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Agricultural Experiment Station News November 1984

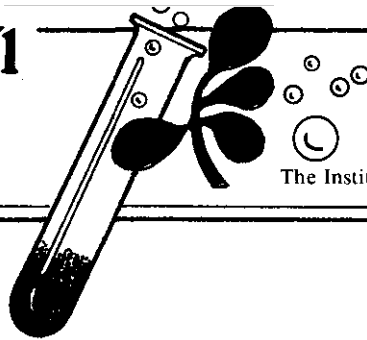
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VOL 18 NO 5

CAPITALIZING ON COMPREHENSIVE REVIEWS

Based on personal experience serving on review panels and being involved in coordinating IANR departmental reviews, the following conditions make some program reviews more effective than others:

- When faculty foresee a need for program improvement and forward planning.
- When the review process is not viewed as merely meeting an administrative requirement.
- When the administrative unit is in a position to make changes.
- When faculty are actively involved in planning the review.
- When the unit has sufficient time to plan and prepare an in-depth, objective self study. Panel members need to receive the self study report at least a month in advance.
- When the review agenda is tailored to address the unit's specific situation.
- When the participants on the review panel are carefully chosen and respected.
- When the visiting panel is used to react to future plans and alternatives generated by resident staff. (Cannot expect visitors to come in cold and ask the RIGHT questions and provide useful suggestions.)
- When a free exchange takes place between staff and panel during the review.
- When the faculty and administration welcome constructive criticism and work together following the review to implement the recommended changes.

—Irv Omtvedt

INDIRECT COST RATES

The indirect cost rate for all Agricultural Research Division projects is **36.8 percent**. The following items are exempt from indirect costs:

- Individual equipment items in excess of \$500.
- Alterations or renovations to UNL property.
- The portions of individual subcontracts in excess of \$25,000.

Although UNL has a lower indirect cost rate for off-campus research, this pertains only to situations where the research staff are required to relocate at a non-UNL facility for the major portion of the study.



The Agricultural Research Division provides information and educational programs to all people without regard to race, color, national origin, sex or handicap.

NEW FACULTY APPOINTMENTS

The University of Nebraska Board of Regents approved the appointments of the following new faculty in the Agricultural Research Division at their October 12, 1984 meeting:

Steven J. Jones, Assistant Professor of Animal Science; former Adams position; 50 percent research and 50 percent teaching; effective December 1, 1984.

John F. Yanagida, Associate Professor of Agricultural Economics; former Fischer position; 60 percent research and 40 percent teaching; effective February 15, 1985.

PARTIAL RETIREMENTS

The following Agricultural Research Division faculty have elected to take partial retirement:

Khem M. Shahani, Professor of Food Science and Technology; 45 percent research and 5 percent teaching.

James H. Williams, Professor of Agronomy, 65 percent research and 10 percent teaching.



AGRICULTURAL EXPORTS

Nebraska ranked sixth in agricultural exports in fiscal 1983 with sales totaling \$1.8 billion. The following table gives the leading states for selected commodities:

Ranking	All Products	Feed Grains	Livestock & Meat	Vegetables
1st	Illinois	Illinois	Iowa	California
2nd	Iowa	Iowa	Texas	Washington
3rd	California	Nebraska	Nebraska	Idaho
4th	Kansas	Indiana	Kentucky	Michigan
5th	Minnesota	Minnesota	Kansas	North Dakota
6th	Nebraska	Ohio	California	Nebraska



NEW OR REVISED PROJECTS

11-072: Increasing Performance Efficiency of Agricultural Tractor and Machinery. Leonard L. Bashford, *Agricultural Engineering*

Objectives: (1) determine and compare the tractive performance of tractors equipped with a mechanical front-wheel assist, two-wheel drive tractors and full size four-wheel drive tractors. (2) determine energy requirements for agricultural machinery used in Nebraska for tillage, planting and cultivation under a variety of field and soil conditions. New Hatch project effective October 2, 1984.

