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## ARD News June 1995

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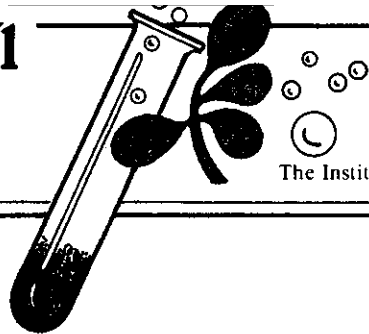


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June 1995

Volume 29, Number 6

## COMMENTS FROM THE DEAN

Dear Colleagues:

We heard you! Many of you took the time to complete our reader survey regarding Nebraska research initiatives included in the March issue of *Research Nebraska!*.

Thanks for providing your input on priorities for agricultural, natural resources, and family sciences research.

Clientele ranked the six major program areas in the following order of importance:

- Tied for first, *Environment and Natural Resources* and *Value-added Processing of Commodities*.
- Third, *Plant Production Systems*.
- Fourth, *Animal Production Systems*.
- Fifth, *Human Nutrition, Food Safety and Health*.
- Sixth, *Economic and Social Issues*.

IANR faculty members ranked the six major program areas as follows:

- First, *Environment and Natural Resources*.
- Second, *Value-added Processing of Commodities*.
- Third, *Plant Production Systems*.
- Fourth, *Economics and Social Issues*.
- Fifth, *Animal Production Systems*.
- Sixth, *Human Nutrition, Food Safety and Health*.

Of 22 research initiatives, clientele ranked seven as having the highest priority:

- *Enhance Agricultural and Rural Economies;*
- *Conserve and Enhance Air, Soil, and Water Resources;*
- *Use Genetics to Improve Plants for the 21st Century;*
- *Develop New and Improved Non-food Products;*
- *Enhance Food Quality and Value;*
- *Develop Integrated/Sustainable Animal Production Systems;*
- *Convert Processing Byproducts to Beneficial Uses.*

Faculty members selected the following seven research initiatives as the most important:

- *Conserve and Enhance Air, Soil, and Water Resources;*
- *Develop Integrated/Sustainable Animal Production Systems;*
- *Develop Alternative Crop Management Systems;*
- *Enhance Food Quality and Value;*
- *Target Optimal Nutrition for Individual Health;*
- *Develop New and Improved Non-food Products;*
- *Use Genetics to Improve Plants for the 21st Century.*

The amazing similarity in priority rankings from clientele and faculty members suggests that the major issues of importance to Nebraska have been identified. We intend to use this information to help make decisions regarding reallocation of resources within the Agricultural Research Division (ARD). Enhancing research efforts in these high priority areas should allow ARD to better meet the needs of Nebraska's agriculture and people.

We will also use this information in formulating Nebraska's input on national agricultural research priorities. National priorities are established annually to inform Congress about needs and investment opportunities in Land Grant University research.

Darrell W. Nelson  
Dean and Director

## Diane Says

When there is a hill to climb, don't think that waiting will make it smaller.





**GRANTS AND CONTRACTS  
RECEIVED  
APRIL AND MAY, 1995**

<b>Agricultural Meteorology</b>	
Hubbard, K. — USDA/Global Change Program	110,000
Verman, S., Ullman, F., Arkebauer, T. — NSF	165,000
Wilhite, D. — USDA/CSREES	187,878
Wilhite, D. — DOC/NOAA	200,464
<b>Agronomy</b>	
Drijber, R. — USDA/ARS	40,000
Johnson, B. — Pioneer Hi-Bred International	68,717
Schepers, J., Peterson, T., Ferguson, R. — John Deere	10,000
Walters, D. — UN Foundation - Crop Production Research	15,000
Miscellaneous grants under \$5,000 each	12,100
<b>Animal Science</b>	
Grant, R. — Southeastern Poultry and Egg Assn.	16,580
Klopfenstein, T., Stock, R., Gosey, J. — Southeastern Poultry and Egg Assn.	37,000
Stock, R., Klopfenstein, T. — Lily Research Laboratories	18,750
Miscellaneous grants under \$5,000 each	22,867
<b>Biochemistry</b>	
Banerjee, R. — Research Corporation	14,000
Chollet, R. — NSF	10,000
Golbeck, J. — NSF	10,000
Ragsdale, S. — NIH	225,219
Ragsdale, S. — Sandoz	10,000
Ragsdale, S. — U.S. Department of Energy	110,000
<b>Biological Systems Engineering</b>	
Miscellaneous grants under \$5,000 each	40,000
<b>Entomology</b>	
Miscellaneous grants under \$5,000 each	14,000
<b>Food Processing Center</b>	
Taylor, S. — Pioneer Hi-Bred International	50,000
Miscellaneous grants under \$5,000 each	4,000
<b>Food Science and Technology</b>	
Meagher, M. — U.S. Army Research	37,296
Miscellaneous grants under \$5,000 each	1,172
<b>Forestry, Fisheries and Wildlife</b>	
Hoagland, K. — Nebraska Game and Parks Commission	15,990
Miscellaneous grants under \$5,000 each	4,000
<b>Horticulture</b>	
Coyne, D. — UN Foundation	7,500
Miscellaneous grants under \$5,000 each	18,572
<b>Industrial Ag Products Center</b>	
Hanna, M. — USDA/CSREES	87,363
Hanna, M., Bibby, G. — Nebraska Corn Board	23,944
Miscellaneous grants under \$5,000 each	2,750
<b>Northeast Research and Extension Center</b>	
Shapiro, C. — UN Foundation - Applied Corn Production	12,853
Miscellaneous grants under \$5,000 each	6,293

