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1984

AGRICULTURAL ECONOMICS REPRESENTATION IN THE
COOPERATIVE STATE RESEARCH SERVICE (CSRS)

The Report of an
Ad Hoc Committee of the
American Agricultural Economics Association.
Neil E. Harl, President (Iowa)

June 1984

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- Joseph C. Purcell, University of Georgia
- Leroy F. Rogers, Washington State University
- Jerry G. West, University of Missouri

U.S. Dept. of Agriculture

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EXECUTIVE SUMMARY

In November of 1982 AAEA President Leo Polopolus named an Ad Hoc Committee to focus on the role of agricultural economics in CSRS and ESCOP and "...to assess the situation and present the AAEA Board with a plan of action which will serve the best interests of the profession". The Committee has responded to this charge by an intensive study of agricultural economics representation in CSRS and the implications to the profession. This report represents the findings and recommendations of the Ad Hoc Committee.

The legislative and administrative history of CSRS reveals that many of the functions and responsibilities of the agency have remained the same over nearly a century. As early as 1894 the agency (as the Office of Experiment Stations) assumed responsibility for fiscal accountability, research coordination, establishment of research priorities, and advice to the state experiment stations. The 1977 Food and Agricultural Act created two new advisory entities to the research and extension establishments and placed emphasis on competitive and special grants as a means of addressing high priority research needs. The two advisory entities were called the "Joint Council on Food and Agricultural Sciences" and "The National Agricultural Research and Extension Users Advisory Board". Both of these groups became involved in planning, coordinating, reviewing, and assessing both research accomplishments and research needs.

It appears that CSRS and its scientists are now less involved in the review of research (both proposed and in progress) and more involved with planning, coordination, and the budgetary process at the national level. As priorities are established and funding levels determined, such roles became critical to disciplines such as agricultural economics. The rationale underlying research budgets is usually developed by ESCOP based on internal program justifications and prioritizations provided by CSRS administration and scientist staff. While economic issues and problems have dominated American agricultural concerns in the 1980's, no references are made to policy related thrusts in the ESCOP budget increases requested for FY 85 (with the possible exception of "International Markets -- Analysis and Projections").

Agricultural economics staffing in CSRS has declined from a total of seven full-time professionals in 1965-66 to less than two in 1984. No other program area experienced reductions approaching this magnitude. Clearly, the agricultural economics workload precludes effective performance of the responsibilities of CSRS to scientists in agricultural economics and to national needs. Lacking a critical mass of disciplinary support and access to CSRS administrators, agricultural economics cannot be adequately represented in the research prioritization and budget formation processes. As mentioned earlier, the lack of correspondence between the publicly perceived needs for economics and policy research in agriculture and the internally developed priorities and budget thrusts may well result from the meager representation of agricultural economics in the internal processes of ESCOP and CSRS.

The Committee has developed a set of recommendations that, if implemented, will help to create conditions in CSRS that will enhance the

contributions of agricultural economics research to solution of state, national, and international problems in the food and fiber system. These conditions relate to organizational structure, internal management, and resource allocation.

These recommendations are as follows:

1. Create a separate social sciences organizational unit in CSRS with a program coordinator reporting directly to the CSRS Administrator. (Included in the social sciences would be agricultural economics and rural sociology. Agricultural economics is defined as encompassing resource economics, and the economics of non-metropolitan communities as well as the traditional areas of food and fiber production, marketing, and policy economics.
2. Provide proportional staffing and resource support for agricultural economics in relation to workloads.
3. The feasibility and desirability of locating the agricultural economics staff in closer proximity to Extension or ERS staff should be studied.
4. An Agricultural Economics Advisory Committee should be formed.

The Committee believes that implementation of the recommendations as detailed in the report will begin the process of improving the presence of agricultural economics in the priority setting and budgetary processes.

I. INTRODUCTION

A. Background

In the Summer of 1982 it became apparent that changes in the Cooperative State Research Service of the U.S. Department of Agriculture would result in the reduction of professional staffing in agricultural economics and rural sociology to single positions. This compared with the situation a decade earlier when there were six permanent professional staff in these areas. At the same time (1982) animal sciences and plant sciences were represented by 8 and 14 professionals, respectively.

Prior to the 1982 Annual Meeting of the AAEA, then President Edward Schuh and the Directors of the AAEA were presented with a brief statement titled "University Agricultural Economics Representation at the National Level -- Current Status and Prospective Strategies" prepared by Robert L. Christensen with the assistance of Roland R. Robinson. This statement outlined the status of agricultural economics within CSRS and the implications of that situation as it affects support for agricultural economics research. The lack of adequate representation within the agency for our profession means that not only is it difficult to perform the responsibilities in research leadership but it is also (by simple weight of numbers) difficult to represent our disciplinary interests in the CSRS and ESCOP budgetary process. Our profession needs to assert a presence, through participation and effective representation of economic research, in program prioritization and budget formation process that affects Hatch, Regional Research, and Competitive and Special Grants funding.

B. Formation of the Ad Hoc Committee

In November of 1982 AAEA President Leo Polopolus named an Ad Hoc Committee to focus on the role of agricultural economics in CSRS and ESCOP and "...to assess the situation and present the AAEA Board with a plan of action which will serve the best interests of the profession". In the Fall of 1983 AAEA President Neil Harl extended the appointment of the Committee in anticipation of completion of its charge in early 1984.

Over a period of 15 months the Committee has engaged in considerable correspondence and numerous telephone conversations. In the interim, Leo Polopolus informed the then Administrator of CSRS Walter I. Thomas of the appointment of the Ad Hoc Committee and of its purposes. In September of 1983, Neil Harl communicated with the new Administrator J. Patrick Jordan to make him aware of the Ad Hoc Committee and to submit a recommendation to CSRS that "...a social sciences disciplinary unit be created within CSRS and supported with staff resources commensurate with relative disciplinary and program responsibilities". Further, "social sciences" means both agricultural economics and rural sociology and agricultural economics is viewed as encompassing resource economics and the economics of non-metropolitan communities as well as the traditional areas of food and fiber production, marketing, and policy economics. Dr. Jordan was also apprised of the anticipated production of this report.

C. Objectives

The Ad Hoc Committee acted within the framework of a set of objectives. These were:

1. To document changes in CSRS including relative staffing by discipline and workload and the implications of these changes.
2. To examine trends in the level and type of funding for agricultural economics research and to identify causes and effects of these trends.
3. To analyze research institutions and the support base for agricultural economics research so as to better understand ways of enhancing the disciplinary presence of agricultural economics in the budget formation process.
4. To discuss and identify appropriate organizational and staffing structures in order to best serve agricultural economics researchers at the State Agricultural Experiment Stations.
5. To incorporate the findings of (1) through (4) above in a report to be submitted to the AAEA Executive Board and to the Administration of CSRS.

D. Organization of the Report

The report has several sections. Part II will describe the origins of the CSRS, its administrative functions in regard to the State Agricultural Experiment Stations, Hatch, Regional, Competitive and Special Grants funding, functional responsibilities, and organizational components and staffing.

Part III describes the research funding process in CSRS. Included are the roles of ESCOP and external advisory groups, the internal budget development process in CSRS in defining priorities and program thrusts, and the implications to disciplinary interests.

Part IV documents the status of agricultural economics in CSRS including the historical staffing situation, agricultural economics research (in terms of scientists, projects, and funding) relative to other disciplines, and representation in CSRS of agricultural economics relative to other disciplines. In addition, disciplinary staffing will be viewed in light of internal budgetary processes and persuasive influences in prioritization and definition of special needs

Part V will summarize the findings of Parts II through IV and presents the recommendations of the Committee.

An Appendix to the report traces some of the recent trends in research funding support administered by CSRS and, more specifically, funding for agricultural economics research.

