

February 6, 2009

Cooperative State Research, Education, and Extension Service, USDA
Submitted to Federal eRulemaking Portal

Title: "Institute", CSREES-2008-0004

Re: Department of Agriculture, Cooperative State Research, Education, and Extension Service; Solicitation of Input From Stakeholders on the Establishment of the National Institute of Food and Agriculture at the Department of Agriculture; Notice of public comment period for written stakeholder input [Federal Register: January 2, 2009 (Volume 74, Number 1) Page 70].

Dear CSREES:

The Biotechnology Industry Organization (BIO) appreciates the opportunity to provide input on the establishment of the National Institute of Food and Agriculture (Institute) at the Department of Agriculture (USDA). We understand that all programs and authorities of the Cooperative State Research Education, and Extension Service (CSREES) will transfer to the Institute by October 1, 2009. BIO is the world's largest biotechnology trade association representing more than 1,200 members in the United States and 31 nations. BIO members are involved in the research and development of innovative healthcare, agricultural, industrial, and environmental biotechnology. BIO members are at the forefront of the research, development, and commercialization of biotechnology-derived plants and animals.

BIO supports the Institute and the Agriculture and Food Research Initiative (AFRI) but appropriate implementation is necessary. The intent of Congress was that the Institute, while conducting the functions of CSREES, is to have greater visibility and a clear leadership role, both within and outside of the federal government, for all of food and agricultural research, extension and education. The potential payoffs are enormous for enhancing human health and nutrition; solving food security issues; making progress on major environmental challenges, including climate change; providing alternative energy sources; and supporting the productivity and profitability of farmers and ranchers. In fact, strategic federal investments in food and agricultural Research, Extension and Education (REE) have increased profitability to production agriculture, found solutions for difficult resource conservation and environmental challenges, discovered new uses for U.S. agricultural products, addressed many issues of food safety, and allowed the United States to lead the world in the development of our knowledge of human nutrition.

BIO urges that USDA REE funding be increased. BIO supports the views of the National Coalition for Food and Agricultural Research (N-CFAR) and the Animal Agriculture Coalition (AAC) that increased public funding for food and agricultural REE is needed. BIO supports the need for increased funding for agricultural (plant and animal) biotechnology research, and a balance among competitive grants and intramural funding (the latter conducted by the USDA, Agricultural Research Service). Publicly financed research is a necessary complement to private sector research. Such investments are demonstrated to yield tremendous returns. The USDA Economic Research Service (ERS) September 2007 Economic Brief titled, "Economic Returns of Public Agricultural Research," shows the average social rate of return to public investment in agricultural research is nearly 50 percent. The unparalleled success of the U.S. food and agricultural system is a product in large



part of past investments in food and agricultural research and extension. Because of the research and development funded by these investments, biotechnology-derived crops are a global success and plantings of these crops have been increasing at double-digit rates each year since 1996. The future success of animal biotechnology will likewise depend on a strong foundation in successful research and development.

BIO supports increased funding for AFRI. The Food, Conservation, and Energy Act of 2008 established the AFRI, a new competitive grants program authorized at \$700 million annually for research, education, and extension in support of our nation's food and agricultural systems within the Institute. Adequate funding is critical to implementing AFRI and realizing its potential. Without sufficient research funding, crucial research avenues will go unexplored and research efforts vital to our nation's continued agricultural leadership will be hampered. Current funding levels remain inadequate. As N-CFAR and the AAC have indicated, BIO urges the Administration to embrace a funding action plan that increases funding for AFRI to its fully authorized level as soon as practicable, to provide scientists with the ability to conduct research and America's farmers and ranchers with the tools necessary to solve problems and keep the country competitive.

BIO strongly urges that USDA reinstate AFRI funding for animal biotechnology research. BIO urges that the AFRI make funding available for research on genetic engineering (GE) and cloning of livestock. Funding applications were denied and thus no funding was available for animal biotechnology research in 2008 and 2009 within the CSREES National Research Initiative Competitive Grants Program (NRICGP). The 2008 Request for Proposals for the NRICGP announced that applications whose primary aim is to improve the efficiency in the production of clones or transgenic animals through manipulation of the nucleus would no longer be accepted by the Animal Genome program. However, a key aspect of animal genomic research is using new technologies such as biotechnology for manipulation of gene expression in animals, including RNA interference and transgenesis (USDA, 2007. *Blueprint for USDA Efforts in Agricultural Animal Genomics 2008-2017*). The Blueprint states that "In the long-term, animal genomics efforts will lead to efficient and economical production of human pharmaceutical proteins in animals, and new technologies for manipulation of gene expression in animals (i.e., RNA interference, transgenesis, etc.)." A promising area of research with GE animals is production of tissues or whole organs for xenotransplantation into humans when donor tissues are in short supply and tissues are needed to prolong life. Genetic engineering of animals offers a way to increase the genetic variability available for selection as compared to conventional breeding which is limited in selection to naturally-occurring genetic variation in the general population of animals. BIO agrees that biotechnology approaches for the genetic improvement of livestock have great potential and that the applications listed from the "Blueprint" have compelling benefits.

Genetic engineering of animals has the potential to provide compelling benefits to transform public health, including improved foods, advances for human health, enhanced animal welfare and a reduced environmental impact according to a recent report by Gottlieb and Wheeler (2008; http://www.bio.org/foodag/animals/ge_animal_benefits.pdf). Research on GE animals has increased disease resistance and improved animal well being. Promising applications include GE animals that can knockdown infections caused by important contagious RNA viruses such as foot and mouth disease, classic swine fever, and fowl plague. Improving animal health using GE has an added benefit in that it reduces the need for veterinary interventions and the use of antibiotics and other treatments.

In spite of the potential benefits of GE, many U.S. scientists are abandoning research into the use of GE animals for agricultural applications. Part of the reason is that federal funding for research is meager. USDA, in deleting funding opportunities for research in GE and cloning of livestock, has for two years severely impacted animal biotechnology research programs, particularly in academia, and has hindered the training of future scientists. The U.S. is thus in jeopardy of losing leadership status on GE animals for agricultural applications while other countries, notably China, are investing heavily in this research. The possibility exists that losing this technology to other countries could reduce competitiveness of American animal agriculture. Rather than selecting which technologies should be developed, USDA must go back to the Department's core mission to fund research that will lead to technological advances to make healthier and safer food. BIO urges the Institute to reinstate AFRI funding for GE animals and cloning so that the technology can contribute to the advancements coming from knowledge of animal genomics, as well as the other benefits promised in food quality, animal health, human health, and environment.

BIO requests USDA to increase AFRI funding for plant agricultural biotechnology research. Research areas needing additional funds include human nutrition and food safety, the impacts of environmental stresses on crop productivity, and the development and use of GE specialty crops.

In summary BIO supports the new Institute and AFRI, but a plan must be implemented to increase funding in AFRI to the authorization level. We urge USDA to provide AFRI funding for animal biotechnology research and expand funding for plant biotechnology research. BIO appreciates this opportunity to comment as USDA transitions from CSREES to NIFA and AFRI is implemented. We look forward to further deliberation, and would be pleased to work with the Institute and USDA to provide further input.

Sincerely,



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