3-1989

Agricultural Experiment Station News March 1989
SAHS HONORED FOR SERVICE

Assistant Director Warren Sahs was recently honored for 40 years of service at UNL at a luncheon given by Chancellor Massengale. He was also honored at an informal ARD office reception and is shown here before cutting his cake. Congratulations, Dr. Sahs!

NEW MINORITY GRADUATE STUDENT RECRUITING PLAN

Vice Chancellor Yost recently announced a new Minority Graduate Student Recruiting Plan designed to increase the number of minority students pursuing graduate degrees at UNL by 50% over a three-year period. He has established seven new doctoral fellowships having $10,000 stipends and four new masters fellowships with $7,500 stipends. Minority students will also receive first priority in the award of four Chancellor’s Fellowships that have $8,000 stipends. A Minority Graduate Student Recruitment Fund has also been established to bring prospective minority students to campus for a recruitment visit. Vice Chancellor Yost will also provide cost sharing or matching funds for grant proposals to assist in our efforts to increase the number of fellowships for minority students. Departments are encouraged to identify qualified minority students and compete for the existing fellowships. Consider using the Minority Recruitment Fund to bring potential graduate students to campus.

NEW ARD FACULTY

Dennis Conley joined the Department of Agricultural Economics as an Associate Professor on November 1, 1988, with a joint teaching/research appointment specializing in the area of agribusiness management. Dr. Conley received his B.S., M.S. and Ph.D. degrees in Economics from Iowa State University.

Previous positions have been with the Department of Agricultural Economics at the University of Illinois-Urbana, and most recently, Farmland Industries in Kansas City, Missouri. Areas of research concentration include: academia-agribusiness management, agricultural input markets, grain marketing; industry — corporate strategic issues, marketing and management information systems, financial and operating simulations, price risk management. Conley has traveled extensively and was a marketing economist in the Ministry of Agriculture for the Royal Thai Government.

102ND ANNUAL REPORT PUBLISHED

Copies of the 102nd Annual Report of the Agricultural Research Division have been published and disseminated to state officials, members of the Nebraska congressional delegation, University of Nebraska administrators, IANR units, commodity boards, and Agriculture Builders. The Report documents research accomplishments of faculty members with ARD appointments during the period of July 1, 1987 to June 30, 1988. A new feature of this Report is a listing of variety/germplasm releases and patents. Please contact your unit administrator to review the Report. The Agricultural Research Division has limited copies of the Report available for those faculty who need a copy.

The Agricultural Research Division provides information and educational programs to all people without regard to race, color, national origin, sex or handicap.
PROPOSED NATIONAL INITIATIVE FOR AGRICULTURAL RESEARCH

The National Association of State Universities and Land-Grant Colleges and the Board on Agriculture of the National Research Council have proposed a new program for funding agricultural research. The National Initiative for Agricultural Research emphasizes the opportunities to increase ongoing agricultural research by focusing on the sciences basic to agriculture. Elements of the proposed program include:

- Funding would be $300 million per year.
- The grants would be awarded on a competitive basis, with quality of science and research relevance as the primary determinants.
- Competition would be open to all elements of higher education as well as to federal and non-profit laboratories.
- The Initiative would not necessarily be funded through USDA; new funding would be established to overcome old problems and images. Current federal formula funding would not be changed, but competitive and special grants may be combined into the new Initiative.
- The thrust of new research would be directed more towards the enhancement of product quality, safety, utility, and value and less toward increased food and fiber production.

The new Initiative responds to the major transition under way in agricultural science. Agricultural research priorities are shifting from simply increasing production to other areas such as enhanced competitiveness, food safety, improved nutritional quality, new uses for agricultural commodities, and environmental stewardship. A biological revolution is also sweeping across many areas of agriculture and the pace of scientific breakthroughs is rapidly increasing. Additional funding is necessary for agricultural research to meet these changing needs and exploit emerging new opportunities.

LISA DEADLINE

LISA deadline is March 15, 1989. The Agricultural Research Division needs to receive your proposal for the Low-Input/Sustainable Agriculture (LISA) federal grants program by March 15, 1989. Indirect costs can't be provided by this special grant but indirect costs can be used as your matching portion of the grant. If you have questions regarding the LISA program, please visit with Dr. Jim NeShazer at 2-2045.