<b>Nutritional Science and Dietetics</b>	
Lewis, N. — Lincoln-Lancaster County Health Department	10,000
Lewis, N., Scheideler, S., Froning, G., Cuppett, S. — Southeastern Poultry and Egg Assn.	28,457
<b>Panhandle Research and Extension Center</b>	
Baltensperger, D. — UN Foundation - Anna H. Elliott	9,500
Binford, G., Baltensperger, D., Maranville, J., Shelton, D. — UN Foundation - Applied Crop Production Research	15,000
Lyon, D. — UN Foundation - Anna H. Elliott	5,000
Wilson, R., Smith, J. — Western Sugar Company	19,000
Yonts, C. D. — UN Foundation - Anna H. Elliott	7,050
Miscellaneous grants under \$5,000 each	84,925
<b>Plant Pathology</b>	
Steadman, J. — USDA/ARS	13,000
Miscellaneous grants under \$5,000 each	4,060
<b>South Central Research and Extension Center</b>	
Miscellaneous grants under \$5,000 each	16,175
<b>Veterinary and Biomedical Sciences</b>	
Miscellaneous grants under \$5,000 each	17,688
<b>Water Center/Environmental Programs</b>	
Watts, D. — USDA/CSREES	300,000
Miscellaneous grants under \$5,000 each	7,000
<b>West Central Research and Extension Center</b>	
Hergert, G. — UN Foundation - Anna H. Elliott	13,920
Jacoby, P. — UN Foundation	10,153
Miscellaneous grants under \$5,000 each	28,376
<b>GRAND TOTAL</b>	<b>2,198,612</b>

**PROPOSALS SUBMITTED FOR FEDERAL GRANTS**

The following is a listing of proposals that were submitted after mid-March 1995 by faculty for federal grant programs. While not all grants will be funded, we applaud the faculty member's effort in submitting proposals to the various agencies.

**Martin B. Dickman** — U.S. Department of Agriculture-Cooperative State Research Education and Extension Service — Multi-Institutional Research Coordination Group Proposal: Genetic Basis for Pathogenicity in the Genus *Colletotrichum* — \$50,000

**Milford A. Hanna and Donald P. Weeks** — The Consortium for Plant Biotechnology Research, Inc. — Integrated Approaches to Enhancing Degradation of Biodegradable Polymers — \$99,428

**Julie A. Savidge** — U.S. Fish and Wildlife Service — Spatial and Temporal Patterns of Wet Meadow Use by Sandhill Cranes Along the Platte River — \$50,698

**Edward J. Peters** — U.S. Fish and Wildlife Service — Population Structure, Habitat Use and Biology of Pallid Sturgeon (*Scaphirhynchus albus*) and Shovelnose Sturgeon (*S. platyrhynchus*) in the Lower Platte River, Nebraska — \$54,700

**Dennis E. Jelinski and S. Narumalani** — U.S. Fish and Wildlife Service — Distribution and Hydrologic Characteristics of Backwaters of the Central Platte River, Nebraska — \$61,202

**Stephen M. Spomer** — U.S. Department of Interior — Insect Inventory of the Threatened Eastern Nebraska Salt Marsh Community — \$17,539

**Thomas G. Franti and Steven D. Comfort** — U.S. Geological Survey — Predicting Pesticide Runoff Losses from Four Tillage-Pesticide Management Practices — \$16,618

