

Testimony of  
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**FY 2011 Appropriations for the Department of Agriculture,  
Agriculture and Food Research Initiative**

Submitted to the  
**House Committee on Appropriations**  
**Subcommittee on Agriculture**

**Representative Rosa DeLauro, Chair**  
**Representative Jack Kingston, Ranking Member**

**March 19, 2010**

On behalf of the Federation of American Societies for Experimental Biology (FASEB), **we respectfully request the Agriculture and Food Research Initiative (AFRI) at the United States Department of Agriculture be funded at \$500 million in FY 2011.** FASEB strongly believes we must magnify the breadth and competitive nature of the agricultural research portfolio, to ensure the United States' economic vitality and the well-being of all Americans.

As a Federation of 23 scientific societies, FASEB represents more than 90,000 life scientists and engineers, making us the largest coalition of biomedical research associations in the United States. FASEB's mission is to advance health and welfare by promoting progress and education in biological and biomedical sciences, including the research funded by AFRI, through service to its member societies and collaborative advocacy. FASEB enhances the ability of scientists and engineers to improve—through their research—the health, well-being, and productivity of all people.

Greater investment in basic and applied agricultural research is essential as the demands for a safer and more nutritious food supply, cutting-edge biofuels, and a solution to global climate change continue to increase. The Food, Conservation, and Energy Act of 2008 established the National Institute of Food and Agriculture (NIFA), under which AFRI, the nation's premiere, competitive agricultural research program, is housed. AFRI integrates basic research, which provides the seeds from which all scientific and technological advancement will grow, with translational and applied research, which brings these key discoveries to our nation's farms and citizens' daily lives. A report by the Economic Research Service (ERS) found "strong and consistent evidence that investment in agricultural research has yielded high returns per dollar spent," citing mean rates of returns of 53 percent.<sup>1</sup> The opportunities presented by the reorganization of NIFA and AFRI have made this an ideal time to renew our nation's investment in agricultural science. Although last year's appropriation was a significant step forward towards the authorized level of \$700 million, FASEB feels that additional investment is required in order

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<sup>1</sup> Fuglie, KO and Heisey PW. (2007) *Economic returns to public agricultural research*. USDA Economic Research Service, Economic Brief # 10. <http://www.ers.usda.gov/Publications/EB10/>

to maintain the current high level of research output while providing sufficient resources to address the new priorities added to AFRI, by Congress, in the Farm Bill.

Agriculture and the research that advances it remain of crucial importance to our economy and quality of life. Research supported by the USDA contributes to our understanding of the nutrition that underlies our health; it protects human life and our food supply from pandemic disease and introduced pathogens; it allows us to respond quickly to emerging issues like swine flu or foot and mouth disease; and it has led the way in development of bioenergy resources and technologies to address the societal challenge of climate change.

### **HUMAN NUTRITION, HEALTH, AND POLICY**

Nutrition is the foundation upon which human and animal health is built, and whose mysteries fascinate the American people like no other aspect of science. This is perhaps most evident in the daily news stories that discuss the optimal diet required to maximize health or minimize risk of disease. Research has proven the critical role that nutrition plays in a myriad of health conditions, from cancer to heart disease to diabetes, and AFRI is directing renewed efforts to tackle the epidemic of obesity. The USDA is uniquely positioned to conduct nutrition and food-related research because of its integrated perspective on the entire food system, from crop to livestock to food supply to human consumption. No other agency has the capacity to understand the connection between food, the food supply and its production, and the health of our nation.

### **FOOD SECURITY AND SAFETY OF OUR FOOD SUPPLY**

In recent years, greater attention has been paid to food safety and international food security. The research programs of the USDA are at the forefront of developing new technologies to protect our food supply and are discovering new ways to detect and neutralize threats to our crops, livestock, and food products. Research topics range from food-borne illnesses to microbial resistance to food processing safety to biosecurity at our borders. Agricultural research is addressing concerns not only related to our domestic supply of foods, but also those items that we import from international partners. As the U.S. forges new ties and reinforces existing relationships in our increasingly global economy, it becomes even more critically important to ensure that agricultural research is delivering the knowledge to protect our citizens and the foods they eat. In addition, U.S. diplomatic efforts and international relations frequently focus on international food security, particularly in the developing world. Research funded by AFRI is enhancing food quality and value, bringing sustainable solutions to the rest of the world, and opening up new global markets for U.S. producers.

