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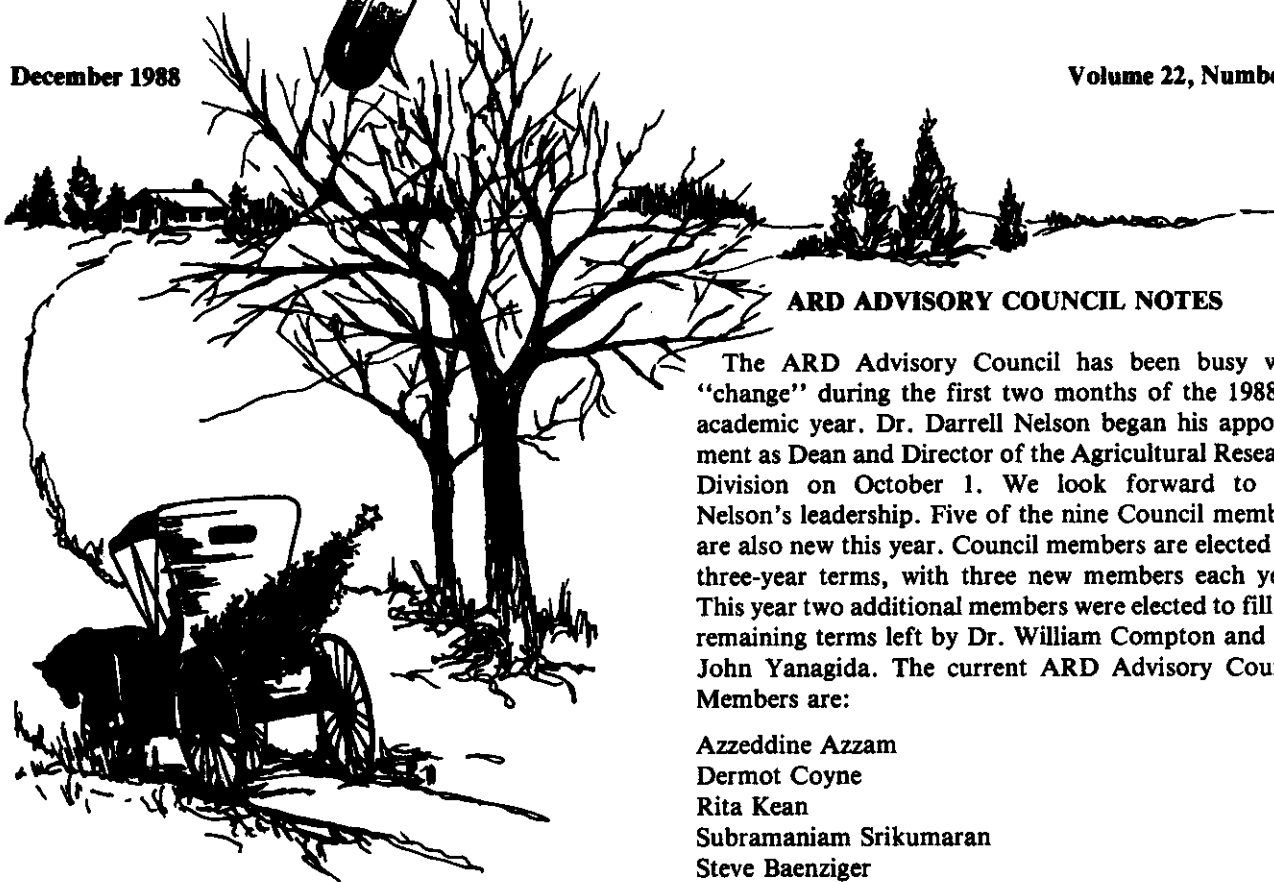
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December 1988

Volume 22, Number 2



SEASONS GREETINGS

The Agricultural Research Division staff joins me in extending to all faculty our best wishes for a joyful holiday season and a productive new year. We look forward to working closely with you during the next year to enhance research that benefits Nebraska agriculture, families, and natural resources. Thanks for your dedicated efforts in research and support of ARD programs during the past year. Collectively, our programs have progressed well and accomplished a great deal in 1988 but greater opportunities await us in 1989.

