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## AGRICULTURAL RESEARCH: SOME WAYS TO IMPROVE ITS BUDGETING PROCESS

In 1776, the Scottish economist Adam Smith wrote, "No complaint is more common than that of a scarcity of money." Those of us deeply involved in agricultural research and technology would certainly agree. Considerations of budgets and funding levels have always been part of our efforts to enrich and improve all aspects of American agriculture.

However, our proven success and continued advancement rest on more than numbers of dollars. One of the important components is the fundamental concept that a strong Federal presence in supporting research and technology is an investment in our nation's future. It has created a unique Federal/State partnership for supporting not only research, but extension education as well. The scientific and technological aspects of U.S. agriculture have helped to make this industry a world leader and a great economic asset to the United States.

The Federal budget for science and technology is developed jointly by the Administration and Congress in an environment of many competing claims which constrain the financial resources available and generate a fierce struggle for Federal dollars. However, beyond the ever-present pinch of the budget numbers are some growing concerns over certain aspects of the budget process itself.

The thrust of Congressional support for agricultural research has generally been laid out in terms of broad goals and needs, with details and program implementation left to the accountable agencies. Within this framework, the peer or merit review process has been central to the evaluation of the scientific and technological merit of the programs and to the all-important task of setting priorities for the allocation of resources.

In addition, the publicly-supported research system has developed a variety of organizational structures—such as the Joint Council on Food and Agricultural Sciences established by the Congress in 1977—to provide national-level forums for priority setting and overall program coordination.

In 1977 when Congress wanted to bolster basic research and expand participation in this area, they also wanted to encourage the merit review process in grants to land-grant colleges. Therefore, they established a *competitive* research grant program at the Department of Agriculture (USDA). Over the years, Congress has always supported this competitive thrust.

This year, however, in a break with tradition, the House and Senate Appropriations Committees have both "earmarked" up to \$10.75 million—some 20 percent—of the FY 1989 budget of USDA's Cooperative State Research Service (CSRS) for specific "research" projects.

The background of this increased use of Congressional spending bills to fund academic science projects at specific sites is discussed at length in an excellent article by Lois Ember in the July 18 issue of Chemical and Engineering News. Obviously, Congress has the responsibility to allocate funds and to establish program priorities for their use. However, there are important differences between Congress appropriating funds for broad categories of research and their designating precisely where the money is to be spent.

This shift toward earmarking is disturbing and full of possible implications. First of all, such a change compromises the long-held principle of peer/merit review. It poses a threat to the future of the competitive research grants program and the foundation it provides for basic research in agriculture. Furthermore, it opens a Pandora's box of individual states each loudly lobbying Congress for what the *Wall Street Journal* has called "academic pork".

With no overall assessment of needs, coordination of efforts, or cohesiveness of approach, the resulting situation might prove the old adage that it's the squeaky wheel that gets the grease. And we'd be back to the same old complaint of the haves and the have-nots. This is an argument which must be put to rest. Clearly, good research program ideas come from many sources and institutions—large and small, renowned or developing. Each must be treated equally and impartially in examining the merit of its proposal within the context of a national direction.

The earmarking of funds has already led to a second disturbing trend in research funding in regard to the building of facilities. Because of Congressional decisions, USDA is in the building business. We build international trade centers, libraries for private colleges, biotechnology centers—and the list goes on.

While this started as a fairly modest budget item, we are now funding more than \$50 million annually in such projects. Furthermore, once the facilities are in place, they are sometimes underutilized because there is insufficient operating money and no funds are available to staff or maintain them.

Though some of these projects do reflect a national need, we believe that the Administration and Congress must devise a system to assure that such construction projects are chosen in a more organized way and reflect the national priorities and need of American agriculture.

We are working closely with our colleagues at the National Association of State Universities and Land-Grant Colleges to develop a process of identifying high priority agricultural research facility needs at land-grant universities.

This brings me to my third research funding concern—the challenge to the total agricultural research system to coordinate our actions ourselves.

For example, the desire of each state or university to be a major player in the latest scientific game is understandable, but as a consequence, limited funding is often spread too thin to be effective.

The result is several smaller facilities, each not quite possessing the degree of sophistication which would truly enable it to help the United States to compete worldwide or to solve some of our national issues. While leaving the states a maximum degree of research autonomy, some priority in the use of national money must be given to overall national needs. This can also help assure that no basic research areas get lost in the shuffle.

Our responses to national priority issues such as water quality, ozone, or acid rain are strengthened when Federal and state entities—and parts within the Federal system—work together. Many problems are so vast and complex in their scope that viable research must be focused across discipline and organization lines.

Making our vast decentralized agricultural research system work to its fullest capacity requires a high level of institutional coordination. This is our problem, and we must face it. USDA/university cooperation is in the national interest and is part of our scientific and patriotic responsibility.

Over a hundred years after Adam Smith wrote about money, Lord Byron penned these words on the subject: "They say that knowledge is power. I used to think so, but I now know that they meant money." It is a cold hard fact that in the real world, money is often the crucial component of the acquisition of knowledge.

Given that our fiscal resources are always finite, we in agricultural research must make sure that the budget process we use to distribute them is efficient and equitable. If we are to continue to advance the future of American agriculture, we must maintain a system that involves reasoned peer review, realistic needs assessment, and responsible coordination of efforts.

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