II. THE COOPERATIVE STATE RESEARCH SERVICE — ORIGINS AND FUNCTIONS

The Cooperative State Research Service (CSRS) is the USDA agency responsible for the administration of federal funds appropriated to support agricultural research. While the entity involved has had different names and its organizational relationship to other units in the USDA has varied, many of the functions and responsibilities have remained the same over nearly a century. The designations and locations within the USDA have been as follows:

- 1888-1955 — Office of Experiment Stations (a separate organizational unit within the Department)
- 1955-1961 — State Experiment Stations Division (a part of the Agricultural Research Service)
- 1961-1963 — Cooperative State Experiment Station Service (a separate unit with service status within the Department)
- 1963-1978 — Cooperative State Research Service (continuing to function as an autonomous unit in the USDA)
- 1978-1982 — Science and Education Administration/Cooperative Research (a subdivision of the Science and Education Administration)
- 1982-present — Cooperative State Research Service (a separate unit with service status)

Emphasis on the cooperative relationship between the federal government, the states, and the land grant colleges has existed since passage of the Hatch Act. As stated by a representative of the Office of Experiment Stations in 1925, "It (the Hatch Act) was recognition of a joint responsibility in developing the industry of agriculture on a high stage of efficiency, and it was a new expression of what the general government may do under the Constitution for the promotion of public welfare" (Allen).

Legislative Origins

Congress has provided an expanding financial base for this cooperative research effort through time. Legislation and subsequent appropriation bills have provided the funds necessary to stimulate additional research and also provided guidelines to be followed in the administration and use of such funds.

For the first six years after the passage of the Hatch Act the Office of Experiment Stations merely collected and diffused information regarding agricultural experiment stations at home and abroad (True, p. 132). Beginning in 1894 appropriation bills for the experiment stations directed the Secretary of Agriculture to "prescribe the form of annual financial statement" required by the Act and to "ascertain whether the expenditures under the appropriation

hereby made are in accordance with the provisions of the said act and make report thereon to Congress" (True, p. 132). Thus the Office of Experiment Stations assumed responsibility for assuring fiscal accountability as well as coordination, establishing priorities, and providing advice to the stations.

The Agricultural Marketing Act of 1946 specified that 20 percent of the appropriated funds were to be used for marketing research. Subsequent acts such as the Competitive, Special, and Facilities Research Grants Act and the Rural Development Act of 1972 have contained similar restrictions on the topics for which research funding was authorized. These stipulations with respect to subject matter provided a new role — that of defining the area involved and determining if specific research activities were consistent with the definition.

Title XIV of the Food and Agricultural Act of 1977 was titled "National Agricultural Research, Extension, and Teaching Policy Act of 1977". The act stressed the need to expand agricultural research and extension but also emphasized the need to address specific high priority issues.

Two new entities were created at the federal level. First, a Joint Council on Food and Agricultural Sciences was established composed essentially of the producers of agricultural research and extension services. Secondly, a National Agricultural Research and Extension Users Advisory Board was established composed primarily of the users of agricultural research and extension services. The Users Advisory Board was assigned responsibility for reviewing and assessing agricultural research and extension activities and making recommendations as to allocations of responsibilities and levels of funding among federally supported agricultural research and extension programs.

The gains to be realized from the efforts of these new entities at the federal level are not yet clear. It is obvious that coordination is necessary to prevent excessive duplication and perhaps to minimize the stagnation and provincialism which may result from a highly decentralized system. While some think that it is possible to optimize the output from the system by joint planning and establishing research and educational priorities, others think such expectations are unrealistic (Castle, pp. 51-52).

A second major thrust of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 was its emphasis on competitive and special grants. The act stressed the need for grants to address high priority research needs and also authorized grants in specific areas.

Of all the legislation passed in recent years of relevance to the Cooperative State Research Service, the Food and Agricultural Act of 1977 probably had the greatest significance. Not only did it include new institutions to be involved in planning, coordinating, reviewing, and assessing agricultural research, but it also emphasized the use of grants to assure the conduct of research in specific areas.

Relation to State Agricultural Experiment Station Research

The legislation authorizing both the land grant universities and the U.S. Department of Agriculture was passed the same year. The resulting research relationship has not been without tension. At issue has been the extent to which agricultural research and extension should be centrally planned as opposed to decentralization where scientists and educators working in close proximity to the users would make the critical decisions on what is to be done.

During the early years, the personnel in the Office of Experiment Stations were quite sympathetic with the viewpoints of station spokesmen. In fact, it is said that "from the moment it was established in 1888, that office carefully refrained from taking any action which the members of the Association could consider authoritarian, despite the directive power inherent in the provisions of federal legislation" (Cooperative State Experiment Station Service, p. 111).

A threat to the autonomy of the experiment stations arose in 1921. On this occasion, Dr. J. H. Webber, a former director of the California station, recommended "that each experiment station become a state bureau of the United States Department of Agriculture with the director of the station its head and too that the experiment station director plan and direct all experimental agricultural work conducted in the state, in consultation with and reporting directly to the Secretary of Agriculture and the Dean of the state College of Agriculture" (Cooperative State Experiment Station Service, p. 116). After much deliberation, the Experiment Station Committee on Organization and Policy (ESCOP) reiterated its faith in the principle of cooperation and coordination between the federal department and the stations but argued for administrative autonomy of the research units:

Throughout most of its history, the Cooperative State Research Service and its predecessor agencies have worked very closely with ESCOP and the land grant universities in resolving these issues. While having the responsibility for administering the federal funds to the experiment stations, the agency has also often found itself serving as an advocate for the experiment stations in the Department of Agriculture, in the Congress, and with the remainder of the Executive Branch. Creation of new entities at the federal level, mandated by the 1977 Agricultural Act, to plan and coordinate research along with the increased emphasis on competitive grants could well imply more federal control over research priorities and the funding of research in the experiment stations.

Administration of Federal Funds

The role of the Cooperative State Research Service varies considerably depending upon the type of federal funds being administered. While additional funding has been provided under the various acts in later decades, the procedure for administering formula funds has remained essentially the same. The Cooperative State Research Service and its predecessor agencies are

involved in review of experiment station research programs, prior approval of individual projects, review of progress or accomplishments, and certification of proper use of funds. While some of the later acts such as the Research and Marketing Act did restrict funding to particular areas, choices as to areas of emphasis and specific research topics were left to the experiment stations.

Two important changes have occurred in recent years. The first was passage of the amended Hatch Act of 1955 which essentially served as a consolidation act to reduce the number of different operating funds from six to two (Cooperative State Experiment Station Service, p. 172). The second change occurred during the late 1970's when the procedure for review of project proposals was changed from the Cooperative State Research Service to peer review panels within the individual stations. This latter change was necessitated by the large number of projects in existence at the stations, approximately 24,000 in 1981 (Science and Education Administration, p. 12), and the burdensome responsibility of review imposed on a relatively small Cooperative State Research Service staff.

The Cooperative State Research Service has attempted to facilitate regional research by assisting the technical committees in their development of projects and in clearing the necessary administrative hurdles on the way to approval. Actually, it was the experiment station directors who became much more involved in the administration of these projects since the proposed projects had to clear a committee of regional administrators as well as the "Committee of Nine" which involved experiment station directors throughout the country. There are currently approximately 200 regional and interregional research committees and the Cooperative State Research Service assigns a staff representative to each of the committees (Science and Education Administration, p. 7).

As indicated earlier, the competitive and special grants research funds involve the most significant change in administrative responsibilities of the Cooperative State Research Service. Public Law 89-106 stated, "To the greatest extent possible the Secretary shall allocate these funds to high priority research taking into consideration, when available, the determinations made by the Joint Council on Food and Agricultural Sciences identifying high priority research areas " (United States Congress, p. 35). It is significant that to this date none of the research areas identified for competitive grants funding have related to agricultural economics or rural sociology.

