

The Case for Formula Funds in the USDA And Land-Grant University Partnership

Formula funds for Agricultural Research and Cooperative Extension (Hatch, Smith-Lever, McIntire Stennis, and Animal Health and Disease (Sec. 1344), as we presently know them, are at risk. The President's budget for FY06 proposed significant redirections of research formula (base) funds. This proposal conveys the funding decision process to USDA by converting to competitive grants, thereby jeopardizing the world's most productive and successful agricultural research system. Furthermore, the action raises concern about the future of formula funds for Cooperative Extension, the world's most effective outreach education system, and damages the longstanding partnership established by Congressional action between USDA and the land-grant universities.

This development is perceived as a desire by USDA to take greater control of formula funds, although USDA contends that funds distributed by formula are a concern to Congress. This seems a very weak argument, given the significant number of programs in numerous federal departments and agencies that distribute funds by some manner of formula, e.g., block grants.

It is likely the Administration at a number of levels has failed to recognize the impacts and leverage achieved with the formula funding mechanism over the years. While the State Experiment Station and Cooperative Extension Service within our land-grant universities have articulated a strong program for meeting local needs (maintaining relevancy) when coupled with state appropriated matches, the federal partner has been unwilling to articulate a similar message, particularly to Congress. There are few other federal programs where limited funds are leveraged five to six times annually over a period of decades, in this case to yield ongoing positive impacts on the nation's food and fiber system.

What is the implied basis for changing a long-time, successful funding mechanism? The Administration, through USDA, argues that, "*The best science results from externally funded competitive programs.*" There is little hard evidence to support this statement and in fact, there is much evidence for renouncing such an unsubstantiated pronouncement. For example, Huffman and Evenson in their paper, "*New Economic Evidence on Agricultural Total Factor Productivity Determinants: Impact of Funding Compositions,*" October 2004, observed that as increases occur in the share of State Agricultural Experiment Station funding from federal contracts, grants, and cooperative agreements, the impact of public sector agricultural research on state agricultural productivity declines. More recent studies of programs at 120 public and private universities over a period of about 20 years indicate that the growing push for external competitive funding is contributing to a reduction in faculty productivity.

A move from formula funds to competitive grant allocations of USDA funds for research and outreach has enormous economic consequences for land-grant universities, their individual faculty and staff, and state and national constituents. Formula funds have been allocated to land-grant university systems over the years with a minimum of transaction

costs. Annual plans of work and annual reports ensure accountability without overburdening research and extension faculty, who can focus most of their creativity on basic or translational research and the application of knowledge discoveries throughout the economy. Formula funds are not assessed fiscal and administrative charges by the receiving university, and the USDA transaction costs to administer formula funds also are low. Consequently, most of the funding appropriated by Congress goes directly into food and fiber system research or outreach programs.

Such is not the case when funds are allocated through competitive grants. Faculty who are research leaders must devote a significant percentage of their creativity in developing and orchestrating proposals to submit to the competitive grants process—with no assurance of success. This is time away from performing activities that support the better good of research and education users. For the most part, a competitive grant is just a short-term contract (2-4 years), and a sizeable portion of the grant award (up to 40-50% for research) comes off the top to cover facilities and administrative expenses at the university—money to cover the grant-seeking and writing overhead costs incurred by these competitive programs. In short, considering the opportunity cost of faculty and staff time in developing major grant proposals, the significant overhead costs associated with the grants once obtained, and employee training and turnover costs associated with fluctuating competitive grant revenues, the transaction costs of competitive grants are significantly higher than those of formula funds and the process is likely inefficient.

It is difficult to quantify all the costs and the value of missed opportunities that occur when formula funding replaces competitive grants. Formula funding allows land-grant university system administrators to work with national, state, and local clientele to establish priorities and address emerging opportunities related to agricultural systems research and educational outreach programs. Competitive grant review panels tend to focus on the ‘new’ knowledge in place and de-emphasize relevancy to state or regional issues. ‘Base’ funding, on the other hand, gives land-grant university systems, through state and local cost-sharing, the ability to attract permanent research and extension faculty at the state, regional, and local level to address current *and* emerging needs. Several major breakthrough discoveries of the past century were accomplished by permanent faculty, e.g., the discovery of hybrid corn, penicillin, recombinant DNA, etc. In other words, it takes human and programmatic infrastructure in place to respond rapidly to crises or emerging needs, and to make significant discoveries.

Science in the 21st century is a high-risk enterprise, and most competitive grant funding processes inherently have too much risk aversion to support high-risk ventures. Lastly, policy makers must understand and communicate that a contract, via a grant, cannot be written for DISCOVERY. Simply put, no one, not a review committee, a government administrator, a bureaucrat, nor the scientists themselves know what will be discovered by working for an extended period on a topic or problem with adequate and continuing resources. The funding provided via Hatch, Smith-Lever, and other federal formula funds are really the *base* or *foundation* of our agricultural research and educational outreach system that, in partnership with the states, allows scientists to make scientific discoveries that contribute significantly to our way of life and well-being.

Thus, the notion that competitive grants are the “only way” to fund research on the cutting edge must be challenged. Competitive funding and cooperative agreements certainly have their place in the portfolio of funding sources for some research and educational outreach projects. For example, when scientists have established reputations, then external competitive grant sources of research, such as National Science Foundation and National Institutes of Health, can support marginal advances in specific areas. However, it is the current support for research and education outreach programs that consistently sustains this nation’s agricultural and food industries and improves productivity to keep the nation’s food and fiber system globally competitive.

Before proceeding with any plan to eliminate or move the current base (formula) funds to competitive programs, USDA should make sure it does not impede needed or longstanding programs of university partners that depend upon the current funding base. Additionally, it is critical to analyze the impacts of formula funds, coupled with state and local funds, on national agricultural productivity before attempting to change a system envied worldwide—a system of research and outreach education by U.S. land-grant universities—that provides the platform for achieving an unparalleled food and fiber system. Clearly, this evaluation needs to be done by current USDA leadership.

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