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ARD

Agricultural Research Division News

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December 2000

Volume 35, Number 2

Season's Greetings

The Agricultural Research Division staff extends to all IANR faculty and staff our best wishes for a joyful holiday and a productive new year.

The past year has been notable because of your increasing productivity and continued success in acquisition of external funds to support your research projects. For the fiscal year ending June 30, 2000, ARD faculty expended \$56,059,000 on research projects. Of this total, 46.3% was state appropriated, 32.2% was grants and contracts, 12.3% was revolving, 5.8% was federal formula funds and 4.0% was Nebraska Research Initiative funds. During FY 2000, ARD faculty obtained more than \$23.2 million in new grants and contracts (47.1% of the UNL research grant funds). The total output of refereed publications, cultivars and germplasms released, and patents obtained increased by 7.2%, 31%, and 100%, respectively. These are tremendous accomplishments that serve as the first steps in implementing the 2020 Vision recommendations within ARD.

We are certain that 2001 will be filled with challenges and many opportunities. The ongoing University of Nebraska System prioritization process may lead to some increased investments in some of our programs. We anticipate that our faculty will be highly competitive for several new grant programs being announced by federal agencies, which will lead to increased funding for research projects. There is a likelihood for increased funding for IANR through the activities of the University of Nebraska Foundation because this is a personal interest of Vice Chancellor Designee John Owens. Due to previous reallocations and tax programs, ARD's financial situation is not strong at present, but we continue to invest our limited resources in critical program areas that address the needs of Nebraskans while providing essential new knowledge.

ARD staff have finished preparation of the 114th Annual Report. We hope that you will read this report and help celebrate the accomplishments of your colleagues that are documented in the publication. We believe that the Annual Report presents an overview of an outstanding research program carried out by dedicated faculty. Thanks to each of you for your efforts in making our organization recognized both in Nebraska and nationally for excellence and relevance. The ARD staff look forward to working with each of you during 2001.

Darrell

Melvin

Dora

Karen

Terry

Wiane

Dale



It is the policy of the University of Nebraska-Lincoln not to discriminate on the basis of gender, age, disability, race, color, religion, marital status, veteran's status, national or ethnic origin or sexual orientation.



Recognition of Junior Faculty for Excellence in Research

In 1991, the ARD Advisory Council established a program to recognize the research accomplishments of junior faculty members. Typically, two junior faculty are recognized each year. The recognition consists of a certificate, engraved plaque, and \$3,000 for professional development or research-related activities.

Criteria used to evaluate nominees include scientific publication record, especially those publications resulting from research at UNL, external grant funding, and recognition by peers. A sub-committee of the ARD Advisory Council evaluates the nominations and recommends recipients to the Dean for Agricultural Research.

The following faculty were selected for recognition during the 2000-2001 academic year:

Dr. John E. Barbuto, Jr., Assistant Professor, Agricultural Leadership, Education and Communications Department

Dr. Kulvinder Gill, Assistant Professor, Agronomy and Horticulture Department

Congratulations to Drs. Barbuto and Gill! A call for nominations is issued each year on or about June 1. We encourage faculty and administrators to nominate deserving junior faculty in their units.

Royalties

Fiscal year 1999-2000 was a banner year for royalty income at the University of Nebraska. Gross royalty receipts for FY-2000 increased by more than 45% over the previous fiscal year, with total royalty income of \$1,158,458, according to figures from the office of the Vice Chancellor for Research. Of this total, royalty income resulting from licensing and use of intellectual property developed by ARD faculty members totaled \$517,832.77, or about 45 % of the total royalties received by UNL. Royalties associated with ARD faculty intellectual property were received from 22 different companies.

In accordance with Board of Regents policy, royalty income is distributed 1/3 each to the Office of Technology Transfer, to the originating Unit, and to the inventor(s), after patent expenses have been deducted.

Under IANR policy, the originating Unit is defined for distribution of royalties as 25% to the Vice Chancellor of IANR, 50% to the involved Division, and 25% to the involved Department. In recent years, the IANR Vice Chancellor's share and the Agricultural Research Division share have been returned to the originating department or center along with their share, resulting in a 100% return rate.

