Bio
BIOTECHNOLOGY
INDUSTRY ORGANIZATION

May 31, 2009

U. S. Department of Agriculture, Office of the Secretary
Submitted to Federal eRulemaking Portal

Title: ``Roadmap", REE-2009-0001
Re: Department of Agriculture, Office of the Secretary; Solicitation of Input from Stakeholders on the Roadmap for Agricultural Research, Education, and Extension; Research, Education, and Economics Office, U. S. Department of Agriculture; Notice of public comment period for written stakeholder input [Federal Register: April 1, 2009 (Volume 74, Number 61) Page 14767].

Dear Sir:

The Biotechnology Industry Organization (BIO) appreciates the opportunity to provide input on the preparation of a roadmap for agricultural research, education, and extension at the Department of Agriculture (USDA). We understand that the preparation of the Roadmap is mandated by the Food, Conservation, and Energy Act of 2008, and will be used to set the agricultural research, education, and extension agenda of the USDA. 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.

Critical issues facing agriculture, that no USDA entity can address individually, include delivery of human health care, reduction in hunger, and increasing energy supply, all in a sustainable manner with minimal negative impact on the environment. These issues require science-based, cross-cutting and multi-disciplinary solutions. The United Nations (U.N.) predicts world population will exceed 9 billion by mid-century and has called for a 100 percent increase in world food production by 2050[1]. According to the U.N., this doubled food requirement must come from virtually the same land area as today. The U.N. Food and Agriculture Organization (FAO) further states that 70 percent of this additional food must come from the use of new and existing agricultural technologies[2]. Therefore, the need for innovation through new technologies is essential for the future of citizens, communities and natural resources. People worldwide do and will continue to benefit from biotechnology through enhanced quality of life and health, and through more affordable and sustainable supplies of food, feed, fiber, fuel and industrial products. BIO is pleased to provide the following comments addressing key attributes of the Roadmap.

The Roadmap must define USDA as the premiere science-based department that provides solutions for food and agriculture through research, education, and extension. In keeping with President Obama's support for science, BIO encourages the Research, Education, and Extension Office (REEO) to lead the USDA in the establishment of science as the core of the

[1] World Population Prospects: The 2006 Revision. 2007. United Nations Population Division, New York.
[2] World Agriculture: toward 2015/2030. 2002. United Nations Food and Agriculture Organization, Rome. Accessed 12/8/08. <ftp://ftp.fao.org/docrep/fao/004/y3557e/y3557e.pdf>.

Department's mission --the challenges faced by agriculture will be addressed only with sound science. The REEO must have greater visibility and a clear leadership role, both within and outside of the federal government, for all 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 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.

The Roadmap should identify new agricultural technologies as a priority research program area. USDA must abide by the Department's core mission to fund research that will lead to technological advances to make more healthful and safer food. Research and innovation in new agricultural technologies, including plant, animal, and microbial biotechnology, should be a primary platform within the Roadmap, given the dramatic future demands for food, health and energy. Agricultural (crop and animal) and forestry biotechnology is an important contributor to sustainability and is integral to meet world food, feed, bioenergy, and fiber demands, producer needs, and desirable land use patterns. Advances in biotechnology can help producers increase productivity to meet future nutritional, energy and fiber needs while decreasing environmental impacts. Research leading to new technologies will increase competitiveness of American agriculture. BIO supports efforts that strive to produce more using less per unit of production, decreasing pressure on the environment, preserving water, soil, habitat, air quality and decreasing per unit climate emissions and land use. Such efforts will also improve human health through access to safe, nutritious food and improve the social and economic well-being of rural communities. Agricultural and forestry biotechnology contributes to a rural economy that keeps jobs in the areas that need them. BIO supports and encourages public and private initiatives that recognize biotechnology's contributions to sustainable agriculture and forestry.

The Roadmap will not be successful without a dramatic infusion of funding for competitive research programs. BIO supports increased funding for the Agriculture and Food Research Initiative (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 it's 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. 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 give America's farmers and ranchers the tools necessary to meet the challenges of modern agriculture and keep the country competitive.

BIO urges that the AFRI make funding available for research on genetic engineering (GE) and cloning of livestock. Funding applications were denied by the Cooperative State Research, Education, and Extension Service National Research Initiative Competitive Grants Program (NRICGP) in FY 2008 and 2009. 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.)." 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. 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). 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.

Notwithstanding the role of USDA in leading food and agricultural sciences, BIO encourages USDA's Roadmap to identify new and unique coordinated research programs among the federal government, including, for example, the Department of Energy, the National Institutes of Health, and the National Science Foundation. As noted by the National Academy of Sciences[3] and the National Agricultural Biotechnology Council[4], food and agriculture is a full partner in human health. Cutting edge research programs, integrated across departments and through collaborative funding schemes, will leverage scientific expertise and funding toward solving food and agricultural problems. In fact, strategic federal investments in food and agricultural research 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.

In summary BIO supports a Roadmap that emphasizes the need for research on new, science-based agricultural technologies, including plant and animal biotechnology, which provide the means to meet the vast challenges of human health, hunger and energy supply in a sustainable environment. BIO appreciates this opportunity to comment, and we look forward to working with you on this crucial issue.

Sincerely,

Sharon Bomer Lauritsen
Executive Vice President
Food and Agriculture

[3] National Research Council, National Academy of Sciences. 2004. Exploring a Vision: Integrating Knowledge for Food and Health. http://books.nap.edu/openbook.php?record_id=10936&page=R1

[4] National Agricultural Biotechnology Council. 2009. Food and Agricultural Research: Innovation to Transform Human Health. http://nabc.cals.cornell.edu/pubs/AgFood_web.pdf