**Marion H. O'Leary** — National Institutes of Health — Heavy-atom Isotope Effects on Enzymatic Reactions — \$166,190

**Elizabeth A. Walter-Shea and Timothy J. Arkebauer** — NOAA — Radiation and Gas Exchange of Canopy Elements in a Boreal Forest — \$47,712

**Dennis Diestler, Xiao Cheng Zeng and Hong Jiang** — U.S. Office of Naval Research — Computational Studies of Static Friction in Metal-Lubricant Systems — \$75,000

**Rhae Drijber** — U.S. Geological Survey — Community Structure and Functional Diversity of Microbial Communities in Soils and Underlying Sediments in Response to Atrazine Contamination — \$8,500

**Kenneth G. Hubbard** — USDA/Global Change Program Office — Project Earth Link: Global Environmental Change Education — \$56,700.

## ARD ADVISORY COUNCIL ELECTION RESULTS

As a result of recent elections, the following faculty members were selected to serve on the ARD Advisory Council for a three-year period ending June 30, 1998.

District 3: **Daniel Walters** (Agronomy)  
Representing faculty in the Department of Agronomy.

District 4: **Elizabeth Walter-Shea** (Agricultural Meteorology)  
Representing faculty in the Departments of Agricultural Meteorology, Entomology, Horticulture, and the Water Center/Environmental Programs.

District 9: **Gary Hein** (Panhandle Research and Extension Center)  
Representing faculty in the Panhandle Research and Extension Center, and the West Central Research and Extension Center.

Returning ARD Advisory Council Members are:

District 1: **Susan Cuppett** (Food Science and Technology)  
Representing faculty in the Departments of Agricultural Economics and Food Science and Technology.

District 2: **Charles Shapiro** (Northeast Research and Extension Center)  
Representing faculty in the Department of Biological Systems Engineering, Northeast Research and Extension Center, Southeast Research and Extension Center, and South Central Research and Extension Center.

District 5: **Rick Stock** (Animal Science)  
Representing faculty in the Department of Animal Science.

District 6: **Rueben Donis** (Veterinary and Biomedical Sciences)  
Representing faculty in the Departments of Biometry; Forestry, Fisheries and Wildlife; and Veterinary and Biomedical Sciences.

District 7: **Raymond Chollet** (Biochemistry)  
Representing faculty in the Departments of Biochemistry and Plant Pathology.

District 8: **Shirley Niemeyer** (Textiles, Clothing and Design)  
Representing faculty in Communications and Information Technologies; and the Departments of Agricultural Leadership, Education, and Communication; Family and Consumer Sciences; Nutritional Science and Dietetics; Textiles, Clothing and Design.

The Agricultural Research Division administrators and faculty whom they represent truly appreciate the dedicated service and contributions to the Council by outgoing members — **David Mortensen, Ken Hubbard, and David Baltensperger**. This group has provided excellent guidance on issues affecting faculty with research appointments.

## **DR. CHRIS R. CALKINS SELECTED FOR LEADERSHIP DEVELOPMENT COURSE**

Dr. Chris R. Calkins, professor of Animal Science, has been selected to participate in the 1995-96 ESCOP/ACOP Leadership Development Course. Chris will complete a three-phase program that features a week-long "introduction to leadership" workshop in Indianapolis; an administrative internship in the ARD Office from July 1995 to June 1996; and a capstone seminar with federal agency leaders, lobbyists, and Congressional staff personnel in Washington, D.C.

While serving as an intern, Chris will participate in ARD staff meetings, lead project reviews, undertake special projects, interview senior administrators, and study research administration. We are pleased that Chris will be spending about 10 percent of his time in the ARD office during the next year.

Chris replaces Dr. David Stanley-Samuels who will finish his administrative internship on June 30, 1995. ARD has benefitted from David's advice and hard work during the past year. We wish him continued success with teaching and research in insect physiology.

## **NEW NU FOUNDATION ENDOWMENTS MANAGED BY ARD**

Several new endowments have been established in the University of Nebraska Foundation for support of research in certain disciplinary areas. The ARD Advisory Council has approved the general guidelines for managing the endowments; specific procedures and criteria are being developed for administration of each program. When sufficient interest income has been accumulated to award a grant, an RFP will be issued for each endowment. The endowments are listed below:

### **Helen Porter Van Spronsen Charitable Trust**

The annual income from the Trust will be used to partially support (\$9,000) one GRA in the range and livestock research program. This will be a named assistantship assigned to an approved ARD project in range and livestock research at the Gudmundsen Sandhills Laboratory.

### **Ralph H. Bainbridge Memorial Fund**

The annual income will be used to partially support research in beef production and grassland management. Grants will be awarded on a competitive basis to interdisciplinary teams. Matching funds will be required.

