

State Funding Issues: An Overview

Thomas A. Fretz

Executive Director, NERA

and

H. Michael Harrington

Executive Director, WAAESD

The President's '06 Budget Proposal

- Hatch (agriculture research) formula funding would be reduced by 50% in F.Y. 2006 and *eliminated* in F.Y. 2007.
- McIntire-Stennis (forestry research) formula funding would be reduced by 50% in F.Y. 2006 and *eliminated* in F.Y. 2007.
- Animal Health and Disease (Sec. 1433) formula funding would be *eliminated* in F.Y. 2006.

Financial Impacts of the President's '06 Budget Proposal

(millions)

Region	Hatch	McIntire -Stennis	Animal Health- Disease	Total Federal	State Funding Leveraged*
Northeast	29.4	2.7	0.368	32.5	83.36
North Central	50.2	3.2	0.981	54.5	310.8
Southern	53.7	6.8	1.09	61.7	363.8
Western	30.2	4.3	1.02	35.6	275.6

* estimated

Impacts on Personnel

Region	Faculty	Staff	Others	Total	Graduate Students
Northeast	201	335	141	667	406
North Central	203	363	175	741	606
Southern	591	354	245	1190	546
Western	213	152	145	510	450
Total	1208	1204	706	3108	2008

* estimated

Impacts on Research Programs

- Loss of several *hundred* research programs/projects
- Loss of multidisciplinary teams and efforts
- Elimination of the Multistate Research Program and many other multistate integrated activities
- Reduced capacity of respond to emerging issues

Impacts on Infrastructure

- Numerous field stations and farms will be closed
 - Once closed the losses become permanent
- Loss of long-range field sites
- Loss of research animals
- Reduction in travel, operating services, supplies, and equipment funds
- Reduction and/or elimination of analytical laboratory services

Impact on State Leverage

- Formula funds would no longer be available to leverage state and private funds
- Elimination of local competitive grant programs
- Fewer funds would be available to meet future cost share requirements

Long-term Impacts not Replaced with Competitive Grants

- Significant losses in current human capital
- Significant losses in the training of future scientists, resulting in critical shortages in several scientific disciplines
- Loss in the capacity to acquire and maintain expensive research equipment would be significantly impacted

Long-term Impacts not Replaced with Competitive Grants

- Teams that have been successful in leveraging funds from grants and producer groups may be curtailed, if the full compliment of members is no longer available
- Without federal formal funds that require the state match, the state and/or university may no longer feel obligated to provide current levels of support to the SAES and may choose to reallocate funds

Impacts on Educational Programs

- Severe impacts on instructional programs
- Potential program eliminations
- Loss of faculty who hold joint research-teaching appointments
- Recent gains in minority faculty recruitment would be lost
- Robust undergraduate and graduate programs will be significantly curtailed
- Inability to recruit top flight graduate students
- Losses in graduate student support would significantly impact the research mission of our colleges

Impacts on Extension Programs

- Severe impacts to extension programs through loss of faculty who hold joint research-extension appointments
- Reduced ability to move research out of laboratories and test plots into the hands of producers and stakeholders
- Current efforts to increase integrated programs would likely be curtailed significantly

Will this happen?

“...it just isn't going to happen”

Rep. Tom Latham (R-IA)

Science Quality – Grants vs. Formula

- If we compare the value and return from science in two large sectors of society – Agriculture and Medicine, what can we learn
 - Americans pay a *higher* percentage of their GDP for health care products and services than any other developed nation
 - Americans pay a *lower percentage* of their GDP for food and fiber products and services than any other developed nation
- Why is this?

Why?

- It (may?) relate to the decision-making process that impacts funding
 - Medical sciences are highly evolved, scientific-merit focused, curiosity-driven, largely federally financed competitive grants to universities
 - Conversely, Agricultural research is largely formula funded, curiosity and relevancy-driven, with highly consultative processes involving state, county, federal , university and agribusiness interests

What are the differences?

- Medical research has focused on understanding disease in humans and using this knowledge to help individuals recover
- Agricultural research has focused on understanding how crops grow and using this knowledge to feed a growing population

Comparative Analysis of Agriculture and Medicine

AGRICULTURE

- 9% of US Domestic economy
- Formula based, curiosity and relevancy-driven but administratively focused with state, county, federal, university, agribusiness partnerships for making funding decisions
- Large regional differences

MEDICINE

- 14% of the US Domestic economy
- Competitive, merit review, curiosity driven, largely federal financed and operated, competitive system for making funding decisions
- Substantial diversity in ethnic, racial, social, economic and lifestyles of patients

Comparative Analysis of Agriculture and Medicine - Focus

AGRICULTURE

- Outreach and extension activities to producers and consumers
- Maximizing production of marketable products
- Optimizing economic benefits and minimizing costs
- Education a well-qualified but largely non-licensed population of professionals

MEDICINE

- Maximizing quality in the biomedical sciences
- Sustaining human life through prevention, diagnosis and treatment of disease
- Education a well-qualified corps of licensed physicians and certified health professionals

Comparative Analysis of Agriculture and Medicine - Outcomes

AGRICULTURE

- Very good (High) quality agricultural research
- Feeding, clothing, and sheltering a large, diverse and growing population
- Lower per capita cost than in any developed nation

MEDICINE

- High quality biomedical research
- Highest quality of disease-diagnostic services in the world
- Higher per capita cost
- Less than desirable general availability of medical services compared with many other developed nations

Lessons Learned

- Competitive merit-review mechanisms for decisions about scientific research contributes to quality in both agricultural and biomedical sciences
- Comparative merit review mechanisms for funding scientific research provide little assurance that an optimal value-return will be derived by society from that investment

Lessons Learned

- Returns are reaped only when discoveries are transformed into useful, robust, cost-effective, and readily available practices, products and services
- Agriculture can learn from the medical sciences and invest a greater proportion of its research funds in competitive grants that are open to all creative minds

Lessons Learned

- Medicine can learn from agriculture by giving increased attention to educating citizens about the consequences of healthy lifestyle choices and by minimizing costs and optimizing social and economic benefits to individuals and society as a whole

Formula vs. Competitive Grant Systems of Decision-Making

“The productivity of agricultural research judging from historical rates of return has been high. This places a heavy burden on those who would argue for the shift of resources from institutional to project support to demonstrate that such a shift would either enhance the productivity or the existing level of research support or draw substantial new resources into the agricultural research system”

Bredahl, Brant and Ruttan. 1980. Amer. J. Ag.Econ. 62:371-383

Another Point of View!

“A mixture of both formula funding to provide reasonable stability, especially to long-term experimentation, must be coupled with the flexibility to pursue imaginative ideas (that) require a renewed investment. Greater firmness in administering formula funds and longer time frames for competitive grants would do much to increase the value of both systems”

... Krugman and Cowling, 1983

What's the Bottom Line?

- Increased funding for competitive programs is required
- Simply recasting the current formula funds into another competitive grants program is not the answer
- Our strength and the quality of agricultural research, outreach, academic programs and the resulting quality of life is the result of a blended portfolio of funding