Functional Responsibilities

A memorandum from R. L. Lovvorn (former administrator of CSRS) to Assistant Secretary Long, dated July 1, 1973, described in some detail the functions of the Cooperative State Research Service. His description of the functions was as follows:

"The principal functions of CSRS are: review and approval of proposals for research of the cooperating

institutions; review and evaluation of progress and accomplishments; participation in planning and coordination of research between and among the States and between the States and USDA research agencies; participation in comprehensive and special reviews and evaluation of research at the cooperating institutions; participation in the long-range planning of research policy and programs on a regional and national basis; stimulating research productivity and the development of centers of excellence in each State and regionally by the States; advising and assisting the cooperating institutions in research management and the dissemination of research information; advising and assisting the agencies of the Department in developing and maintaining optimum working relationships with the cooperating institutions for more effective research and education; providing advice and assistance to other executive agencies, the Congress and industry and other organizations with respect to the programs of research in the cooperating institutions" (Robinson, p. 21).

This description of the functions of the administrative agency is rather complete. However, the relative importance of the various functions has changed somewhat over time. For example, the agency is no longer quite as involved in the review and approval of proposals with the development of peer review processes in each of the stations. On the other hand, the agency is perhaps more involved in planning and coordination with the increased importance of competitive and special grants. Another function of the agency which has become more important in recent years is that of developing the necessary information for the budgetary process (Bayley, pp. 225-226). This includes an inventory of the research underway by field of science and by commodity or product categories. With the creation of the Joint Council on Food and Agricultural Sciences and the Users Advisory Board, the Cooperative State Research Service must work with these entities in its review and evaluation of research underway, development of new areas of high priority research, and in suggesting changes in level of funding.

Organizational Components in Staffing

A reorganization of the Cooperative State Research Service in 1983 created two major divisions with respect to areas of science. One includes natural resources, food and social sciences, while the second includes plant and animal sciences. This represents a change from four groups which had existed for several years and which included plant sciences, natural resources, animal sciences, and a more general group of human nutrition, food, and social sciences. While some of the changes in organization no doubt represent efforts to improve administrative efficiency, they also represent changes in emphasis among disciplines over time.

In an earlier period, a social science unit existed made up simply of agricultural economics and rural sociology. The staffing, visibility, and influence of agricultural economists and rural sociologists has obviously diminished over time. This raises some important issues at a time when more decisions are being made at the federal level with respect to areas of research and the relative levels of funding.

Summary

CSRS is a unique Federal agency. It has a long tradition of strong precedence of joint Federal-State administration and management. The Experiment Station Committee on Policy (ESCOP), made up of Station and University administrators, participates in the formulation of policy and development of administrative guidelines by which CSRS administers the provisions of the Hatch Act. The Committee of Nine, also made up of Station administrators, not only participates in the formulation of policy and the development of guidelines for the administration of the Regional Research Program, it is actively involved in the management of these programs. For example, evaluations and recommendations for approval of regional research proposals prepared by CSRS specialists are acted on by the Committee of Nine. This joint State-Federal administration has been successful. It brings into the management and decision-making processes at the Federal level a far greater array of talent and level of professional resources than could be mobilized by a single Federal agency.

The Federal-State partnership philosophy, as stated in the "National Agricultural Research, Extension and Teaching Policy Act Amendments of 1981" (Sec. 1401), explicitly recognizes the involvement and participation of client institutions and personnel in Federal managerial processes as they pertain to programs supported in part with Federal funds. Although the concept as stated does not define participants, roles and functions, it can be interpreted to embrace Station scientist participation in cooperative program management.

Finally, a special panel made up of University administrators reviewing CSRS operations in 1982 made the explicit recommendation that one of the major functions of CSRS is to represent the University research system at the national level. This may be interpreted to mean not only representation of the total system but also the major components of that system.

III. THE RESEARCH FUNDING PROCESS IN CSRS

The Cooperative State Research Service is authorized to administer federal appropriations to the individual state experiment stations, colleges of 1890, forestry schools, veterinary schools, and other eligible recipients. Formula funds are appropriated under the Hatch, McIntire-Stennis (forestry), Evans-Allen (Colleges of 1890) Acts and Section 1433, Ph. 95-113 (veterinary schools), and grant funds under PL 89-106 (Special and Competitive Research Grants) and Section 1433, PL 97-98 (1890 Research Facilities). Funds are distributed on a formula, special grants and competitive grants basis.

Several organizations enter into the CSRS budget development process including the Committee for Agricultural Research, Extension and Teaching (CARET), the Joint Council, Users Advisory Board, and the Legislative Committee of the Experiment Stations Committee on Organization and Policy (ESCOP). Usually the most direct input into CSRS's budget process comes from the Legislative Subcommittee of ESCOP. The perspective of this activity is usually in terms of real (adjusted for inflation) increases in specified programs over the current budget. The rationale underlying budget development is usually developed by ESCOP based on internal program justifications and prioritizations provided by CSRS administration and professional staff. Assistance in developing budget rationale may be provided by IPA's or other representatives of individual state experiment stations, and in coordination with USDA's Agricultural Research Service, Forest Service, Economic Research Service, etc.

The prioritization process may be developed in some detail with each program area appearing one to several times with different levels of funding. This process permits scaling back to budget caps that are imposed later in the budgeting process. In reality, specific high priority programs are scaled back and some lower priority programs eliminated by the budget caps.

In the conventional CSRS and cohorts functional mode, long standing heavily funded programs dominate in terms of funding requests. For example, the program area designated as "fundamental science" underlying plant and animal production commandeered nearly one-third of the ESCOP request for real growth in the CSRS 85 budget proposal. Established programs are prone to expand under the prioritization process at the expense of lesser funded programs and potential new programs.

Economic issues and problems dominated American agricultural concerns during the 1980's. Policy related issues in terms of mounting surplus commodities and rising government costs were especially prominent during this period. Underlying causes included stagnant to declining domestic and export markets. Nevertheless, with possible exception of Item D — International Markets — Analysis and Projections — there is no reference to policy related thrusts in the ESCOP requests for budget increases for FY 85.

The implications are rather clear that the discipline of agricultural economics is short-shrived in the CSRS budgeting process. The voting power representing the discipline is too small to carry any weight in the prioritization processes. This scenario prevails regardless of the public sentiment calling for increased research effort on economic issues. A call for increased research on economic issues, with emphasis on agriculture and food policy, was recently issued by the Committee on Agriculture, Nutrition and Forestry of the United States Senate (letter of May 10, 1983 under Senator Jesse Helms signature, Chairman of the Committee). Thus, the budget development process of ESCOP-CSRS may not be fully attuned to the perceptions of the agriculture-food related issues from the perspective of the U.S. Congress and individual state legislatures that fund public supported agriculture-food research. This lack of attunement may stem largely from the meager representation of agricultural economists in the ESCOP-CSRS budget development process.

IV. THE ISSUE OF AGRICULTURAL ECONOMICS REPRESENTATION IN CSRS

Vernon Ruttan, in his book *Agricultural Research Policy* (1982), begins the chapter on "The Social Sciences in Agricultural Research" with the statement:

"The social sciences have been junior partners in the agricultural research enterprise. Relationships between the natural sciences-based disciplines and the social science-based disciplines in the past were characterized more by interdisciplinary aggression than by interdisciplinary collaboration."

It seems apparent that CSRS ought to support social science research missions and programs far better than has been the case in recent years, particularly in view of the needs for social science evaluations and involvement in future research agendas. The agency's attitude will do much to determine whether there will be increased interdisciplinary collaboration in national agricultural research agendas.

The current deterioration of an agricultural economics component within the CSRS structure is clear. Robinson (1971) noted that the allocation of Agricultural Economics teaching and research personnel among Colleges and State Experiment Stations was rather constant between 1930 and 1967 (11 percent in 1930, 12 percent in 1967). There is no reason to believe that the proportional contribution of agricultural economists has declined since the mid-1960's. Yet disciplinary representation in CSRS has declined from seven agricultural economists in 1965-66 to only three in 1981-82, and only one of the three was a permanent full-time CSRS scientist. No other program area experienced a reduction in staffing over the period 1965-66 to 1981-82 (see Table 1).

