomass Research and Development Initiative (BRDI) within the Biomass Research and Development Act of 2000 (section 310(b)) (P.L. 106-224, 7 U.S.C. 8101 note), as modified by the Energy Act of 2005.

Finally, we suggest that both a crop scientist and soil scientist be included as members of the Biomass Research and Development Technical Advisory Committee to advise the Biomass Research and Development Board on these critical areas, ensuring that field compatibility of feedstock varieties is among the primary objectives of the BDRI.

Contact Information:

Karl Glasener
Director of Science Policy

Email: Kglasener@agronomy.org

Caron Gala
Science Policy Programs Coordinator

cgala@agronomy.org

900 2nd Street, NE, Suite 205
Washington, DC 20002
Phone: 202-408-5382

www.agronomy.org
www.crops.org
www.soils.org

American Society of Agronomy
Crop Science Society of America
Soil Science Society of America