Best personal regards,

Darrell W. Nelson

Darrell W. Nelson
Dean and Director

ARD ADVISORY COUNCIL NOTES

The ARD Advisory Council has been busy with "change" during the first two months of the 1988-89 academic year. Dr. Darrell Nelson began his appointment as Dean and Director of the Agricultural Research Division on October 1. We look forward to Dr. Nelson's leadership. Five of the nine Council members are also new this year. Council members are elected for three-year terms, with three new members each year. This year two additional members were elected to fill the remaining terms left by Dr. William Compton and Dr. John Yanagida. The current ARD Advisory Council Members are:

Azzeddine Azzam
Dermot Coyne
Rita Kean
Subramaniam Srikumaran
Steve Baenziger
Rodger Johnson
Thomas Powers
Fred Roeth
John Smith

The role of the ARD Advisory Council is "advisory". The Council serves as a liaison between the ARD administration and the ARD staff; communicates staff ideas and concerns to the Director; and is a source of advice to the Director on matters concerning the ARD.

Issues at recent meetings include the ARD Project review format, revised bylaws for the ARD Advisory Council, and faculty evaluations. Several items on the agenda for upcoming meetings are: what is "interdisciplinary"; monitoring health of the staff who work with pesticides; policy on proprietary research and information; and nine month appointments.

If you have an agenda item for the Council, or questions, concerns, or comments about activities in the Agricultural Research Division, please contact one of the Council members.

John A. Smith
Chairman, ARD Advisory Council





GRADUATE STUDENT ENROLLMENT IN IANR PROGRAMS - FALL 1988

The graduate training programs in IANR departments are being strengthened qualitatively as well as quantitatively. The graduate student enrollments (667) during the fall semester of the 1988-89 academic year may be an all-time high for IANR. Of this total, women constitute 55, 24 and 45 percent of M.S., Ph.D. and all graduate students, respectively. International students comprise 15, 38, and 23 percent of M.S., Ph.D., and all graduate students, respectively. Graduate training is a highly important responsibility of the Agricultural Research Division because this activity develops the scientists and educators of the future.

Department	M.S. Students			Ph.D. Students		
	Total	Men	Women	Total	Men	Women
Ag Economics	16	13	3	14	12	2
Ag Education ¹	6	5	1	20	11	9
Ag Engineering	22	22	0	14	14	0
Agronomy	78	67	11	66	57	9
Animal Science	36	24	12	35	30	5
Biochemistry	6	6	0	7	5	2
Biometrics ²	0	0	0	2	1	1
CAMaC ²	0	0	0	7	7	0
Entomology	11	7	4	13	13	0
Food Science & Technology	16	1	15	7	3	4
Forestry, Fish. & Wildlife	8	6	2	2	1	1
Horticulture	10	6	4	5	1	4
Plant Pathology	7	3	4	9	3	
Veterinary Science	22	15	17	12	10	2
Consumer Science	40	0	40	0	0	0
Human Devel. & the Family	118	20	98	0	0	0
Human Nutrition	43	6	37	14	5	9
Textiles, Clothing & Des.	10	1	9	0	0	0
Total	449	202	247	218	165	53

^{1/} Ph.D. students obtain degrees in ACI or CHR programs in Teachers College

^{2/} Graduate degree programs are not offered so degrees are granted in other departments. Numbers are not included in column totals

RESEARCH GRANTS AND CONTRACTS RECEIVED SEPTEMBER & OCTOBER, 1988

AGRONOMY

Baenziger, P. S., Peterson, C. J., Morris, M.R., Mattern, P. J. & Graybosch, R. A. - USDA	110,000
Eastin, J. D. - Kamterter	8,590
Miscellaneous Grants Under \$5,000 each	50,451