16-041: Factors Affecting Protein Functional and Nutritional Properties. Michael G. Zeece, *Food Science and Technology*

Objectives: Gain a greater understanding of the relationship between the structural and functional properties of food proteins. These investigations will include research on the effects of processing and the development of new protein products from sources that are currently underutilized. Additionally, research will be conducted on factors which affect nutritional quality such as digestibility, mineral absorption, and antigenicity. Specifically, research objectives include: studying the effect of coextrusion of corn gluten meal, evaluation of functional and nutritional properties of whey proteins, the role of myosin in gelatin and binding, the proteolytic disassembly of muscle structure and its effect on meat quality. New Hatch project effective August 15, 1984.

43-040: Increasing Fertilizer Nitrogen Use Efficiency in West-Central Nebraska. Gary W. Hergert, *West Central Research and Extension Center*

Objectives: (1) compare grid and random sampling techniques to establish the most appropriate method of soil sampling for residual soil NO₃-N. (2) determine the effect of sampling time (fall vs spring) on nitrate distributions and quantities. (3) quantify nitrogen mineralization of predominant Nebraska soils using field measurements of crop N uptake. New Hatch project effective September 12, 1984.

93-020: Rural Families and Loneliness - Incidence, Extent, Factoral Relationship and Coping Strategies. John C. Woodward, *Human Development and the Family*

Objectives: (1) measure the incidence and extent of loneliness experienced by individuals and families in rural areas of Nebraska. (2) determine the relationship of loneliness to various selected life factors, such as age, sex, marital status, and education. (3) determine the coping strategies and resources used or perceived as needed in coping with loneliness. New Hatch project effective July 1, 1984.

43-031: Utilization of Range Forage for Rangeland and Domestic Ruminant Animal Production. Donald D. Clanton, James T. Nichols, *West Central Research and Extension Center*

Objectives: (1) identify basic relationships among grazing animal behavior, structure and composition of plant communities, climate variables and animal ethology, and quantify those relationships as they relate to the efficiency of livestock production and impact on the range forage resource. (2) develop forage, land and animal manipulation practices for increasing livestock production and evaluate range livestock management systems for optimum production. Revised Hatch project effective October 1, 1984 that contributes to W-151.

FEDERAL RESEARCH BUDGET APPROVED

Thanks to the support of the Nebraska Congressional delegation, the Conference version of the Agriculture Appropriations Bill was passed during the final days of the 1984 Session of Congress. It was signed by President Reagan so we now have an approved Federal budget for October 1, 1984 through September 30, 1985.

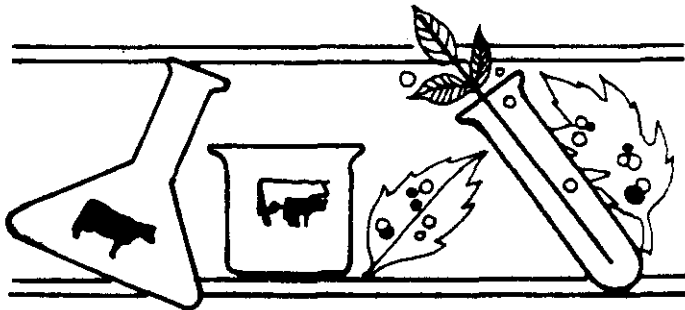
All of the budget items mentioned in the October ARD Newsletter were approved. Significant increases were provided in Competitive Grants for biotechnology, animal science, and pest science. The bill also provides \$1.6 million of additional funding in the plant sciences competitive grants program and \$500,000 for rangeland research grants to be administered on a matching formula of 50 percent federal and 50 percent non-federal.

The Animal Health and Disease formula funds were reinstated at the previous level of \$5,760,000 and \$6 million in Special Grants were approved for Animal Health Research. The Agricultural Research Division will also receive a \$100,000 Special Research Grant for Integrated Reproductive Management.

