

Basic Research in Agriculture  
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#### Moribund Research

To the Editor,

The FY2001 double-digit increases in federal funding for basic research at NSF and NIH (5 Jan., p. 33) are a welcome development that will have substantial discovery and economic pay-offs in the years to come. It is refreshing to have the Federal Reserve chief, industry pundits, and Congress validate what most scientists know instinctively. But does recognition of basic research as the engine that drives technology and economic growth not apply to agriculture?

USDA's standard competitive grants program for basic research — begun as the National Research Initiative 10 years ago following NRC reports decrying the lack of support for competitive research in the agricultural sciences — has long outgrown its initiative status, yet has been stalled for 9 years at a funding level that can only be described as moribund. While support for competitive basic research programs at NSF and NIH combined have grown in constant dollars by 60% since 1992 (1), the USDA's only competitive grants program for basic research has suffered a 14% decrease in constant dollars since its 1992 appropriation of \$100M.

In the same way that basic research in chemistry and physics has fueled the development of the digital revolution, basic research in agriculture has been a major contributor to advances in plant and animal biotechnology and environmental quality, and thus has been an important contributor to a robust food and fiber industry. An NRC report published last spring (2) noted the high quality of NRI research, its crucial contributions to agricultural productivity and environmental quality, and the more than three dozen studies that have placed the economic rate of return on public investment in food and fiber research at 35-60% per year.

This is a phenomenal rate of return, and diminution of an already modest U.S. investment in basic agricultural research will only exacerbate the difficulty with which U.S. agriculture will meet the increasing demands of global competition. New markets, new products, and environmental protection worthy of the name require new ideas, new approaches, and levels of research funding commensurate with the importance that society places on a safe, productive, and environmentally benign food and fiber production system.

In 30 years — the approximate time it takes basic research in the public sector to reach marketplace maturity — we will have added around 3 billion more people to the planet. Will we have funded the basic research necessary to feed and clothe them?

**G. Philip Robertson**,\* Kellogg Biological Station and Department of Crop and Soil Sciences, Michigan State University, Hickory Corners, MI 49060, USA;

**Peter J. Barry**, Department of Agricultural and Consumer Economics, University of Illinois, Urbana, IL 61801, USA;

**Francis F. Busta**, Department of Food Science and Nutrition, University of Minnesota, St. Paul, MN 55108, USA;

**Robert J. Collier**, Department of Animal Sciences, University of Arizona, Tucson, AZ 85721, USA;

**Noel T. Keen**, Department of Plant Pathology, University of California, Riverside, CA 92521, USA;

**Ronald R. Sederoff**, Department of Forestry, North Carolina State University, Raleigh, NC 27695, USA;

**William W. Simpkins**, Department of Geological and Atmospheric Sciences, Iowa State University, Ames, IA 50010, USA;

**Frederick Stormshak**, Department of Animal Sciences, Oregon State University, Corvallis, OR 97331, USA; and

**Thomas N. Urban**, Former Chairman, Pioneer Hi-Bred International, Inc., Des Moines, IA 50306, USA.

\* To whom correspondence should be addressed. E-mail: robertson@kbs.msu.edu

1. American Association for the Advancement of Science. Historical data on federal R&D, FY 1976-2001. Available at <http://www.aaas.org/spp/dspp/rd/hist01c.pdf>.
2. National Research Council. *National Research Initiative: A Vital Competitive Grants Program in Food, Fiber, and Natural-Resources Research*. (National Academy Press, Washington, D.C., 2000).