This staffing pattern has led to an unrealistic and inequitable burden being placed on agricultural economists within CSRS. Agricultural economics staffing as of March 1983 in relation to size of program administered is compared to the three other major program areas of CSRS in Table 2. Clearly, the workload within agricultural economics is excessive to the point of precluding effective performance of responsibilities within CSRS and between CSRS and universities.

The magnitude of the agricultural economics research effort in the U.S. is illustrated in Table 3. The 1971-72 staffing level of six permanent professional staff was adequate to meet the needs of the profession. One permanent staff agricultural economist, even if supported with two university IPA's, cannot adequately service a national program of this size.

Staffing with less than two permanent agricultural economists precludes adequate representation of the interests of the disciplines within CSRS, including the vital budgetary process. Lacking a critical mass of disciplinary support and access to CSRS administrators, agricultural economics is unable to lay claim to CSRS resources commensurate with the importance of the discipline.

Table 1

Disciplinary Representation, CSRS Science Staff,
1965-66 and 1981-82

Program Areas	1965-66		1981-82	
	Number of Scientists ^{a/}	% of Total Staff	Number of Scientists	% of Total Staff
Animal Science	8	20.5	8	20.0
Cooperative Forestry	4	10.2	4	10.0
Economics, Marketing, Rural and Community Development	7 ^{b/}	17.9	3 ^{a/}	7.5
Human Nutrition and Consumer Use	3	7.7	3	7.5
Plant Science	11 ^{c/}	28.2	15	37.5
Utilization	2	5.1	2	5.0
Other ^{d/}	4	10.3	5 ^{b/}	1.5
TOTAL	39	100.4	40	100.0

Source: Agricultural Handbook Number 305 for respective years.

1965-66

- a/ Scientists serving in administrative positions were assigned to program areas according to disciplinary training, except the Administrator and Associate Administrator.
- b/ Agricultural economists only, excludes rural sociologist.
- c/ Excludes two soil scientists and one agricultural engineer.
- d/ Includes two soil scientists, one rural sociologist and one agricultural engineer.

1981-82

- a/ Includes one permanent full-time agricultural economist and two disciplinary agricultural economists (IPA's).
- b/ Includes one soil scientist, two agricultural engineers, one rural sociologist and one communications scientist.

Table 2

CSRS Science Staffing Patterns Relative to Workload
(CSRS Administered Program Inputs), Selected Program Areas

Program Areas	Number of Scientists ^{a/}	CSRS Administered Program Inputs		Input Ratio	
		\$ Mil	SY's	CSRS Staff Per \$ Mil Funds	CSRS Staff Per SY
Plant Science	15	58.6 ^{b/}	529.9	1:3.9	1:35.3
Animal Science	8	51.0 ^{c/}	346.0	1:6.4	1:43.3
Forestry	4	12.8 ^{d/}	135.2	1:3.2	1:33.8
Agricultural Economics	1	15.4 ^{e/}	171.3 ?	1:15.4	1:171.3
TOTAL	28	137.8	1,182.4	1:4.9	1:42.2

Source: Agricultural Handbook Number 305.

^{a/} Staffing patterns as of March 1983.

^{b/} 1982 CRIS Printout (RPG.3.00 Crops).

^{c/} 1982 CRIS Printout (RPG.4.00 Animals).

^{d/} 1982 CRIS Printout (RPG.2.00 Forestry).

^{e/} 1982 CRIS Printout (Field of Science, 2630-Economics).

Table 3

Indicators of Size of Agricultural Economics Program
at State Agricultural Experiment Stations, 1980

Item	Quantity
Number of Agricultural Economics Projects (Hatch, Station, Other ^{a/})	1,676
Number of Regional Projects	
Funded	22
Non-Funded	23
Number of University Departments conducting Agricultural Economics Research	51
Agricultural Economics Program Inputs	
Financial Support (millions dollars) ^{a/}	50
Number of Scientist Years	560
Number of Agricultural Economists listed on Experiment Station Staffs	1,161
Number of Department Chairman Groups in Agricultural Economics	5
Number of Professional Associations in Agricultural Economics	5

Source: Agricultural Handbook Number 305.

^{a/} CRIS Data - Field of Science (2630), 1980.

In periods of declining real research budgets, the profession needs a voice in discussions about federal research budget allocations and to the extent that CSRS is involved, agricultural economics should be adequately represented.

The Special Panel Review (1982) recommended that three additional agricultural economists be added to the Social Sciences group, that a program leader be designated for that group (another for the Human Nutrition and Food group), and that there be greater coordination of the programs of the Social Sciences Staff with the Program Evaluation and Analysis Staff. These or similar actions to increase the size and presence of the agricultural economics component of the CSRS Science Staff are minimally required to regain losses in agricultural economics representation in CSRS. An increase in permanent professional staffing is recommended by the Committee.

It is clear that the CSRS staff need be both research-oriented and active participants in the profession. The suggested AAEA Advisory Committee recommendations can do much to maintain current liaison with a rapidly changing discipline.

V. RECOMMENDATIONS FOR THE ENHANCEMENT OF NATIONAL LEADERSHIP IN AGRICULTURAL ECONOMICS IN THE COOPERATIVE STATE RESEARCH SERVICE

If agricultural economics in CSRS is to be a viable and productive unit making significant contributions to university agricultural economics programs, then conditions need to be created in the organization that will enable achievement of this goal. These conditions relate to organizational structure, internal management and the allocation of resources.

RECOMMENDATIONS

Create a Separate Social Sciences Organizational Unit in CSRS With a Program Coordinator Reporting Directly to the CSRS Administrator

We believe that the role of CSRS is defined by the nature of the disciplines. Over time, however, this orientation has given way to bureaucratic or administrative expediency. Creation of a Social Sciences unit would give identity and visibility to the rural social sciences at the national level. It would extract agricultural economics and rural sociology from the current organizational unit called "Natural Resources, Food and Social Sciences" (see organization chart) — a conglomerate unit made up of several unrelated disciplines and would bring about a parallel between the departmental management and organizational structure of Experiment Stations. Under the proposed arrangement, the disciplinary unit would have identity and visibility. A professionally trained social scientist would be the manager of the unit, making the decisions that influence the support and performance of the unit, but also serving as the spokesperson for university agricultural