FACULTY RESEARCH INTEREST PROFILE

The Office of Sponsored Programs maintains a computer-based keyword index of faculty research interests. Each faculty wishing to obtain specific information and grant opportunities should prepare a research interest profile. The Ag Research Division has a Keyword Thesaurus book to assist faculty in completing the profile. We will send the completed form to the Office of Sponsored Programs. Faculty will then receive information on federal grants available from the Department of Energy, the National Institutes of Health, and the National Science Foundation.

If you are interested in knowing when requests for proposals have been issued for your research area, please contact Diane Mohrhoff at 472-2045 for further information.

ANNA H. ELLIOTT FUND GRANTS

The Anna H. Elliott Fund was established in 1975 in the University of Nebraska Foundation with earnings to be used to support research in agriculture, particularly in the field of Plant Science with preference to Plant Sciences in Western Nebraska. Depending upon the interest income, the Agricultural Research Division requests proposals every two or three years. A recent call for proposals resulted in 25 proposals being submitted and a selection committee reviewed and selected the following proposals for funding:

<table>
<thead>
<tr>
<th>Title</th>
<th>Investigator</th>
<th>Award</th>
<th>No. of Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of a pest management program for Russian Wheat Aphid <em>Diuraphis noxia</em> (Mordv.) in Western Nebraska</td>
<td>Gary Hein</td>
<td>$16,180</td>
<td>Two</td>
</tr>
<tr>
<td>Surge irrigation and furrow packing for improving surface irrigation efficiency and reducing groundwater contamination</td>
<td>Dean Yonts</td>
<td>$10,000</td>
<td>Two</td>
</tr>
<tr>
<td>Development of cover crop systems to reduce soil erosion and enhance stand establishment in sugarbeets</td>
<td>Robert Wilson</td>
<td>$17,200</td>
<td>Two</td>
</tr>
<tr>
<td>An ecological study of Western Ragweed in a rangeland environment</td>
<td>Patrick Reece</td>
<td>$25,150</td>
<td>Two</td>
</tr>
<tr>
<td>Investigation of planter-related factors to improve sugarbeet emergence in western Nebraska</td>
<td>John Smith</td>
<td>$17,500</td>
<td>Two</td>
</tr>
<tr>
<td>Root-shoot dynamics of Prairie Sandreed (<em>Calamovilfa longifolia</em>) and Sand Bluestem (<em>Andropogon halii</em>)</td>
<td>James Nichols</td>
<td>$12,497</td>
<td>Two</td>
</tr>
<tr>
<td>Water use, soil water extraction, nitrogen use and crop variety interactions with crop rotations and water management in central Nebraska</td>
<td>Norman Klocke</td>
<td>$20,000</td>
<td>Two</td>
</tr>
<tr>
<td>Effect of tillage method and herbicide treatment on Wild Proso millet control of corn</td>
<td>Robert Wilson</td>
<td>$7,650</td>
<td>Two</td>
</tr>
</tbody>
</table>
leaf temperatures associated with water stressed plants
growth of the spider mite populations. Research is continuing to adapt and extend these findings so that water stressed canopies may limit the increase of breaks. In addition, microenvironmental conditions in computer simulations. This work showed that the increase in greenhouse and field experiments, together with Project NEB-20-023; Windbreak Shelter Effects. Principal Investigator: J.R. Brandle.
The shelterbelt project was initiated in 1964 by Professor Walt Bagley. In 1966, six 40-acre windbreak systems were established. Today, these windbreak systems provide outstanding research facilities for the investigation of the effects of shelter on crop produc-tion. Research on the benefits of wind protection on corn, wheat, and soybean production has indicated positive yield benefits which can be attributed to the windbreak.
Economic analysis of the data indicates that an investment in a windbreak will be profitable over a wide range of situations. Positive net present values (the value of the investment after 50 years) are generated with average yield increases of as little as 5% in wheat, 4.5% in corn, and 5.5% in soybeans. Windbreaks continue to be profitable at higher interest rates (17%) and lower grain prices. In most situations, a positive cash flow begins by year 6 and the windbreak investment is paid for by year 15. Other benefits of windbreaks such as wind erosion control and wildlife habitat add to the economic value of the windbreak.

INDIRECT COSTS-BLESSING OR CURSE?

While a common item of concern in grant-funded research, indirect costs are nevertheless a fact of life for all major research institutions. From time to time, enough questions are raised about indirect costs that it is periodically helpful to review their purpose and use.

In any research project, no matter who the sponsor is, the institution must cover two components of costs—those directly attributable to the specific project and those incurred toward the general support and management of research. These general support and management costs include library costs, utility costs, the cost of operating and maintaining the Physical Plant, and costs of the general administrative organization of the institution.