### **Agricultural and Water Research Fund**

Interest income will be used in conjunction with the current Burlington-Northern Water Science

Endowment to enhance biannual awards in water science and irrigation management research.

### **Jorgensen Fund**

The interest income will be used to partially support a GRA for a graduate student conducting research at the Gudmundsen Sandhills Laboratory on beef-range systems.

### **Channing B. and Katherine W. Baker Fund**

Interest from the endowment will be used to support one GRA in the areas of (1) soil conservation and management or (2) breeding and genetics of food and feed grains. Preference in awarding the GRA will be given to Ph.D. students.

## **IANR STRATEGIC PLAN**

March 1995 was the publication date for the new IANR Strategic Plan that is effective for the next four years. The Plan features three program themes:

- *Enhance Economically Viable and Sustainable Food and Biomass Systems;*
- *Improve Natural Resources Management and Enhance Environmental Quality;*
- *Strengthen the Quality of Life of Individuals and Families and Contribute to Community Viability.*

The Plan also identifies three IANR Overarching Objectives and five IANR Operational Priorities.

Units are currently developing Action Plans that will implement the program priorities identified in the Strategic Plan. A number of these Action Plans will be interdisciplinary and multi-unit. Funding of the Unit Action Plans will come primarily from redirection of unit resources. The Unit Action Plans are due Sept. 1, 1995.

From three to six IANR-level Interdisciplinary Team Action Plans also will be developed to address the most pressing issues facing Nebraska. Funding for these Plans will come from IANR special operating funds and matching funds from units. The Interdisciplinary Team Action Plans will be completed on or before Sept. 1.

It appears that Action Plans relating to IANR Overarching Objectives and Operation Priorities also will be prepared, and the due date is Dec. 1, 1995. These plans will be summarized in an IANR 1995-99 Action Plan Report outlining what will be accomplished during the next four years.

The Strategic Plan and Action Plans are very important to the Agricultural Research Division. The reallocation and redirection of faculty positions and allocation of research funds is directly linked to the Plans. I encourage all faculty members to take a strong interest in the development of Action Plans. Highly focused plans that address a defined

need of clientele will be well received by the IANR administration. Your creativity is needed to develop the type of plans that will be meaningful four years from now.

## LICENSING INTELLECTUAL PROPERTY

A recent article in *Agricultural Research Division News* described the UNL patent procedure as it relates to the initial process of preparing and forwarding disclosures and offers of invention. In those instances where patent applications are filed and patents granted following that process, it is hoped that these will lead to commercialization of the technology through licensing.

Under the normal situation, ownership of the intellectual property rights (patents) resides with the University. There are a number of different scenarios that relate to how licensing may proceed from this point.

In many cases, the research was supported by external sponsors. When a sponsor has made a substantial investment in the development of technology that is the subject of the University research that results in a patent, the sponsors often rightly feel that they are entitled to certain concessions regarding licensing. These are commonly addressed in the contract or agreement language that identifies the sponsorship and leads to the funding of the research.

There are several approaches for licensing, or providing mechanisms leading to licenses. Included in these are an option for license, the grant of a license, and the right of first refusal.

Under situation 1, *option for a license*, there is usually language in the research agreement providing the sponsor the right to elect to license patented intellectual property. This usually must be done within a certain time period and does not specify licensing details other than to state that these will be negotiated between the university and sponsor in good faith. Extending an option may require other commitments such as continued funding of the research program, or other considerations.

The primary reason for a specified option period is to allow the sponsor adequate time to assess the commercial potential of the intellectual property before entering a license agreement. From the University's viewpoint, the period must be limited so as to be able to seek other licensees if the original sponsor is not interested.

In the second situation, research agreements may *grant a specific license* to sponsors to use intellectual property. The agreement will describe the extent of the permitted use. For example, a sponsor might obtain a non-exclusive royalty free license for internal research and development. An agreement might contain this type of license and still include other licensing options as described in the previous paragraph.

The third situation, *the right of first refusal*, is when the agreement specifies that a sponsor will have the first right of refusal for negotiating a license. Sometimes this right

may be for an exclusive license. This type of agreement is normally contingent upon the sponsor negotiating a license agreement in good faith during a given period of time. This agreement language gives sponsors some assurances that they may need to justify the research investment. If the negotiations cannot be completed according to the terms of the agreement, then the University still has the right to negotiate with other parties.