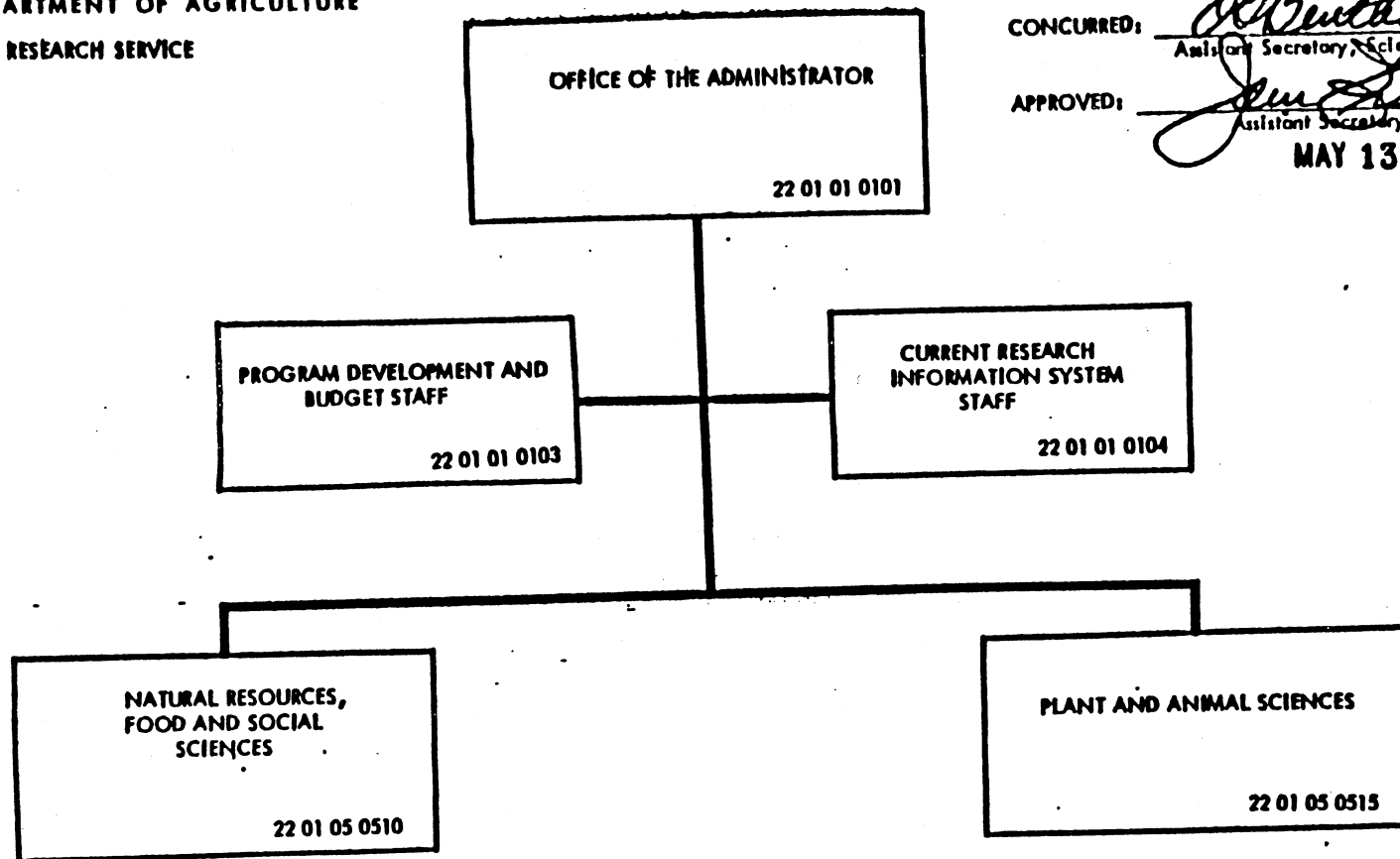
UNITED STATES DEPARTMENT OF AGRICULTURE
 COOPERATIVE STATE RESEARCH SERVICE

RECOMMENDED: *A. J. Thomas*
 Administrator, Cooperative State Research Service

CONCURRED: *W. Bentley*
 Assistant Secretary, Science and Education

APPROVED: *Jim Sauer*
 Assistant Secretary for Administration

MAY 13 1983



MISSION: Administers the Acts of Congress for agricultural research conducted by the State agricultural experiment stations, colleges of veterinary medicine, 1890 land-grant institutions and Tuskegee Institute, approved schools of forestry and other eligible institutions in support of the efficient production, marketing, distribution, and utilization of crops and livestock, improvement of foods and human nutrition, the effective management of natural resources and enhancement of rural America in their broad aspects including meeting the needs of the consumers and the people in rural America.

Supersedes chart dated October 4, 1982

economics programs at the national level. All decisions affecting the unit would be made by the leader in consultation with the agricultural economics staff and the agricultural economics advisory committee (to be described later). The alternatives for program management would be presented directly to the CSRS administrator for final action.

Provide Proportional Staffing and Resource Support for Agricultural Economics in Relation to Workloads

Based on our analysis of the available data, the agricultural economics program in CSRS is significantly understaffed relative to other disciplines and program units. The relative understaffing of the agricultural economics program in CSRS has had several negative impacts on university agricultural economics programs. First, only about 20-30 percent of the funded regional research project meetings and few, if any, of the non-funded regional planning committee meetings can be attended. None of the regional professional association meetings are attended and only two of the five regional department chairman groups have had CSRS representatives attend their meetings in the past year. Secondly, agricultural economics input into the Experiment Station budgetary process is most inadequate, due in large measure to the lack of staff representing our discipline at the federal level. Third, some of the agricultural economics workload in CSRS is now occasionally delegated to individuals in other disciplinary units of CSRS. These other individuals in CSRS have "marginal" professional expertise in agricultural economics which could mean a lessening in the quality of the CSRS input in agricultural economics research. Further, it dilutes the relative lobbying strength of agricultural economics as a discipline.

We strongly feel that CSRS staffing in agricultural economics should be increased by the addition of at least two permanent career employees. The need is particularly urgent for Washington based, permanent staff who can actively participate in resource allocation decisions and program planning activities. Neither IPA's nor part-time regional staff will be satisfactory long run solutions to the needs of the discipline. In the short run, however, some expedients may be necessary. One such interim arrangement is as follows. First, create a continuing IPA position in the area of marketing, pricing and food policy to provide program leadership in this aspect of agricultural economics. Secondly, create temporary part-time positions in agricultural economics in each of the four administrative regions. These positions would represent a financial cost to CSRS but would not violate personnel restrictions placed on the organization. These positions could be filled by university personnel who, in serving in these positions, would attend regional research committee meetings in the region, would conduct comprehensive or special program reviews in agricultural economics for departments within their region (or other regions) and carry out other CSRS functions at the regional level. A precedence for this recommendation has been established by the plant science unit in CSRS. This unit has a "network" of six university-based plant scientists employed on a part-time basis under cooperative agreements carrying out and facilitating CSRS functions in the field.

Nonetheless, it should be emphasized that such an arrangement will not solve the long run problem that, in our view, requires full-time, permanent staff in agricultural economics within CSRS.

The Feasibility and Desirability of Locating the Agricultural Economics Staff in Closer Proximity to the Extension or ERS Staff Should be Considered

Both CSRS and Extension Service staffs work in the area of Federal-State Relations. In fact, both the research and extension functions conducted in the Departments of Agricultural Economics are covered in the CSRS special review process. Because of the close interface of research and extension and the split appointments of station staff, these functions cannot effectively be reviewed and evaluated in isolation of each other. These functions as carried out at the stations are supported in part by Federal funds administered by CSRS and the Extension Service. Moreover, both CSRS and ES have programs of work and staff in the program analysis area. This area also offers substantial potential for coordination and joint effort.

Finally, it is our understanding that efforts are underway to promote joint appointment of staff in the three major S&E organizations — ARS, CSRS and ES. This effort is compatible with the above recommendation of integration and coordination of CSRS and ES functions and responsibilities as they pertain to a mutual clientele.

An Agricultural Economics Advisory Committee Should be Formed

It is recommended that the AAEA, in cooperation with the regional department chairman groups, establish an agricultural economics advisory committee. This committee would serve in an advisory capacity to ESCOP and to the CSRS administration. The committee would have two major responsibilities. It would monitor on a continuous basis the adequacy of representation of the institution's agricultural economics programs at the national level and evaluate the functions and activities conducted by CSRS in terms of their effectiveness in meeting the needs of these programs. In this connection, the committee would periodically assess the professional staffing situation and provide advice and assistance to CSRS in recruitment of both permanent and temporary professionals. The committee would additionally be charged with formulating a regional consensus on sets of research priorities in agricultural economics to be communicated to both ESCOP and the CSRS administration. The leader of the agricultural economics unit in CSRS would input these priorities into the Experiment Station budget development process each year.

It is recommended that CSRS, from its administrative budget, provide financial support for the operations of the committee.

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APPENDIX

SUPPORT FOR AGRICULTURAL ECONOMIC RESEARCH

Relevant Legislation

Agricultural research, including economics research, has evolved through a series of specific laws which have provided authorization, funding, and support for U.S. Department of Agriculture research activities in the state Agricultural Experiment Stations through the Land Grant Universities and related institutions. The history has been well documented in many sources. Perhaps the most complete and detailed is the Office of Technology Assessment Report of April 1982, "The Role of the Federal Government, State Agriculture Experiment Stations, and the Private Sector in Research", Part C of An Assessment of the United States Food and Agricultural Research — Volume II. Section II has described some of the most significant legislative actions affecting the structure and content of agricultural research at the Agricultural Experiment Stations.