For FY 2000, however, the 25% Vice Chancellor IANR share was retained to assist in facilities' renovation needs. Distribution of royalties to units is normally

done in October or November, following financial closing for the fiscal year which ended June 30, 2000. After the deductions for the patent expenses and the share retained for renovation needs, the total amount returned to departments was \$123,355.42. Units receiving royalty income for FY 2000 included the Departments of Animal Science, Veterinary and Biomedical Sciences, Plant Pathology, Food Science and Technology, Agronomy and Horticulture, Industrial Agricultural Products Center, and the West Central Research and Extension Center.

The royalty income received by units has assisted a wide variety of research activities. While not a major source of support, this funding has been a welcome source of resources for these units.

Policy Prohibits Use of University Funds for Memberships, Subscriptions

In 1997, the Vice Chancellor's Council approved a policy that prohibits the use of university funds for purchase of individual memberships in scientific organizations or personal subscriptions to journals. The policy statement is provided below:

- No university funds (appropriated, grants, contracts, indirect cost recovery, or revolving) may be used to pay individual memberships in professional societies or other periodicals.
- University funds may be used to purchase institutional memberships in civic or professional organizations or to purchase institutional subscriptions for journals or other periodicals.
- University of Nebraska Foundation funds may be used to pay for personal memberships or subscriptions if individual endowments are established for this purpose.

The policy was adopted because several cases of abuse were discovered and because Council members believe that faculty members have a personal responsibility to be members of their professional or scientific society.

ARD Philosophy on Annual Performance Evaluation

Almost every faculty member in IANR has a unique assignment; thus, evaluations are done in relation to the position description of each individual. All administrators attempt to take a holistic view of the contribution that each faculty member is making to their unit. In evaluating the research component of a faculty member's appointment, the following are considered:

Research project management:

Organization, management, and leadership provided to a research project are important criteria. Attempts are made to evaluate the creativity, relevance, and innovation present in the project.

Transfer of information to clientele:

Any "practical" information resulting from research projects should be disseminated through the project leader's extension program or provided to appropriate extension specialists for use in educational programs. We need to get the latest technology out to users as soon as possible.

Scientific publications:

Research data stored in file cabinets or used only in extension programs have limited long-term value. ARD expects that research data will be published in a form that is in the permanent collection of libraries and available for future reference. Publications can take the form of research bulletins, journal articles, books, book chapters, or proceedings of symposia or workshops. Publishing data in peer-reviewed outlets adds a "quality" factor to the publication. Authorship "credit" is given for any significant contribution to a publication. There is no special "credit" for first author or sole author publications.

Participation in professional society meetings and activities:

Presentations of scientific information at regional or national meetings of professional societies is encouraged. Invitations to present plenary or similar addresses are evidence of professional growth and developing stature. Serving as an officer of a professional society and editing journals, books, or proceedings are significant contributions.

Grantsmanship:

Faculty members are not evaluated on their ability to obtain grant support. ARD expects that faculty members will be proactive in attempting to find grants to support their research project, but a lack of success will not be a negative factor during evaluation. In some disciplines, success in grantsmanship translates directly into research activity and output, whereas other disciplines require limited resources to have significant output and accomplishment.

Human resource development:

Providing guidance to graduate students, post-doctoral research associates, or visiting scientists is a plus for a faculty member. We realize that not every faculty member has the opportunity to work with graduate students or post-doctoral fellows, so involvement with human resource development is not a requirement.

Team effort:

Participation in team activities is not a requirement for faculty members, but effective leadership or

contributions to teams is a plus. Specific notice is made in the "Academic Performance Evaluation of Faculty" of involvement in team activities.

Other accomplishments:

ARD scientists are engaged in a variety of activities. There is a wide range of outputs from our research projects, i.e., cultivars and germplasm, inventions, computer programs, diagnostic techniques. Administrators recognize these contributions in the evaluation process.

Service:

All faculty are expected to devote a portion of their time to institutional, professional, and public service. In many cases, these activities consist of serving on committees, reviewing manuscripts for journals, or making presentations to community or clientele groups. There is an expectation in the evaluation process for service activities.

Please contact Darrell Nelson or Dale Vanderholm if you have any questions about the evaluation of faculty members with research appointments. We believe that it is critical that all faculty understand this process and the criteria used in evaluation.

ARD "Service Objectives"



In the February 1992 issue of ARD News, we first published the ARD "Service Objectives". The ARD staff have attempted to adhere to the objectives since that time. We have recently revised the "Service Objectives" and are providing them to ARD-affiliated faculty and staff to reaffirm our intent to provide the best possible service to individual faculty and IANR units.



