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THE AGRICULTURAL EXPERIMENT STATION
INSTITUTE OF AGRICULTURE
AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA-LINCOLN 68583-0704



Agricultural Experiment Station News

June 1984

VOL 17 NO 11



IANR AG EXPO

Final preparations are underway for the first annual IANR AG EXPO at the University Field Laboratory on July 26, 1984. The event starts at 9:00 a.m. with a wide range of exhibits and tours highlighting livestock research. The general agenda for the day:

Load Line #2 Area:

9:00 a.m. Equipment Parade

9:00 a.m. to 5:00 p.m.

Commercial Exhibits

Educational Exhibits

Disease Prevention Video Tape

Swine Research Video Tape

Food Booths

Open House at Energy Farm

Tour Topics and Stops

(Shuttle Service from Load Line #2)

9:30 a.m. to 4:30 p.m.

Summer Pasture Research

Dairy Complex (nutrition, management, breeding and herd health)

Sheep Unit Open House (pasture, forage and computers)

Beef Feedlot (feeding systems, nutrition and lot design)

Cow-Calf Unit (nutrition, health, reproduction and breeding)

All University personnel are invited to a first-hand look at the Field Laboratory livestock programs involving the departments of Agronomy, Animal Science, Agricultural Engineering, and Veterinary Science. Contact either **Warren Sahs** or **Loyd Young** for additional information.

IANR FIELD DAYS

IANR AG EXPO, Univ. Field Lab, Mead	July 26
Panhandle Station, Scottsbluff	Aug. 2
Gudmundsen Sandhills Lab, Whitman	Aug. 16*
Northeast Station, Concord	Aug. 21
South Central Station, Clay Center	Aug. 24
High Plains Ag. Lab, Sidney	Aug. 28

*Revised from previously announced

PUBLICATION CREDIT

Although quality and quantity of research publications are important performance evaluation criteria for faculty with research appointments, the Agricultural Experiment Station comparative publication activity index is no longer utilized. Some IANR faculty thought the Director's Office was still calculating this index for each staff member from the annual staff activities report, but the system was discontinued several years ago.

— Irv Omtvedt

ADVISORY COUNCIL

The Agricultural Research Division Advisory Council met on June 26, 1984 and elected **Austin Lewis** (Animal Science) Chairman and **Robert Wilson** (Panhandle Station - Agronomy) Secretary for 1984-85. The Council will meet in late August and research faculty are encouraged to contact their district representatives if they have items to bring before the Council for discussion. An assessment of the current project review system will be on the August agenda. Comments from faculty regarding the current review process would be helpful to the Council.

USDA SUPERIOR SERVICE AWARDS

Three IANR faculty received USDA Superior Service Awards at the 1984 Honor Awards Ceremony on June 12 in Washington, D.C.: **Gordon Dickerson** (Animal Science & MARC), **Rollin Schnieder** (Agricultural Engineering) and **Gail Wicks** (North Platte - Agronomy). Congratulations are extended to each of these men.

ALTERNATIVE CROP RESEARCH

Agriculture in Hawaii is vulnerable because it is dominated by two crops, sugar and pineapple. The Institute of Tropical Agriculture in human resources at the University of Hawaii is starting a research effort to identify alternative crops to help in needed diversification. Objectives include: (1) Develop a methodology for screening alternative crops which incorporates economic variables; (2) Develop a computerized base containing soil/climate, crop/climate, and crop economic information so that as production system parameters change, reassessment is possible.

Since these objectives are appropriate for alternative crop activities anywhere, the Institute is interested in establishing contact with researchers in other areas of the world working on similar projects. Anyone with an interest in this area and a desire to exchange information should contact the Agricultural Research Division office for more information.

Dale Vanderholm

CHEMIGATION TASK FORCE

Vice Chancellor Arnold appointed an ad hoc task force to assess the status of present knowledge and develop recommendations regarding needed research projects and/or extension programs related to chemigation. **Roger Gold** (Environmental Programs) is the Chairman and other members include: **Paul Fischbach** (Agricultural Engineering); **Gary Hergert** (North Platte - Agronomy); **Bruce Johnson** (Agricultural Economics); **Roy Spaulding** (Conservation and Survey Division); **John Witkowski** (Northeast Station - Entomology); and **Dave Wysong** (Plant Pathology). The Task Force would welcome suggestions and comments from persons not on the committee.

NATIONAL SCIENCE FOUNDATION DEADLINES

July 15, 1984 — Small Business Innovation Research.

August 1, 1984 — Information Science and Technology. Special Research Initiation Awards for New Investigators.

BINATIONAL SCIENCE FOUNDATION

The U. S. Department of Energy is soliciting cooperative grants between the U.S. and Israel to promote and support cooperation in science and technology for peaceful purposes on energy subjects of mutual interest. The Binational Science Foundation will select basic and applied energy research projects on a competitive basis following peer review in both countries. Persons interested in submitting a proposal should contact **Dale Vanderholm** for details.