In the evolution of enabling legislation for research conducted by the agricultural experiment stations, early emphasis was on agriculture exclusively. State level pressures have been for production and processing research with emphasis on specific commodities. There has been less emphasis on natural resource issues, community development, environmental, consumer oriented problems and others related to the quality of life in rural communities. The experiment stations have taken on a gradually increasing role in these research topics less clearly associated with agricultural production. While economics is not specifically noted as a discipline in the mix of research activities that has evolved over time, it is likely that the range of economic problems undertaken by researchers at agricultural experiment stations has expanded with the authorizing legislation.

Historical Trends in Formula Funding

Beginning with the Hatch Act of 1887, the federal and state levels of government have been bound together in sponsoring agricultural research. The relative contribution of each level of government has varied over the years, though the partnership has facilitated joint expression of priorities. Any such sharing of responsibility and opportunity always has attendant difficulties. The parties continuously negotiate in search of acceptable research programs.

The data in Figure 1 indicate that from 1915 to 1954, research as a portion of USDA budgets has fluctuated dramatically. Research began as a very important part of USDA, though declined in relative significance as other activities were undertaken by this agency.

The proportion of total USDA research going to federal research showed the greatest fluctuation, though its proportion of the total federal research

budget has remained relatively stable (Figure 2). Federal agricultural research has changed consistently with the total federal research budget, while the amount going to state research has remained relatively constant in absolute terms during that period. The varying shares of total research accounted for by federal and state sources is the tangible evidence of all the negotiating that had gone on between the parties over that period. Obviously, state research programs were heavily dependent on federal funds in the beginning, though this dependence has been reduced through time and has approached 20 to 25 percent in recent years (Figure 3). This has remained remarkably stable over the last 30 years. Still, USDA research expenditures are the lowest of the major federal research agencies. USDA contributed but 1.5 percent of total R&D expenditures in 1978, compared to a contribution by Department of Defense of 45 percent; Department of Energy, 16 percent; and HEW, 12 percent. The purchasing power of agricultural research, both in ARS and the experiment stations, has increased only 23 percent between 1966 and 1979. Private research funding, on the other hand, has increased in real dollars in the last two decades to become a more significant component of overall agricultural research.

Allocation by State and Region

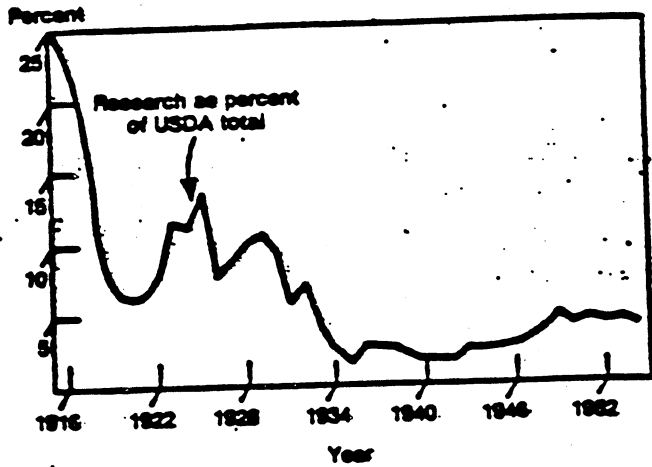
Formula funding, under the Hatch Act, is allocated among the states on the basis of a fixed amount established in 1955 with the excess allocated by the following criteria:

- (a) Twenty percent of excess over the 1955 level distributed equally to each state.
- (b) Less than 52 percent of formula funding shall be allocated to the states based on (1) half allocated proportionate to the relative rural population of the state compared to total rural population of the U.S. and (2) half allocated based on relative farm population of each state compared to total farm population in the U.S.
- (c) Up to 25 percent is allocated for regional research where two or more experiment stations are cooperating.
- (d) Three percent is retained by the Secretary of Agriculture for administrative overhead.

As noted in the attached Appendix Tables*, the southern region continues to draw the largest portion of formula funding (35 percent), and the smallest amount (17 percent) is allocated to the western region. The north central region has received 30 percent of Hatch funds for the period 1978 through

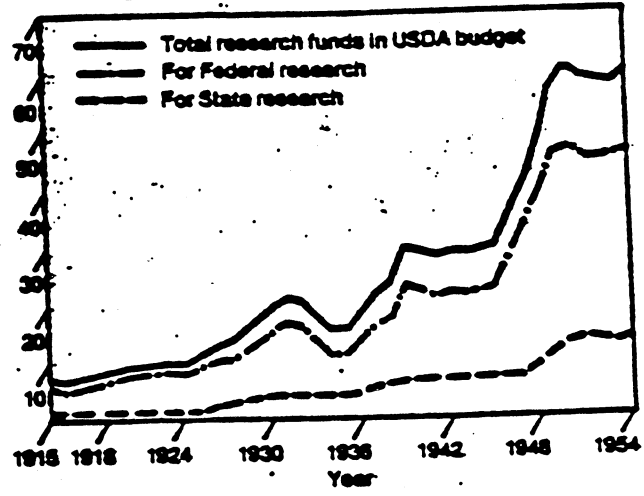
*(Following data are contained in the General Accounting Office Report, "Federal Agricultural Research Funding: Issues and Concerns", October 1983.)

Figure 1. — Role of Research in USDA Budget Allocations, 1915-55



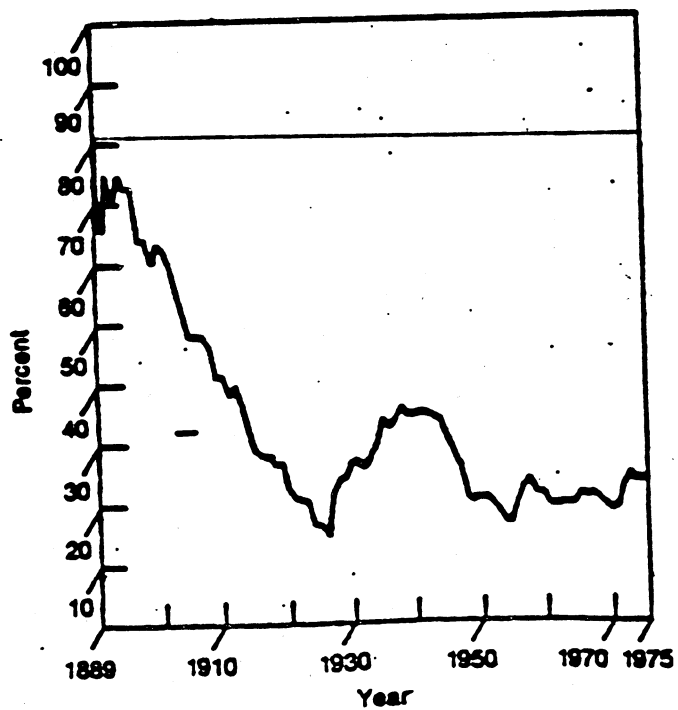
SOURCE: App. B, table B-1 (col. 3).

Figure 2.—Appropriations for Research in USDA Budget, 1915-54 (in millions of dollars)



SOURCE: App. B, table B-2 (cols. 1-3)

Figure 3.—USDA Funds as Proportion of Expenditures by State Agricultural Experiment Stations, 1889-1975



SOURCE: Calculated from data in *Agricultural Appropriations for 1957, Senate Hearings, 1956*, insert opposite p. 138, and *Funds for Research at*

1982. Formula funds for 1890 institutions are allocated among eligible colleges on a basis very similar to that established in the Hatch formula. Sixteen states have 1890 Land Grant institutions. The two institutions in Alabama receive funds as if each institution were a separate state. Animal health and disease research funds are allocated on a formula basis to colleges of veterinary medicine based equally on income to livestock and poultry producers in eligible states and the research capacity available in each state.