ANIMAL SCIENCE

Clemens, E. T. - Alpo Petfoods, Inc.	14,046
Johnson, R. K. - USDA	19,850
Kinder, J. E. & Grotjan, H. E. - USDA	118,300
Kinder, J. E. & Nielsen, M. K. - USDA	70,210
Lewis, A. J. - Monsanto Company	39,810
Miscellaneous Grants Under \$5,000 each	24,113

BIOCHEMISTRY

Klucas, R. V. - UN Foundation	17,000
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CENTER FOR AGRICULTURAL METEOROLOGY & CLIMATOLOGY

Wilhite, D. A. - NOAA	30,918
Wilhite, D. A. - NOAA	60,222
Miscellaneous Grants Under \$5,000 each	2,500

ENTOMOLOGY

Miscellaneous Grants Under \$5,000 each	12,500
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ENVIRONMENTAL PROGRAMS

Miscellaneous Grants Under \$5,000 each	3,169
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FOOD SCIENCE & TECHNOLOGY

Hutkins, R. W. - Nat'l Dairy Promotion & Research Board	35,526
Liewen, M. B. & Hutkins, R. W. - UN Foundation	10,000
Shahani, K. M. - Roberts Research Foundation	10,000
Miscellaneous Grants Under \$5,000 each	9,100

FORESTRY, FISHERIES & WILDLIFE

Peters, E. J. - Nebraska Game & Parks Commission	196,140
Miscellaneous Grants Under \$5,000 each	500

HORTICULTURE

Coyne, D. P. - Michigan State	210,000
Miscellaneous Grants Under \$5,000 each	9,864

NORTHEAST RESEARCH & EXTENSION CENTER

Brumm, M. C. - Fats & Proteins Research Foundation, Inc.	8,000
Miscellaneous Grants Under \$5,000 each	5,874

PANHANDLE RESEARCH & EXTENSION CENTER

Miscellaneous Grants Under \$5,000 each	4,150
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PLANT PATHOLOGY

VanEtten, J. - National Institutes of Health	168,875
Vidaver, A. K. - UN Foundation	25,000
Vidaver, A. K. - USDA/ARS	10,000
Miscellaneous Grants Under \$5,000 each	1,000

SOUTH CENTRAL RESEARCH & EXTENSION CENTER

Miscellaneous Grants Under \$5,000 each	4,808
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VETERINARY SCIENCE

Anderson, G. A. - Fermenta Animal Health	10,000
Anderson, G. A. - Kansas State	8,700
Anderson, G. A. - National Pork Producers	12,000
Osorio, F. A. & Rock, D. L. - USDA	118,829
Srikumaran, S. - Nebraska Pork Producers, Inc.	6,000
Srikumaran, S., Zamb, T. J. & Rock, D. L. - USDA	149,982
Miscellaneous Grants Under \$5,000 each	20,286

WEST CENTRAL RESEARCH & EXTENSION CENTER

Miscellaneous Grants Under \$5,000 each	14,000
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TOTAL 1,630,313

USDA TO SUPPORT NATIONAL NEEDS GRADUATE FELLOWSHIPS

Cooperative State Research Service (CSRS), USDA, published a February 13, 1989 application deadline for the Food and Agricultural Sciences National Needs Graduate Fellowship Grants Program in the October 21, 1988 Federal Register. This program provides support for doctoral fellowships allowing recipients to develop professional and scientific expertise in areas of national need within the food and agricultural sciences. In FY89, the targeted areas of need are:

- water science;
- biotechnology;
- food, forest products, or agribusiness marketing;
- food science and human nutrition; and
- engineering in agricultural production, processing, and distribution systems.

Approximately 20 percent of the \$2.8 million appropriated for the program will be allocated to each of the five areas of national need. While there is no restriction on the total number of proposals an institution may submit, a college or equivalent administrative unit within an institution may only proffer two proposals. Proposals must request support for two to four fellowships in one area of national need. An institution receives \$48,000 for each doctoral fellowship awarded. Fellowship monies must be used to support the same doctoral fellow for three years at \$15,000 annually and provide for a yearly institutional cost of education allowance not to exceed a total of \$3,000 over the three years. Total funds awarded to an institution cannot exceed \$288,000.