DISNEY FILMS VISIT MEAD

Personnel from New York and Hollywood, representing Walt Disney Films, visited the University Field Laboratory June 18, 1984 to take early morning photographs of several in-line center pivot irrigation systems in action. The film is scheduled for release in four months and will depict agriculture from the cave men through the American Indian era, to modern agriculture of today.

NATIONAL SCIENCE FOUNDATION—REVISED FORMS

The National Science Foundation has adopted a revised form for collection of data on gender, race, ethnic origin, and handicap. While submission of this form with NSF research proposals is voluntary, NSF strongly encourages that it be included as part of proposal packages.

Copies of NSF 1153 Revised are available from this office. Use of the form dated 8-81 should be discontinued.

COMPREHENSIVE REVIEW COMMENTS

Ozzie Gilbertson (Ag Education), **Gary Hergenrader** (Forestry, Fisheries and Wildlife) and **Roger Uhlinger** (Horticulture) shared their reactions to the IANR Comprehensive Review program at the May meeting of the Vice Chancellor's Council. Their general consensus was that the reviews were worthwhile and beneficial to the respective departments.

Some of their observations:

1. Start early and thoroughly prepare.
2. Involve the whole department.
3. The self-study analysis and preparation of the document are key steps in the review process.
4. Focus on the future rather than concentrating on the past.
5. Nominate only highly competent persons who are willing to be candid for the review panel.
6. Present the panel with specific recommendations.
7. Allow adequate time for interaction among faculty, reviewers and administration.

The benefits from the review process are directly proportional to the departmental effort expended in preparing for the review.

— **Irv Omtvedt**

USDA FY 1985 COMPETITIVE RESEARCH GRANTS

The USDA Grants and Programs Systems Office encourages staff to look ahead and not be caught by the short turnaround time required when competitive research grants are announced in the Federal Register. The following dates are likely to be the closing dates for receipt of grant proposals in the Ag. Research Division office:

**September 14—Plant Pathology and Weeds
(Biological Stress on Plants)**

September 14—Genetic Mechanisms for Crop Improvement

October 1—Photosynthesis

November 19—Entomology and Nematology

December 3—Nitrogen Fixation

December 3—Human Nutrition

(Human Nutrient Requirements)

These dates are tentative. Specific dates and program categories are expected to be announced in the future. However, persons interested in applying are encouraged to begin drafting proposals now to avoid the last minute rush.

FY 1986 BUDGET REQUEST

Faculty and staff salaries received top priority in the 1985-86 budget request submitted by the administration and approved by the Board of Regents at their June meeting. The administration requested increases of 7 percent to keep pace for faculty and staff, plus 3.7 percent for the second year of the three-year faculty improvement package and 4.5 percent for the first year of a two-year catch-up package for B and C-line staff. Additional funds were requested for computing and operations. A small amount was also requested for new program support which would be distributed among the three campuses and IANR. The request to be submitted to the Legislature will be approved by the Board at their July meeting.

BIOTECHNOLOGY CONSULTANT

George Poste, Vice President with Smith-Kline and French, will visit the campus July 25, 1984. He is an animal virologist and is being hosted by the Chancellor's Biotechnology Committee. **Anne Vidaver** (Plant Pathology) and **Franklin Eldridge** (Animal Science) are working with **Royce Ballinger** (Biological Sciences) in coordinating his visit. Faculty interested in meeting with him and not previously scheduled should contact **Vidaver**. Poste joined Smith-Kline in 1980 from the Roswell Park Memorial Institute where he worked on cell surface functions with particular emphasis on changes induced by virus infections.

RESEARCH GRANTS AND CONTRACTS RECEIVED MAY 1984

<i>Agricultural Engineering</i>	
Miscellaneous Grants Under \$5,000 each	1,200
<i>Agricultural Research Division</i>	
USDA	32,000
<i>Agronomy</i>	
Burnside, O. C. - Tennessee Valley Authority	10,000
McCarty, M. K. - USDA/ARS	17,200
Shea, P. J. - Layman Fund	12,000
Shea, P. J. - NCR-PIAP	15,000
Miscellaneous Grants Under \$5,000 each	17,760
<i>Animal Science</i>	
Miscellaneous Grants Under \$5,000 each	7,000
<i>CAMAC</i>	
Verma, S. B. & Rosenberg, N. J. - National Science Foundation	136,400
<i>Entomology</i>	
Miscellaneous Grants Under \$5,000 each	1,250
<i>Environmental Programs</i>	
Miscellaneous Grants Under \$5,000 each	100
<i>Food Science and Technology</i>	
Miscellaneous Grants Under \$5,000 each	1,200
<i>Horticulture</i>	
Miscellaneous Grants Under \$5,000 each	10,535
<i>North Platte Station</i>	
Miscellaneous Grants Under \$5,000 each	7,250
<i>Northeast Station</i>	
Miscellaneous Grants Under \$5,000 each	10,635
<i>Panhandle Station</i>	
Smith, J. & Yonts, C. - USDA/Soil Conservation Service	32,300
Yonts, C., Smith, J., Wilson R., Kerr, E., Robb, J., - UN Foundation	30,000
Miscellaneous Grants Under \$5,000 each	11,150
<i>Plant Pathology</i>	
Miscellaneous Grants Under \$5,000 each	1,700
<i>South Central Station</i>	
Miscellaneous Grants Under \$5,000 each	5,700
<i>Southeast Extension & Research Center</i>	
Miscellaneous Grants Under \$5,000 each	1,100
Total	\$361,980