Special research grants are allocated among the experiment stations and other research institutions based on demonstrated capacity to undertake research on designated priority topics. The north central region has received the greatest portion of the special research grants (30 percent), with the smallest proportion going to the northeastern region. Similarly, competitive grants, added to the Special Research Grants Act of 1965, provides allocation based on demonstrated capacity to undertake high priority research. Approximately 64 percent of competitive grants have gone to Land Grant institutions. The north central region has received the largest portion of competitive grants (at 36 percent), with the smallest amount going to the southern region. Thus, it appears that if research funding were to shift from formula basis to competitive basis or special grants, the north central region would increase its share of the overall USDA research budget. State ranking of Hatch formula funds, special research grants, and competitive grants are contained in this Appendix.

Distribution of Research Funding by Broad Disciplinary Areas

Research effort is categorized in a number of different ways, with funding and scientist years allocated among various categories of research product. The major categories are Research Program Groups (RPG's) and Research Problem Areas (RPA's). The latter includes a series of research goals and sub-goals drawing from many different disciplines needed to focus on these major research problems. These problem areas include, for example, "insure a stable and productive agriculture for the future through wise management of natural resources; protect forests, crops and livestock from insects, diseases and other hazards; expand export markets and assist developing nations; assist rural Americans to improve their level of living". Research Program Groups, on the other hand, slice the pie a different way to focus more on subject matter categories, such as natural resources; forestry; crops; animals; people, communities and institutions; competition, trade, adjustment, price and income; and general resource or technology. While neither classification scheme is directly usable for answering questions about the relative importance of economics as a discipline in overall agricultural research, the research program group breakdown comes closest to providing that kind of information. It would appear that research program groups 5 and 6 would contain most of the economics research conducted. Each program group is further subdivided to suggest more detailed subject matter associated with that classification. Attached Appendix Tables for 1979, 1980 and 1981 indicate the allocation of research efforts among the various program groups that imply economics and social science as the predominant disciplines.

Program groups 5 and 6, those most likely to include economics research, have been lowest in total funding for each of the three years except for the catchall general resource category. Agricultural commodity research, groups 3 and 4, are consistently largest, with crop research more than double that of any other program group.

The major source of funding for community related research (5) has been the State Agricultural Experiment Station, with very little research done by ARS. Absolute amount dropped significantly after FY 79, with the primary reduction coming in A.R. In the past two fiscal years, funding has remained constant.

Economic Research Science has contributed substantially to RPG 6, with the Experiment Stations providing less than half of this economic and other social science research. Forest Service and forestry school funding have provided about 75% of forestry research, with the Experiment Station a modest contribution. There is certainly some economics in that category.

RPG	SAES as % of Total		
	81	80	79
1. Natural Resources	60.1	60.9	59.3
2. Forest Resources	27.3	26.5	26.4
3. Crops	64.7	64.3	64.6
4. Animals	69.9	71.7	71.4
5. People, Communities & Institutions	70.1	69.1	61.0
6. Competitive, Trade, Price	49.6	48.2	45.8
7. General Resource	80.7	81.2	62.9
8. Food Science & Nutrition	46.8	48.5	None

Data by "field of science" suggest that economics as a discipline has maintained a fairly consistent proportion of scientist years over the past 14 years. Other social sciences receiving SAES and CSRS support (education, history, communication, law, political science, sociology, psychology, art) total about half of the support going to economics. Proportion of Hatch funds has declined over that period, while the component "Contracts and Cooperative Agreements" has increased. Overall the dollar allocation to economics and other social sciences within CSRS has declined relative to other fields of science over the 14 years noted.

Economics as Proportion of National Total Agricultural Research
SAES, Other Institutions

Economics as % of Total	82	76	72	68
Scientist Years	8.4	8.5	8.5	8.1
Hatch/Regional Research	9.7	13.5	14.1	12.5
McIntire-Stennis	6.9	8.2	8.2	7.1
Special Grants	7.4	—	—	—
Evans-Allen (1890's)	9.1	54.7	—	—
TOTAL CSRS	8.5	12.7	13.2	12.0
USDA Contracts and Agreements	12.1	11.6	10.2	7.6
State Appropriation	5.6	4.9	4.4	4.4
Product Sale	2.1	2.1	1.2	1.3
Industry	2.2	3.9	3.9	4.8
TOTAL	5.7	6.3	6.1	5.6

Ranking of Hatch Act Funds Received by State and Region
(Yearly Average During the Period FY 1978 Through FY 1982)^a

Rank	State	Yearly Average Amount Received	Percent of Total
(000 omitted)			
1	North Carolina	\$ 4,427	3.81
2	Texas	4,222	3.63
3	Pennsylvania	4,030	3.47
4	Ohio	3,818	3.28
5	Iowa	3,690	3.17
6	New York	3,636	3.13
7	Illinois	3,571	3.07
8	California	3,436	2.95
9	Wisconsin	3,311	2.85
10	Kentucky	3,289	2.83
11	Michigan	3,283	2.82
12	Tennessee	3,254	2.80
13	Indiana	3,239	2.79
14	Minnesota	3,202	2.75
15	Georgia	3,135	2.70
16	Missouri	3,056	2.63
17	Puerto Rico	3,021	2.60
18	Mississippi	2,935	2.52
19	Virginia	2,832	2.44
20	Alabama	2,753	2.37
21	South Carolina	2,372	2.04
22	Arkansas	2,352	2.02
23	Washington	2,295	1.97
24	Kansas	2,277	1.96
25	Louisiana	2,189	1.88
26	Nebraska	2,177	1.87
27	Oklahoma	2,066	1.78
28	Florida	1,925	1.66
29	Oregon	1,872	1.61
30	West Virginia	1,842	1.58
31	New Jersey	1,739	1.50
32	Colorado	1,725	1.48
33	Maryland	1,674	1.44
34	South Dakota	1,618	1.39
35	North Dakota	1,591	1.37
36	Massachusetts	1,505	1.29
37	Idaho	1,398	1.20
38	Montana	1,394	1.20
39	Arizona	1,315	1.13

^a Does not include American Samoa and Micronesia, which began receiving Hatch Act funds in 1981.

(continued)

Rank	State	Yearly Average Amount Received	Percent of Total
(000 omitted)			
40	Connecticut	\$ 1,249	1.07
41	Maine	1,242	1.07
42	Utah	1,201	1.03
43	New Mexico	1,107	0.95
44	Wyoming	1,053	.91
45	Vermont	984	.85
46	New Hampshire	967	.83
47	Hawaii	903	.78
48	Delaware	888	.76
49	Rhode Island	848	.73
50	Nevada	831	.71
51	Alaska	690	.59
52	Guam	471	.40
53	Virgin Islands	262	.23
54	Washington, D.C.	132	.11
	TOTAL	<u>\$116,294</u>	<u>100.00</u>

Regional Summary

<u>Region</u>	<u>Yearly Average Amount Received</u>	<u>Percent of Total</u>
(000 omitted)		
Southern	\$ 41,034	35
North Central	34,833	30
Northeastern	20,736	18
Western	19,691	17
TOTAL	<u>\$116,294</u>	<u>100</u>

Ranking of 1890 Funding Received by State and Region
(Yearly Average During the Period FY 1978 Through FY 1982)^a

Rank	State	Yearly Average Amount Received	Percent of Total
(000 omitted)			
1	Alabama ^b	\$ 2,120	12.55
2	North Carolina	1,555	9.21
3	Texas	1,543	9.13
4	Kentucky	1,224	7.25
5	Tennessee	1,182	7.00
6	Georgia	1,137	6.73
7	Missouri	1,128	6.68
8	Virginia	1,038	6.14
9	Mississippi	997	5.90
10	Arkansas	916	5.42
11	Louisiana	824	4.88
12	Oklahoma	812	4.81
13	South Carolina	725	4.29
14	Florida	705	4.17
15	Maryland	610	3.61
16	Delaware	377	2.23
	TOTAL	<u>\$16,893</u>	<u>100.00</u>

^a Does not include grants to upgrade 1890 research facilities which would first be allocated in FY 1983.