Indirect costs rates are periodically established by negotiation with a designated federal agency on the basis of costs incurred by the institution for the year preceding the negotiation. The institution's rate proposal for indirect costs is carefully evaluated by federal auditors before negotiation of indirect cost rates. Indirect cost rates vary greatly between institutions. The 38% rate currently in effect for IANR projects at the University of Nebraska is among the lower rates for land-grant universities with rates of 60 to 70% being common and exceeding 100% for some institutions and private research organizations.

UNL policy provides for distribution of the indirect costs recovery (ICR) according to an established formula with a percentage being returned to the departments proportional to the amount of indirect costs generated from the grants in that department. These funds are distributed among departmental uses according to departmental policy.

The current policy also allows IANR a special exemption in which indirect costs are waived for grants of $5,000 or less which are related to and supportive of established research programs. For grants in the $5,000 to $10,000 range, a straight line increasing rate is used
which would recover no indirect costs at the $5,000 grant level, but result in full indirect cost recovery at the $10,000 level. This provides the researcher incentive for obtaining grants in this range. There are no similar exemptions allowed for other UNL campus components. It should be noted that if sponsors of externally funded projects do not fully reimburse the University for its indirect costs, these costs must be paid from other institutional funds initially budgeted for other activities such as instruction, departmental research, and support services.

Occasionally, it is evident that there are informal arrangements to break grants up into small amounts so as to avoid indirect costs. While this has not reached problem proportions in the past, there are recent indications that this could become a problem. The practice of subdividing grants is strongly discouraged and the Agricultural Research Division will be taking a much firmer policy in identifying these situations and insisting upon conformation to current university policy. We feel that it is necessary to treat our external sponsors equitably and that using them to help circumvent the rules is not in the best interests of the University nor the individual research programs.

Other than the exemption specified above and for those standard exemptions for publicly-funded programs for which indirect costs are not allowed, indirect costs will be required on all grants. According to UNL policy, ICR waivers for special circumstances can only be granted by the Chancellor or by the Research Office as authorized specifically by the Chancellor.

Future newsletters will carry additional information on how indirect costs are distributed among the various components of the University. We hope that this information will enhance the cooperation of all researchers in order to maintain a consistent approach to the handling of indirect costs.

INTERNATIONAL TRAVEL FOR ARD FACULTY

The International Agricultural Programs Division makes available indirect cost funds on a periodic basis to the Agricultural Research Division to be used to support international travel for ARD faculty. In the most recent cycle of funding, the following faculty were selected by the selection committee to receive travel awards during 1989.

<table>
<thead>
<tr>
<th>Name</th>
<th>Destination</th>
<th>Amount of Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Alex Hogg</td>
<td>Poland</td>
<td>$700.00</td>
</tr>
<tr>
<td>Dr. Charles Gardner</td>
<td>New Zealand</td>
<td>1000.00</td>
</tr>
<tr>
<td>Dr. Elbert Dickey</td>
<td>Ireland, England</td>
<td>500.00</td>
</tr>
<tr>
<td>Dr. Dave Shelton</td>
<td>Ireland, England</td>
<td>500.00</td>
</tr>
<tr>
<td>Dr. Pat Crews</td>
<td>China</td>
<td>1000.00</td>
</tr>
</tbody>
</table>

Diane says

"An expert is a little drip under pressure."

ASSESSMENT OF NEEDS FOR LABORATORY ANIMAL FACILITIES

The care of animals is an important aspect of ARD research protocol. If you are doing research with laboratory animals on the Lincoln campus, you should have received a letter and survey form from Dr. John Yost. The survey is designed to assess your needs for laboratory animal facilities and associated equipment.

The data received from this survey will be compiled and discussed with the faculty at two forums on campus. These forums will be held the afternoon of April 12 on the East Campus and April 13 in Manter Hall. The survey information and these discussions will assist in evaluating the UNL laboratory animal facilities to meet our needs for the next 5 to 10 years. If we are to remain competitive for research grants, we must maintain a standard of animal care that meets the NIH and our assurance document standards.

If you anticipate using animals in your research, teaching or extension program, please take a few minutes, complete this survey form and return to 107 VBS, 0944. In order for your comments to receive appropriate consideration, please submit by March 10. If you did not receive a form, contact your Department Head, or call 2-6965 and a form will be sent to you.