ARS REALLOCATION

Terry Kinney, Administrator of ARS, announced that because of administrative cuts and reallocations, the US MARC budget at Clay Center will be increased by \$300,000. The funds will be divided equally between (1) herd health and disease management research and (2) molecular genetics for genetic resistance to disease.

ARS administrative reorganization included reducing the number of Area Directors to 11 and having them report directly to the Administrator's Office instead of to Regional offices. **Paul Putnam** is the Area Director for Iowa, Kansas, Missouri and Nebraska with the Area Office located at Ames, Iowa.

NEW FACULTY

Charles A. Shapiro joined the Northeast Station in April as an Assistant Professor of Agronomy on a research-extension appointment. He received his B.S. degree from Cornell University and his M.S. and Ph.D. degrees from the University of Nebraska. He served as a research scientist with Castle and Cooke, Inc., in Ecuador after receiving his Ph.D. in 1982.



Shapiro

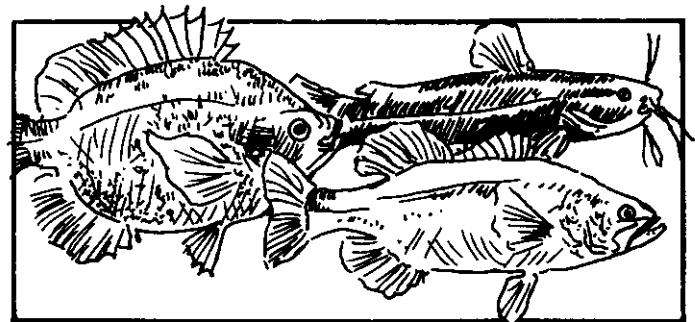
FEDERAL BUDGET FOR FY 1985 AGRICULTURAL RESEARCH

Work by the Executive Branch and the U.S. Congress to develop the appropriations package for FY 1985 continues. The House bill is included for your information, but the Senate bill and the conference bill are not available to pass the budget before adjournment to avoid operating on a continuing resolution again next year.

FEDERAL BUDGET DEVELOPMENT FISCAL YEAR 1985 APPROPRIATIONS

Cooperative State Research Service	FY1984	Executive Request	House Bill
(In Thousands of Dollars)			
Hatch Act	\$152,281	\$155,326	\$156,484
McIntire-Stennis	12,702	12,452	12,053
1890 & Tuskegee Research	22,844	23,300	23,474
Animal Health & Research Section 1433	5,760	-0-	-0-
Special Grants	25,234	15,482	17,235
*Alcohol Fuels	540	-0-	540
Native Latex	702	-0-	702
1890 Facilities	10,000	10,000	10,000
Federal Administration	592	225	975
	<u>\$230,655</u>	<u>\$216,785</u>	<u>\$221,921</u>
Competitive Research Grants			
Biotechnology	-0-	\$ 28,500	\$ 10,000
Plant Sciences	\$ 15,000	15,000	7,500
Animal Sciences	-0-	4,500	7,500
Pest Science	-0-	-0-	5,000
Human Nutrition	2,000	2,000	2,000
Aquatic Science	-0-	-0-	518
Totals	\$ 17,000	\$ 50,000	\$ 32,518
Total Research Funds	\$247,655	\$266,785	\$254,441

*Currently found under Competitive Research Grants.



PROJECT ACCOMPLISHMENTS

26-001

Title: Impact of Erosion Silt and Sedimentation on Fish Reproduction and Growth

Leader: Edward J. Peters

This project demonstrated the impact of erosion silt on several aquatic systems and fish populations. Nine Mile Creek (Scotts Bluff Co.), Maple Creek (Colfax Co.), and the Little Blue River (Jefferson Co.) were the sites for these studies. The fish community structure and benthic invertebrate community structure respond to changes in the suspended solids. Although the precise mechanisms of response are yet to be described, movement was an important component of the responses. Response to reduced levels of suspended solids and erosion silt was rapid but long-term improvement cannot be achieved unless the source of the problem is controlled.

Use of agricultural lime as a flocculant for suspended solids in small reservoirs was studied. Benthic invertebrate production increased when compared to pre-liming studies. Fish growth was also stimulated.