^b Alabama is the only State that includes two schools -- Alabama A&M and Tuskegee Institute.

Summary by Region

<u>Region</u>	<u>Yearly Average Amount Received</u>	<u>Percent of Total</u>
(000 omitted)		
Southern	\$14,778	87
North Central	1,128	7
Northeastern	987	6
Western	<u>0</u>	<u>0</u>
TOTAL	<u>\$16,893</u>	<u>100</u>

Ranking of Animal Health and Disease Research Funds Received
by State and Region
(Yearly Average During the Period FY 1978 Through FY 1982)^a

Rank	State	Yearly Average Amount Received	Percent of Total
(000 omitted)			
1	Texas	\$ 313	7.01
2	California	270	6.05
3	Iowa	266	5.96
4	New York	186	4.16
5	Colorado	179	4.01
6	Wisconsin	171	3.83
7	Minnesota	161	3.61
8	Illinois	150	3.36
9	Kansas	149	3.34
10	Nebraska	143	3.20
11	Georgia	137	3.07
12	Missouri	130	2.91
13	Pennsylvania	119	2.66
14	Oklahoma	116	2.60
15	Ohio	116	2.60
16	Alabama	115	2.57
17	Michigan	109	2.44
18	Washington	106	2.37
19	Indiana	101	2.26
20	North Carolina	94	2.10
21	South Dakota	91	2.04
22	Oregon	89	1.99
23	Louisiana	89	1.99
24	Florida	82	1.84
25	Kentucky	80	1.79
26	Montana	80	1.79
27	Idaho	75	1.68
28	Virginia	68	1.52
29	Arkansas	65	1.46
30	Maryland	60	1.34
31	Tennessee	59	1.32
32	Mississippi	58	1.30
33	Arizona	51	1.14
34	North Dakota	51	1.14
35	Utah	42	.94
36	Wyoming	38	.85
37	New Mexico	37	.83
38	Massachusetts	29	.65
39	New Jersey	23	.51

^aProgram has only been in effect for 4 years (1979-82).

(continued)

Rank	State	Yearly Average Amount Received	Percent of Total
(000 omitted)			
40	Nevada	\$ 23	.51
41	South Carolina	21	.47
42	Maine	18	.40
43	West Virginia	16	.36
44	Vermont	15	.34
45	Connecticut	13	.29
46	New Hampshire	12	.27
47	Delaware	12	.27
48	Puerto Rico	12	.27
49	Rhode Island	11	.25
50	Alaska	8	.18
51	Hawaii	7	.16
52	Washington, D.C.	0	-
53	Virgin Islands	0	-
54	Guam	0	-
	TOTAL	<u>\$4,466</u>	<u>100.00</u>

Regional Summary

<u>Region</u>	<u>Yearly Average Amount Received</u>	<u>Percent of Total</u>
(000 omitted)		
North Central	\$1,638	37
Southern	1,309	29
Western	1,005	22
Northeastern	<u>514</u>	<u>12</u>
TOTAL	<u>\$4,466</u>	<u>100</u>

Ranking of Special Research Grant Funds Received
by State and Region
(Yearly Average During the Period FY 1978 Through FY 1982)

Rank	State	Yearly Average Amount Received	Percent of Total
(000 omitted)			
1	Texas	\$ 1,584	10.18
2	California	1,121	7.20
3	New York	881	5.66
4	Ohio	736	4.73
5	Michigan	707	4.54
6	Pennsylvania	664	4.27
7	Iowa	595	3.82
8	Oregon	578	3.71
9	Washington	539	3.46
10	Indiana	470	3.02
11	Wisconsin	437	2.81
12	New Jersey	433	2.78
13	Arizona	413	2.65
14	Minnesota	401	2.58
15	Missouri	396	2.54
16	New Mexico	390	2.51
17	Colorado	383	2.46
18	Florida	360	2.31
19	Georgia	349	2.24
20	Idaho	337	2.17
21	Arkansas	329	2.11
22	Illinois	305	1.96
23	Mississippi	273	1.75
24	Alabama	268	1.72
25	Nebraska	246	1.58
26	North Carolina	246	1.58
27	Louisiana	221	1.42
28	Kansas	186	1.20
29	Tennessee	167	1.07
30	Virginia	164	1.05
31	Kentucky	152	.98
32	Alaska	139	.89
33	Oklahoma	128	.82
34	Massachusetts	82	.53
35	South Carolina	77	.50
36	Rhode Island	75	.48
37	South Dakota	74	.48
38	Maryland	69	.44
39	Montana	69	.44

(continued)

Rank	State	Yearly Average Amount Received	Percent of Total
(000 omitted)			
40	North Dakota	\$ 68	.44
41	Maine	67	.43
42	Utah	62	.40
43	Delaware	61	.39
44	Wyoming	53	.34
45	Hawaii	45	.29
46	Connecticut	42	.27
47	Vermont	32	.21
48	New Hampshire	30	.19
49	Nevada	21	.14
50	West Virginia	15	.10
51	Puerto Rico	15	.10
52	Virgin Islands	5	.03
53	Guam	4	.03
54	Washington, D.C.	0	-
	TOTAL	<u>\$15,564</u>	<u>100.00</u>

Regional Summary

<u>Region</u>	<u>Yearly Average Amount Received</u>	<u>Percent of Total</u>
(000 omitted)		
North Central	\$ 4,621	30
Southern	4,338	28
Western	4,154	26
Northeastern	<u>2,451</u>	<u>16</u>
TOTAL	<u>\$15,564</u>	<u>100</u>

Ranking of Competitive Grant Funds Received by State and Region
(Yearly Average During the Period FY 1978 Through FY 1982)

Rank	State	Yearly Average Amount Received	Percent of Total
(000 omitted)			
1	California	\$ 1,811	12.02
2	New York	1,299	8.62
3	Illinois	1,040	6.90
4	Massachusetts	885	5.87
5	Michigan	740	4.91
6	Ohio	625	4.15
7	Wisconsin	613	4.07
8	Missouri	551	3.66
9	Indiana	502	3.33
10	Maryland	499	3.31
11	Washington	486	3.23
12	Minnesota	486	3.23
13	Oregon	420	2.79
14	North Carolina	399	2.65
15	Texas	397	2.64
16	Florida	383	2.54
17	Iowa	318	2.11
18	Washington, D.C.	309	2.05
19	Nebraska	255	1.69
20	Pennsylvania	253	1.68
21	Virginia	250	1.66
22	Georgia	230	1.53
23	Colorado	227	1.51
24	Kentucky	200	1.33
25	Kansas	196	1.30
26	Utah	189	1.25
27	Tennessee	184	1.22
28	New Jersey	181	1.20
29	Arizona	130	.86
30	North Dakota	121	.80
31	Oklahoma	120	.80
32	Louisiana	115	.76
33	Vermont	83	.55
34	Connecticut	79	.52
35	Mississippi	75	.50
36	Rhode Island	69	.46
37	South Carolina	53	.35
38	Arkansas	48	.32
39	Idaho	47	.31
40	Alabama	36	.24

(continued)

Rank	State	Yearly Average Amount Received	Percent of Total
(000 omitted)			
41	South Dakota	\$ 36	.24
42	Montana	34	.23
43	Nevada	26	.17
44	New Mexico	20	.13
45	Delaware	20	.13
46	Wyoming	15	.10
47	Hawaii	12	.08
48	Puerto Rico	0	-
49	Virgin Islands	0	-
50	Alaska	0	-
51	Maine	0	-
52	New Hampshire	0	-
53	West Virginia	0	-
54	Guam	0	-
	TOTAL	<u>\$15,067</u>	<u>100.00</u>

Regional Summary

<u>Region</u>	<u>Yearly Average Amount Received</u>	<u>Percent of Total</u>
(000 omitted)		
North Central	\$ 5,483	36
Northeastern	3,677	24
Western	3,417	23
Southern	<u>2,490</u>	<u>17</u>
TOTAL	<u>\$15,067</u>	<u>100</u>