Funding Basic Agricultural Research

A task force established by the U.S. Department of Agriculture (USDA) has urged that the United States modernize its management and funding of fundamental agricultural research. As its chair, I am delighted that a bipartisan group in Congress has taken the recommendations seriously and introduced legislation to create a National Institute of Food and Agriculture (NIFA) within the USDA. NIFA will manage a new program of competitive, merit-based grants for fundamental agricultural research. We recommended first-year funding of $200 million, to grow, if successful, to $1 billion in 5 years.

The committee members all believe that advances in basic biology applied to agriculture will provide important health, environmental, and economic benefits to the United States and other nations. Increases in land productivity will contribute to preserving natural resources. Increased resistance of plants to drought and disease can help conserve precious supplies of fresh water and ensure more bountiful and predictable harvests, contributing to the global battle against hunger and poverty. Farmers are anxious for value-added products. Microbiological research should improve livestock health and help protect against pandemic transmission of animal-to-human diseases. The development of biofuels should diminish the need for petroleum, a matter of national security for many nations. In September the Bill and Melinda Gates Foundation and the Rockefeller Foundation, recognizing the opportunities, invested heavily in agricultural research programs to spur Africa’s Green Revolution.

The past successes of federally funded agricultural research and education that have provided America and the world with abundant, safe, nutritious, low-cost staple grains at home and around the world do not argue for the status quo. In the past, federal funding for research has been decided by Congress on a regional basis with little or no organized scientific input.

But times change. For more than 30 years, scientific panels have been predicting that important innovations will surely come from a better understanding of the basic biology of plants and animals. The new science needed for seeking such knowledge is neither easily understood by nonspecialists nor specific to regions; drought tolerance, for example, can be studied anywhere. Accordingly, our committee urged that more grants be awarded on the basis of open competition judged for scientific merit. The NIH and the National Science Foundation have shown the way.

Past recommendations of scientific panels in agriculture have gone largely unheeded because traditional forms of research and education remain important and need funding, because Congress has been reluctant to cede some of its decision-making authority to scientists, and because other needs have taken precedence. Meanwhile, criticisms from scientific panels have encouraged those who prepare federal budgets to hold down expenditures. Today the NIH spends nearly $15 on research for every dollar spent by the USDA. The funding for competitive merit-reviewed grants is even more skewed—NIH spending for peer-reviewed research is about $120 for every dollar spent by the USDA.

Fortunately, there is growing recognition among administration officials, members of Congress, production agriculturists, and academics that modern research management and sufficient funds are needed to provide the innovations necessary to address some of our world’s pressing challenges.

There is now hope that this visionary legislation will educate us all on the importance of fundamental research to agriculture and speed legislative action. Next year, Congress is set to write a new Farm Bill. I can think of no greater opportunity to make a wise investment for our farmers and our nation than to support a program of peer-reviewed research aimed at providing the knowledge for the next agricultural revolution.

—William H. Danforth

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* www.ars.usda.gov/SP2UserFiles/Place/00000000/NATIONAL.doc
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