Licenses may be either exclusive or non-exclusive, and both types are used in certain situations. If the technology has limited commercial value, or the use is not directed toward commercial application, a non-exclusive license may be used. Sometimes sponsors expect non-exclusive, royalty-free licenses to technology of this type in return for making investment in the research.

Exclusive rights are normally used for licenses that have significant commercial value. In this case, the sponsors are normally willing to pay royalties. Even with exclusive licenses, however, the University usually would retain the right to use the intellectual property in its own research programs.

IANR has only a few patented discoveries that are licensed and provide royalty income to the University at this time. Some resulted from sponsored research for which the sponsor received a license later, when the technology was disclosed and patented.

It is likely that more discoveries will be patented in the future and that royalty income could become significant. Agreements for sponsored research should reflect this possibility and should contain appropriate language to prevent any misunderstandings or disagreements and to provide for an orderly process of licensing if that becomes a reality.

Reference: Intellectual Property Rights in Industry-Sponsored University Research. A Guide to Alternatives for Research Agreements. Industrial Research Institute, National Academy Press, Washington, D.C. August 1993.

## THE EXCELLENCE IMPERATIVE: LEADERSHIP IN THE LAND GRANT SYSTEM

We are familiar with one or another form of the dictum "if we are not moving forward, we are moving backward." This is particularly true for Land Grant universities, where we enjoy the advantages of a unique mission in society, distinct resources and special relationships with our local and national clientele.

These advantages are attended by responsibilities to ensure that our Land Grant institutions develop and maintain excellent programs. Excellence takes on additional meaning for Land Grant universities, because in addition to the normal criteria that mark high caliber programs, our work must affect issues relevant to our unique mission.

In the ARD, moving forward means identifying and vigorously addressing current and future research needs. This sort of assertive agenda calls for skilled leadership at all levels of our organization.

I am one of 75 participants in the fourth class of the three-phase ESCOP/ACOP Leadership Development Program, a national program designed to improve the leadership potential within all Land Grant institutions. Phases I and III are devoted to didactic leadership training, first in Indianapolis, then in Washington, D.C. Phase II is designed to provide experience in research administration, in my case as the 1994-95 ARD Administrative Intern.

The essential features of this experience are forming a mentor-student relationship with the director of the ARD, and gaining a wide range of experiences in administration and leadership. This column is intended to share some of my reflections as this year rapidly draws to an end.

While they may appear to be similar due to the apparently hierarchical structures of most organizations, we can distinguish administration and leadership. Administration relates to tracking and coordinating resources and activities. Leadership is more like art: we might not know what it is, but we recognize it on sight. Certainly there are administrators who do not lead, and leaders who do not administrate. This last phrase is especially true in the academy.

A view I brought into my internship experience is that all faculty have opportunity and responsibility to exert leadership. We are leaders as teachers when we decide what to include and exclude from our courses. We are leaders in extension when we develop programs, and again, in deciding what information to include and how to express the information in a way that can be understood. We are leaders in research, laying out the important questions and publishing appropriate results. We also can serve as institutional leaders, mentoring younger colleagues, serving on committees (don't say it!! Just try regarding committees as something like taxes: certainly some of them are not worth the time, but imagine living in a system completely devoid of them), and expressing matured opinions.

The internship experience has reinforced, and refined, my conception of faculty as institutional and discipline leaders.

Before the advent of modern professional schools, mostly within the last 100 years, most people gained their professional training in various forms of apprenticeships. Recall, for example, that Abraham Lincoln "read law" in a mentor's office before starting his practice.

The ESCOP/ACOP Leadership Development Program provides a sort of abbreviated apprenticeship in administration and leadership. As intern, I became familiar with on-going issues and problems during weekly ARD staff meetings, and wallowed about in small, independent administrative projects.

Note well, these activities, while stimulating, do not convey the deeper nature of an apprenticeship. Members of the program are encouraged to meet with a wide range of university leaders. The apprenticeship emerged from these frequent interactions, especially with Darrell Nelson.

As apprentice, we learn something about how the university works; about never-ending funding issues; about the efficient communication ties, regionally and nationally, among Land Grant leaders and administrators; about dealing with frustrations and disappointments; about striving for excellence. The apprenticeship provided insights and experiences that can help faculty reach higher levels of our leadership potentials.

The role of faculty as university leaders will become increasingly important in future. Our major challenge will be to continue moving forward, not backward, in an era of steadily more-challenging times.

The ESCOP/ACOP Leadership Development Program is one of several means to achieve enhanced leadership potentials in Land Grant institutions. Colleagues who may be interested in entering a future class in this program are welcome to call me.

*David Stanley-Samuels*