To obtain a copy of the application kit, contact:

Office of Grants and Program Systems
Grants Administrative Management
Cooperative State Research Service
U.S. Department of Agriculture
Aerospace Building, Room 203
901 D Street, SW
Washington, D.C. 20250-2200
202/475-5049

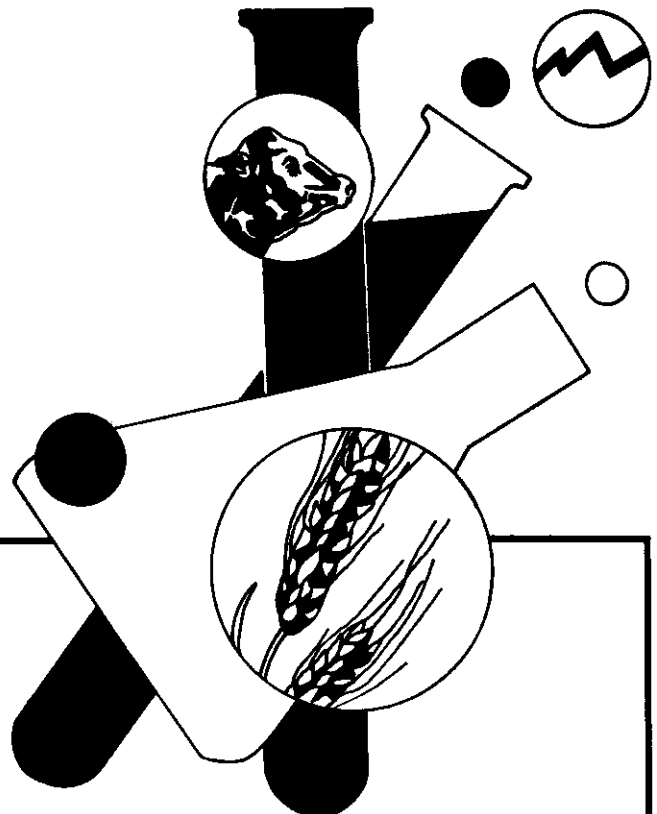
Specific questions can be addressed to Patrick Casula, 202/447-7854.

FOOD PROCESSING CENTER DAY

About 200 food processing industry representatives, state senators and officials, and University of Nebraska-Lincoln faculty and administrators attended the first Food Processing Center Day held on November 17. This highly successful event was held to update legislators on current and potential food processing activities in Nebraska. The Food Processing Center in cooperation with the Nebraska Food Industry Association, a network of industry leaders, sponsored the event.

The Center provides technical, research, and market development assistance to new and established food processors. Steve Taylor, Director of the Food Processing Center, reported that the Center has assisted 47 Nebraska food processing businesses since it was established in 1983 and 75 requests for assistance are pending. Several officials of food processing firms who have benefited from the Center's program described how the Center's assistance has helped them start their businesses or improve sales.

Food processing is Nebraska's leading manufacturing industry with 220 companies and more than 25,000 jobs. Food processing adds \$2 billion to the value of the state's agricultural commodities and the industry accounts for \$332 million or 45% of the state's annual total exports of manufactured goods. Steve Taylor expects the food processing industry in Nebraska to grow significantly in the next decade.



PRIORITY RESEARCH INITIATIVES 1988-89

	ARD Rank	North Central Rank
Biotechnology	1	2
Maintain & protect water quality and quantity	2	1
New & expanded uses for agriculture & forest products	3	4
Food processing, preservation, & quality enhancement	4	7
Sustaining soil productivity	5	3
Food & the nutritional & health status of people	6	11
Animal efficiency in food production	7	6
Productivity of range and pastureland	8	14
Animal health and disease	9	9
Genetic improvement of economically important plants	10	5
Improved management of crop pests and diseases	11	10
Integrating agricultural technologies	12	8
Impact on agricultural & forestry policy on global markets	13	13
Rural family and community well-being	14	12
Sensors and computing systems for agriculture	15	18

RESEARCH COUNCIL BUDGETS FOR 1988-89

Category	Budget
Summer fellowships	112,000
Grants-in-aid	201,000
Travel to meetings ¹	161,000
Visiting scholars ¹	40,000
Discretionary fund	4,000

¹One-fourth allocated each calendar quarter.