PROGRAM SIZE AND FY87 RESEARCH EXPENDITURES OF SELECTED AGRICULTURAL EXPERIMENT STATIONS

<table>
<thead>
<tr>
<th>Agricultural Experiment Stations</th>
<th>NE</th>
<th>KS</th>
<th>IA</th>
<th>IL</th>
<th>IN</th>
<th>WI</th>
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<tbody>
<tr>
<td>Number of projects</td>
<td>305</td>
<td>362</td>
<td>339</td>
<td>354</td>
<td>368</td>
<td>607</td>
</tr>
<tr>
<td>Scientist-years</td>
<td>135</td>
<td>204</td>
<td>116</td>
<td>160</td>
<td>150</td>
<td>171</td>
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<tr>
<td>Federal formula funds*</td>
<td>2,925</td>
<td>3,052</td>
<td>4,765</td>
<td>4,618</td>
<td>4,231</td>
<td>4,519</td>
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<tr>
<td>Other CSRS*</td>
<td>423</td>
<td>1,123</td>
<td>793</td>
<td>405</td>
<td>885</td>
<td>2,450</td>
</tr>
<tr>
<td>appropriation*</td>
<td>12,782</td>
<td>15,313</td>
<td>12,488</td>
<td>12,395</td>
<td>16,180</td>
<td>20,292</td>
</tr>
<tr>
<td>Federal grants and contracts*</td>
<td>3,977</td>
<td>5,269</td>
<td>2,793</td>
<td>3,240</td>
<td>6,281</td>
<td>14,421</td>
</tr>
<tr>
<td>Industry grants*</td>
<td>1,813</td>
<td>1,493</td>
<td>5,335</td>
<td>3,507</td>
<td>3,460</td>
<td>6,227</td>
</tr>
<tr>
<td>Other non-federal*</td>
<td>1,085</td>
<td>1,023</td>
<td>1,668</td>
<td>1,376</td>
<td>2,316</td>
<td>407</td>
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</table>

*Dollars expended in thousands.
NEW AND REVISED PROJECTS

The following station projects were approved recently by the USDA Cooperative State Research Service:

10-186 Private Strategies, Public Policies, and Food System Performance
Investigator(s): A. M. Azzam, Ag Economics

11-067 Integrated Irrigation Water and Nitrogen Management to Sustain Ground Water Quality and Quantity
Investigator(s): D. L. Martin and D. G. Watts, Ag Engineering
Status: Revised Regional Hatch project effective October 1, 1987.

13-093 Regulation of Synthesis of LH and FSH by Estradiol in Bovine Females
Investigator(s): J. E. Kinder and H. E. Grotjan, Jr., Animal Science

13-094 Nutritional Impact on Gastrointestinal Morphology and Physiology
Investigator(s): E. T. Clemens, Animal Science

13-095 Regulation of Porcine Leydig Cell Function
Investigator(s): R. J. Kittok, J. E. Kinder and H. E. Grotjan, Jr., Animal Science

14-051 Induction of Cellular Immunity to BHV-1 by Anti-clonotypes
Investigator(s): S. Srikumaran, T. J. Zamb and D. L. Rock, Veterinary Science
Status: New Special Grant effective September 1, 1988.

91-025 Health Maintenance Aspects of Dietary Recommendations Designed to Modify Lipid Metabolism
Investigator(s): C. V. Kies, Human Nutrition & Food Service Management
Status: Revised Regional Hatch project effective October 1, 1987.

92-015 Understanding Problems and Possibilities of Independent Living for the Rural Elderly
Investigator(s): E. R. Combs, Consumer Science & Education

RESEARCH GRANTS AND CONTRACTS RECEIVED

NOVEMBER & DECEMBER 1988 & JANUARY 1989

AGRICULTURAL ENGINEERING
Miscellaneous Grants Under $5,000 each
$1,528

AGRONOMY
Eastin, J. D. - USDA/OID
Miscellaneous Grants Under $5,000 each
$43,910

ANIMAL SCIENCE
Miscellaneous Grants Under $5,000 each
19,491

ENTOMOLOGY
Miscellaneous Grants Under $5,000 each
5,500

ENVIRONMENTAL PROGRAMS
Golds, R. E. - Burlington Northern via UN Foundation
Miscellaneous Grants Under $5,000 each
200,000

FOOD PROCESSING CENTER
Foeing, G. W. - Nutrasweet Company
21,321

FOOD SCIENCE & TECHNOLOGY
Shahani, K. M. - Dairy Bureau of Canada
Miscellaneous Grants Under $5,000 each
22,000