All Agricultural Research Division (ARD) administrators and office personnel believe that their role is to provide support and service to the research programs of units and faculty members. We will continually strive to enhance the effectiveness of all research projects to the greatest extent possible. One means of assisting the research efforts of faculty members, graduate students, and support staff is to provide the highest level of administrative services possible. We are committed to excellence in administration and, hereby, establish the following "Service Objectives."

Office Personnel Commitments

- The following forms will be processed, signed, and forwarded to the appropriate office/unit either the same day or the morning of the following day (in some cases additional processing may occur in Agriculture Hall before forms are returned to the unit or sent to City Campus):
 - Position descriptions
 - Personnel requisitions and related documents
 - Proposals to interview
 - Personnel Actions Forms (PAFs)

- Reimbursement vouchers
 - Research Council proposals/requests
 - IANR Professional Development requests
 - Permission to engage in outside professional activity
 - Requisitions and purchase orders
 - Tuition remission forms
 - Travel authorizations
 - Manuscript record forms
 - Graduate faculty nominations
 - Other routine documents
- Telephone calls will be handled in a courteous and helpful manner. Telephone messages will be relayed as soon as the person returns or can be contacted.
 - E-mail correspondence will be answered in a timely manner, normally the day of receipt.
 - Efforts will be made to initiate scheduling project reviews within three working days after the research project outline arrives in ARD. The time that the review is conducted depends upon the availability of review committee members and department heads.
 - All grant proposals, whether federal or private, will be processed and forwarded to either Sponsored Programs or USDA agencies as appropriate within eight working hours after receipt in ARD.
 - Processing of revised project outlines and AD 416/417 Worksheets will be initiated within three working days after arrival in ARD. The project materials will be sent to the CRIS system and CSREES as soon as possible after this date.
 - Processing of cooperative agreements and contracts will be initiated within three working days after arrival in ARD. Processing will be completed and the documents forwarded to the agency/company as soon as possible thereafter.

Administrator Commitments

- Except in the most extreme circumstances, someone with ARD signature authority will be available every working day. Under no circumstance will there be more than one consecutive working day without this capability.
- RFPs will be sent to units within two working days after ARD receipt.
- Recurring RFPs will be anticipated and preliminary notice sent to units at least 30 days prior to the proposal deadline.
- Rationale for funding decisions will be communicated to unit administrators.
- All priority incoming mail will be processed as soon as possible and acknowledgments/ responses will be sent within five working days.
- All telephone calls and e-mail to a specific individual will be returned within 24 hours after the person returns to the ARD office. Callers or senders will be notified of the time of return and offer to redirect the call.

- Decisions or priority rankings on proposals for "local" grant programs (i.e., Layman Fund, UN Foundation, ARD Interdisciplinary Research, Elliott Fund, Sampson Fund, etc.) will be made within two weeks after deadline for receipt of proposals. Feedback will be provided to all funded and non-funded authors.
- Decisions on recipients for ARD awards will be made within two weeks after deadline for nominations.
- Decisions regarding allocation of "new" resources (i.e., equipment funds, operating, hourly, and GRA stipends) will be made within two weeks after deadline for receipt of proposals from units. Decisions requiring joint decisions by divisions/college may require a longer period of time.
- Administrators will maintain an "open door" policy. We will be pleased to meet with any faculty or staff member or unit administrator at any time our schedule permits.
- Administrators will provide appropriate accountability for all funds.
- The ARD will strive to provide high-quality outreach materials suitable for a variety of audiences and clientele. Materials will emphasize impact and outcomes.
- Administrators will develop and communicate reasonable, attainable research productivity goals for units and faculty.
- Administrators will value, promote and support interdisciplinary research teams.
- Administrators will support faculty participation in regional research projects.
- Administrators will provide appropriate programs to support the graduate and undergraduate education of students interested in research careers.

Revised: November 2000

University and Industry Consortium Meeting

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The semi-annual meeting of the University and Industry Consortium was held at the Aventis Research Facility in Research Triangle, NC. This was a very interesting location for the meeting, because the 'StarLink' biotech issue was having a pronounced effect on Aventis at that time. One of their managers gave a talk on Aventis (Sales: 17.8 Billion Euros, 90,000 employees worldwide, research effort 3.0 Billion Euros). The manager said that Aventis employees are trying to invent a new company and they will be innovation driven and success will be based on integration. Factors affecting their business are consolidation at all levels, low commodity prices, the bundling of technology, seed and chemicals, and the shift in pest control to seeds.