### **BIOENERGY AND CLIMATE CHANGE**

Agricultural and forestry resources are vitally important to both our development of bio-based resources and our ability to address the threat of climate change. Bioenergy has the potential not only to reduce our dependence on foreign oil but also to provide a clean, sustainable fuel source that will mitigate the factors contributing to global climate change. The USDA funds research projects that produce science-based knowledge and technologies supporting the efficient, economical, and environmentally friendly conversion of biomass into value-added industrial

products and biofuels. Furthermore, USDA funded research is responding to the issue of climate change by contributing to our understanding of the causes and effects of this phenomenon and how to best protect our natural resources.

### **RESPONDING TO EMERGING THREATS**

When beekeepers across the country began to report the alarming and mysterious loss of 50-90 percent of bees from their hives, USDA took the lead in mobilizing research resources to find the source of what is now known as Colony Collapse Disorder (CCD). Assisted by the recent completion of the sequencing of the honeybee genome and cutting-edge microarray technology, AFRI is funding strategies to protect our domestic bee supply and improve the long-term viability of U.S. apiculture. This is only one example of how a unique and emerging agricultural threat can swiftly challenge our nation's economy, health or food supply, and can be surmounted through support of scientific discovery. A new outbreak of foot and mouth disease in Europe, the looming specter of swine flu, and the continuing threat of mad cow disease all illustrate the need for the research resources required to address new and emerging pathogens and diseases. Only with an adequately funded agriculture research infrastructure can our nation be prepared to react and rapidly counter threats to our health and food supply.

### **ATTRACTING THE NEXT GENERATION OF AGRICULTURAL SCIENTISTS**

In order to ensure that our agricultural research enterprise remains at the cutting-edge of science and technology, it is critically important that our best and brightest minds are attracted to addressing the key questions in agriculture. Recruiting and retaining scientists in agriculture depends on a robust investment in competitive research funding. Without a stronger commitment to agricultural research, there is danger that talented researchers will turn to opportunities available from other funding sources, to the detriment of our nation's agricultural goals. Moreover, conquering societal challenges related to agriculture, from sustainability of the food supply to global climate change, will require the recruitment of scientists from disciplines not traditionally associated with agriculture, such as mathematicians, engineers, and molecular biologists. To develop the 21<sup>st</sup> century agricultural research workforce, AFRI must become an integral piece of the U.S. vision for science and technology.

### **ADDRESSING ISSUES UNIQUE TO RURAL AMERICA**

The USDA is the only agency whose competitive research program is committed to addressing the unique needs of citizens living in rural areas throughout the nation. By supporting integrated projects focusing on developing sustainable rural communities as well as seeking strategies to revitalize the economic vitality of rural regions, AFRI is funding research that will ultimately bolster our rural workforce, enhance infrastructure access for rural communities, and reduce competitive pressures between production practices and environmental conservation. Furthermore, multidisciplinary approaches involving education, extension, and AFRI-supported research are addressing agroecosystem challenges related to the intensification of farming practices due to increased demands on agricultural yields. These projects will bring feasible, ecologically sound, and economically viable best practices in production management to producers in rural America.

## **THE UNITED STATES IS BEST SERVED THROUGH INVESTMENT IN AGRICULTURAL RESEARCH**

From the basic research supported at universities throughout the nation to the important work carried out by the Human Nutrition Research Centers, USDA research programs deserve to be supported at the highest level possible. As USDA Secretary Tom Vilsack said at the launch of NIFA, “I am asking today for a commitment of will and energy to bring about our generation's new era of agricultural science. I look forward to charting a course together to accelerate the pace of scientific discovery in the agricultural sciences, speed the application of new knowledge to address challenges facing US and global food and agriculture, and translate new knowledge into tangible benefits for the American people and the world.”

**FASEB recommends the Agriculture and Food Research Initiative (AFRI) at the United States Department of Agriculture be funded at \$500 million in FY 2011.**