Zeece, M. G. - National Live Stock & Meat Board
20,000

Miscellaneous Grants Under $5,000 each
7,000

HORTICULTURE
Miscellaneous Grants Under $5,000 each
23,834

NORTHEAST RESEARCH & EXTENSION CENTER
Miscellaneous Grants Under $5,000 each
18,595

PANHANDLE RESEARCH & EXTENSION CENTER
Kush, G. G. - Nebraska Beef Board
20,000

Miscellaneous Grants Under $5,000 each
8,993

PLANT PATHOLOGY
Partridge, J. E. - Egyptian Cultural & Ed. Bureau
5,750

Steadman, J. R. - Cornell University
7,301

Miscellaneous Grants Under $5,000 each
600

SOUTH CENTRAL RESEARCH & EXTENSION CENTER
Miscellaneous Grants Under $5,000 each
15,980

VETERINARY SCIENCE
Rhodes, M. B. - Codon
34,219

Miscellaneous Grants Under $5,000 each
45,058

WEST CENTRAL RESEARCH & EXTENSION CENTER
Clanton, D. C. - Nebraska Beef Industry Development Board
20,000

Miscellaneous Grants Under $5,000 each
13,170

TOTAL
$590,669
FEDERAL APPROPRIATIONS FOR RESEARCH

<table>
<thead>
<tr>
<th>Agency</th>
<th>FY88</th>
<th>% of Total</th>
<th>FY88</th>
<th>% of Total</th>
</tr>
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<tbody>
<tr>
<td>NIH</td>
<td>6,199</td>
<td>31.9</td>
<td>6,543</td>
<td>29.0</td>
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<tr>
<td>Special AIDS</td>
<td>956</td>
<td>4.9</td>
<td>1,289</td>
<td>5.7</td>
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<tr>
<td>NSF</td>
<td>1,717</td>
<td>8.8</td>
<td>1,885</td>
<td>8.4</td>
</tr>
<tr>
<td>USDA-CSRS</td>
<td>352</td>
<td>1.8</td>
<td>341</td>
<td>1.5</td>
</tr>
<tr>
<td>USDA-ARS</td>
<td>561</td>
<td>2.9</td>
<td>564</td>
<td>2.5</td>
</tr>
<tr>
<td>DOD basic research</td>
<td>984</td>
<td>5.1</td>
<td>1,097</td>
<td>4.9</td>
</tr>
<tr>
<td>Special SDI</td>
<td>3,901</td>
<td>20.1</td>
<td>3,948</td>
<td>17.5</td>
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<tr>
<td>DOE</td>
<td>792</td>
<td>4.1</td>
<td>1,471</td>
<td>6.5</td>
</tr>
<tr>
<td>Spectral-Supercollider</td>
<td>25</td>
<td>0.1</td>
<td>99</td>
<td>0.4</td>
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<tr>
<td>EPA</td>
<td>186</td>
<td>1.0</td>
<td>203</td>
<td>0.9</td>
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<tr>
<td>NASA</td>
<td>3,280</td>
<td>16.9</td>
<td>4,242</td>
<td>18.8</td>
</tr>
<tr>
<td>Special-Space Station</td>
<td>490</td>
<td>2.5</td>
<td>887</td>
<td>3.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>19,443</td>
<td></td>
<td>22,569</td>
<td></td>
</tr>
</tbody>
</table>

*Appropriations in millions of dollars

*Does not include a very large appropriation for development of military equipment and systems.

ARD TRAVEL REIMBURSEMENT PROGRAM FOR PROSPECTIVE GRADUATE STUDENTS

At the recommendation of the ARD Advisory Council, a special account was established in 1987 by the Agricultural Research Division to assist in attracting high quality graduate students into our research programs. This account is used to provide administrative units with a source of funds to partially reimburse travel expenses for prospective graduate students who wish to visit the department/district center before making a decision about which university to attend.

Each ARD administrative unit is eligible to receive funding to reimburse up to two (2) students per calendar year from this account. Only individuals who have been offered graduate research assistantships will be eligible for reimbursement. Departments/district centers will be permitted to use their own resources to reimburse prospective graduate students beyond the two per year supported from the special ARD account if they so desire.

Prospective graduate students who have been offered an assistantship may receive up to fifty percent of their expenses or $200.00, whichever is less. Reimbursable expenses include transportation, lodging, and meals. Additional guidelines for this program should be available in departmental offices or can be obtained from the ARD office.

There has been little use of this reimbursement program in recent months and this is intended as a reminder for those who may have forgotten about its existence. If there are additional questions, contact the ARD office.