Although the Aventis representative was not there to cover the 'StarLink' corn issue, he did discuss it. He indicated that this was a problem inherited during the merger of Rhone Poulenc Agro and AgrEvo. He said the company takes complete responsibility for the problem and every member of the North America management team has been working 15 hours a day, seven days a week to solve the problem. The representative said that it was foolish to think that corn allowed only for use as animal food could be completely segregated from corn used for human consumption. He indicated that although the product was safe and they were working on a complete registration for use in food for human consumption, they would be requesting a cancellation of the registration of the product and that there will no further planting of 'StarLink' corn. I was impressed with Aventis' willingness to accept the responsibility for the problem and the consequences of solving it. This was much better than the way the tire issue was handled by Ford and Firestone. More recently it has been announced that Aventis would be selling off the crop science portion of the company in order to focus on pharmaceuticals — so much for integration.

Other issues discussed were watershed management in North Carolina, genomics and its potential in agricultural research, bio-terrorism concerns with agricultural products, and the USDA's move to the use of regional pest management centers and their approach to problem solving in the future. They are going to involve stakeholders in decision making, integrate research, extension and education, encourage multi-state activities, and use multi-disciplinary approaches to problem solving.

The meeting was interesting because participants were able to learn about the significant issues in industry and how these issues and problems were approached. The communication between the industry and university participants was excellent and should be helpful to all in attendance.

Terry Riordan, ARD Intern

CSREES Appropriation for FY 2001

President Clinton signed the FY 2001 Agriculture Appropriations Bill on October 28, 2000. Total funding for research within the CSREES appropriation increased by about \$20 million, although most of this increase occurred in state-specific special grants. Federal formula programs were maintained at FY 2000 levels and the NRI sustained a \$13 million decrease. Most of the other programs received funding similar to that in FY 2000, including most of the Integrated Activities programs. Funding for the Initiative for Future Agricultural and Food Systems (IFAFS) was maintained at \$120 million and the Fund for Rural America received \$30 million. Listed below are the CSREES budget allocations for FY 2000 and 2001 (in thousands of dollars).

Program	FY 2000	FY 2001
Base Funds:		
Hatch Act	180,545	180,545
McIntire-Stennis	21,923	21,923
Animal Health	5,109	5,109
Subtotal	207,577	207,577
National Research Initiative:		
Plant Systems	41,000	—
Animal Systems	29,000	—
Nutrition, Food Quality, Health	16,000	—
Natural Resources and Environment	20,500	—
Processes and New Products	8,200	—
Markets, Trade and Rural Development	4,600	—
Subtotal	119,300	106,000
National Special Grants:		
Pest Management Alternatives	1,623	1,623
Expert IPM Decision Support System	177	177
Emerging Pests/Critical Issues	200	200
Global Change, UV-B Monitoring	1,000	1,434
Integrated Pest Management	2,731	2,731
Minor Use Animal Drugs	550	550
National Biological Impact Assessment	254	254
Minor Crop Pest Management	8,990	8,990
Rural Development Centers	523	523
Subtotal	16,048	16,482
State-specific Special Grants:		
Other Research Programs:		
Critical Agricultural Materials	600	640
Aquaculture Centers	4,000	4,000
Sustainable Ag Research and Education	8,000	9,250
Supplemental and Alternative Crops	750	800
1994 Research Grants	500	1,000
Federal Administration	14,247	18,149
Subtotal	28,097	33,839
Grand Total	428,744	446,806

Integrated Activities Program for FY 2001

For FY 2001, Congress continued the Integrated Activities program that was initiated in FY 2000. Integrated Activities grants require integrated extension and research efforts within certain specified programmatic areas. The Integrated Activities appropriations (in thousands of dollars) for FY 2000 and FY 2001 are given in the table below:

Program	FY 2000	FY 2001
Water Quality	13,000	13,000
Food Safety	15,000	15,000
Pesticide Impact Assessment	4,541	4,541
Crops at Risk from FQPA Implementation	1,000	1,500
FQPA Risk Mitigation for Major Food Crop Systems	4,000	4,900
Methyl Bromide Transition	2,000	2,500
Organic Transition Program	0	500
Total Integrated Activities	39,541	41,941

Grants and Contracts Received October and November, 2000

Agronomy/Horticulture

P. S. Baenziger — Pioneer Hi-Bred International	\$ 16,900
George Graef — USDA through University of Illinois	24,507
Sally Mackenzie — U.S. Department of Energy	94,001
Jerry Maranville — Pioneer Hi-Bred International	20,000
Miscellaneous grants under \$10,000 each	56,592