The deadlines for submitting proposals for the new Competitive Grants in biotechnology, animal sciences and pest management have not been announced, but faculty are urged to develop their proposals now since a short turn-around period is anticipated. IANR has the expertise to compete favorably for these federal funds and faculty are strongly urged to develop proposals in these priority research areas.

SCHAEFER JOINS IANR

Dr. Arnold Schaefer, former Director of the Swanson Nutrition Center at the University of Nebraska Medical Center, was appointed as an Adjunct Professor of Food Science and Technology by the Board of Regents at their September meeting. Schaefer will provide leadership in the Food Processing Center program.



RESEARCH FUNDING ASSISTANCE

The Office of Research and Sponsored Programs Services provides two special information services to faculty interested in finding support for research and scholarly activity. A **Keyword Thesaurus** containing subject area keywords and corresponding code numbers is available to help faculty in locating on-going funding opportunities.

The Office also has the **Illinois Researcher Information System**. This is an on-line computerized data base which faculty may use, free of charge, to help locate agencies and foundations that provide funding for activities in their specific areas of interest.

Faculty may obtain information on these services from their department office or from the Office of Research and Sponsored Programs.

RESEARCH EXPENDITURES FOR 1983-84

Research expenditures for the Agricultural Research Division amounted to \$20,131,540 for fiscal year ending June 30, 1984. This represents a 6.3 percent increase over FY '83. Industry grant support increased by 13.5 percent, but Federal grant support was less than for the previous year.

The following table gives the distribution of expenditures for July 1, 1983 - June 30, 1984:

FEDERAL FORMULA FUNDS:

Hatch Formula	\$1,899,900	
Regional Research	774,484	
McIntire-Stennis	92,754	
Animal Health	211,294	
Total Federal Formula Funds		\$ 2,978,432

STATE APPROPRIATED FUNDS: 11,477,634

CONTRACTS AND GRANTS:

USDA Coop Agreements	\$2,001,291	
USDA Special & Competitive	734,748	
Federal Grants-NSF,		
NIH, HEW	929,402	
Industry Grants	2,010,033	
Total Contracts and Grants		5,675,474

Sub-Total \$20,131,540

PRODUCT SALES: 4,898,410

TOTAL EXPENDITURES: \$25,029,950

PROGRESS ACCOMPLISHMENT REPORT

The following project is being revised and the following is a brief summary of the accomplishments obtained from this research effort:

"Integrated Management of Flies on Livestock". I. L. Berry, J. J. Peterson, G. D. Thomas (Entomology/ARS) were the investigators.

This study resulted in the development of a mark-release procedure to estimate population sizes of adult stable flies. Seasonal production losses due to stable flies at feedlots were estimated to be 2.30, 3.51, 4.25 and 1.10 kilograms/head during 1980, 1981, 1982 and 1983, respectively in Eastern Nebraska.

The biology of several pteromalid parasites was studied with freeze-killed fly pupae used for hosting various parasite species. Releases of commonly available species of hymenopterous pupal parasites were not found to effectively reduce stable fly or house fly populations around feedlots.



RESEARCH GRANTS AND CONTRACTS RECEIVED OCTOBER 1984

Agronomy		
Grants Under \$5,000 each		\$ 8,005
Animal Science		
Kinder, J. E. - USDA/ARS		88,700
Klopfenstein, T. J. - ADM Feed Corporation		6,000
Peo, E. R. - A. H. Robins Company		12,500
Grants Under \$5,000 each		4,000
Entomology		
Grants Under \$5,000 each		1,000
Food Science and Technology		
Grants Under \$5,000 each		3,600
Horticulture		
Grants Under \$5,000 each		2,146
Northeast Research and Extension Center		
Grants Under \$5,000 each		1,750
Panhandle Research and Extension Center		
Yonts, C. D. - Kelley Bean Company		7,000
Grants Under \$5,000 each		900
Plant Pathology		
Grants Under \$5,000 each		1,000
South Central Research and Extension Center		
Grants Under \$5,000 each		750
West Central Research and Extension Center		
Grants Under \$5,000 each		4,500
Total		141,851