Animal Science

Donald H. Beermann — UN Foundation	20,000
Miscellaneous grants under \$10,000 each	15,641

Entomology

Blair D. Siegfried — Agricultural Biotechnology Stewardship Technical Committee	80,000
Miscellaneous grants under \$10,000 each	11,500

Food Science and Technology

Mindy Brashears — Frank and Inez Mussehl via UN Foundation	45,000
Michael Meagher — anonymous	87,598
Miscellaneous grants under \$10,000 each	33,411

Northeast Research and Extension Center

Miscellaneous grants under \$10,000	4,500
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Nutritional Science and Dietetics

Timothy Carr — ConAgra, Inc.	12,000
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Panhandle Research and Extension Center

Miscellaneous grants under \$10,000 each	101,425
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Plant Pathology

Joseph Alfano — NSF	330,000
Anne K. Vidaver — NSF through Kansas State University	176,404
Miscellaneous grants under \$10,000 each	10,500

School of Natural Resource Sciences

Shripat Kamble — Michigan State University	12,000
Ed Vitzthum — USGS	20,000

South Central Research and Extension Center

Brian Benham — Burlington Northern Endowment — through UN Foundation	44,965
Miscellaneous grants under \$10,000 each	3,000

Veterinary and Biomedical Sciences

Clinton Jones — Elsa U. Pardee Foundation	55,487
Miscellaneous grants under \$10,000 each	1,049

West Central Research and Extension Center

Miscellaneous grants under \$10,000 each	30,000
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GRAND TOTAL	\$1,306,480
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Proposals Submitted for Federal Grants

The following is a listing of proposals that were submitted after October 2000 by faculty for federal grant programs. While not all grants will be funded, we are appreciative of the faculty members' outstanding efforts in submitting proposals to the various agencies.

Konstantinos Giannakas — USDA/ERS — (NON) Compliance with Agricultural Conservation Programs: Theory and Evidence — \$20,000

David Marx — USDA/ARS — Spatial Statistical Methods for Assisting Mid South Area Scientists — \$17,000

James L. VanEtten, M. Graves, Ming Kang and Y. Zhang — NIH — DNA Replication and Gene Expression of Chlorella Viruses — \$1,631,250

John L. Lindquist, Timothy J. Arkebauer and Daniel T. Walters — USDA/NRICGP — Elucidating the Mechanisms of Corn-Velvetleaf Competition for Soil Nitrogen and Light — \$271,066

Dean Eisenhauer, Roy Spalding, Tom Franti, Dan Snow, and Mike Dosskey — USDA/NRICGP — Evaluating the Performance of Farm-Scale Riparian Buffers in the Great Plains — \$349,995

Brian L. Benham and Jose O. Payero — USDA/NRICGP — Improving Water and Nitrogen Management with Subsurface Drip Irrigation — \$351,553

Nancy M. Betts — USDA/NRICGP — Using the Stages of Change Model to Increase Fruit and Vegetable Intake — \$446,431

Rhae A. Drijber — USDA/NRICGP — Mycorrhizal Response to Diversified Cropping in the Central Great Plains — \$266,743

Stevan Knezevic — USDA/NRICGP — Developing a Framework for Biologically Based Integrated Weed Management — \$266,395

George E. Meyer — USDA/NRICGP — Precision Variable-Rate Water and Chemical Application Using Soft Computing and Machine Vision — \$397,259

Anatoly A. Gitelson, James Schepers and Donald C. Rundquist — USDA/NRICGP — Non-destructive Techniques for Estimation of Vegetation Status — \$247,206

Susan L. Cuppett, Rhonda M. Brand and Clifford A. Hall — Bioavailability of Carnosic Acid, Carnosol and Rosmarinic Acid in a Caco-2 Model System — \$223,898

Steve D. Comfort, Paul D. Burrow and Patrick J. Shea — USDA/NRICGP — Predicting Contaminant Dehalogenation Rates from Electron Scattering Studies — \$173,699

Stevan Knezevic — USDA/NRICGP — Integrated Control of Purple Loosestrife — \$269,129

Terry Mader — USDA/NRICGP — Dynamic Responses of Feedlot Cattle Exposed to Cold Stress — \$541,562

Diane says

Freedom is not a question of doing
as we like but doing as we ought.