COOPERATIVE STATES RESEARCH SERVICE FUNDING

Appropriations	FY 1988	FY 1989
	-----in millions-----	
Hatch Act	151.114	151.114
McIntire-Stennis	17.50	17.50
Evans-Allen	23.333	24.333
Animal Health & Disease	5.476	5.476
Critical Materials	4.918	3.668
Rangeland Research	0.475	0.475
Special Grants - National Impact	21.957	28.765
Special Grants - Other	31.185	41.886
IRM - Nebraska	(0.095)	(0.075)
Milkweed research - Nebraska	—	(0.068)
Plastic from cornstarch-Nebr	—	(0.040)
Sandhills grazing management - Nebraska	(0.100)	(0.100)
Competitive Research Grants	42.372	39.716
Forestry Competitive Grants	3.00	—
Aquaculture	3.50	3.75
Federal pass through	4.094	6.377
Inter. Trade Centers	3.827	3.152
Ag. Productivity Act	3.900	4.450
Alternative Crops	0.675	1.025
Higher Education	4.754	4.754
Groundwater	—	3.000
Total:	306.654	315.107

GRANTS AWARDED FOR THE PERIOD OF JULY 1987 - JUNE 1988

Unit	July-Dec	January	February	March	April	May	June	Totals
ARD	740,069			178,693	5,282,000	137,831		6,338,593
Biochemistry	463,628		7,500	339,248			55,000	865,376
Ag Economics	26,000					10,000		36,000
Ag Engineering	204,037	34,225		4,022		50,249	13,736	306,269
CAMaC	265,019		20,000			288,899	290,000	863,918
Agronomy	462,477	110,750	8,883		87,691	68,750	61,759	800,310
Animal Science	139,953	35,950	12,750	4,500	26,000	209,708	3,700	432,561
Entomology	45,890	17,500		2,000		2,100	25,150	92,640
Environmental Programs			200,000		7,544		500	208,044
Food Processing Center			14,000	105,032	5,950	4,000		128,982
Food Science & Tech	131,797	19,231	16,800	14,400		22,330	2,500	207,058
Forestry, Fisheries & Wildlife	48,654							48,654
Horticulture	33,963	9,567	156,175	45,984	10,580	109,504	2,652	368,425
Human Nutr. & Food Mgmt.	49,313							49,313
Plant Pathology	244,390		9,000	42,344		1,000	5,000	301,734
Textiles, Cloth & Des.							11,669	11,669
Veterinary Science	387,556	17,502	19,546	69,604		14,727	32,175	541,110
Northeast R&E	110,270	5,000	4,400		99,989		2,745	222,404
Panhandle R&E	47,732	8,800	33,300		18,350	23,650	7,450	139,282
South Central R&E	51,184	5,000			10,150	107,005	17,650	190,989
West Central R&E	76,635	11,219	50		4,000	21,309	11,810	125,023

NEW AND REVISED PROJECTS

The following new or revised projects were reviewed and RECOMMENDED APPROVED for RRF funding beginning October 1, 1988 through September 30, 1993.

NC-190 The Effect of Water Table Management on Productivity and Water Quality; D.H. Vanderholm (NE), Administrative Advisor; C.F. Becker, CSRS Representative.

NC-192 Rural Retailing: Impact of Change on Consumer and Community; S.A. Helmick (MO), Administrative Advisor; R.G. Stuby, CSRS Representative.

NC-193 Spatial Dynamics of Leafhopper Pests and Their Management on Alfalfa; V.L. Lechtenberg (IN), Administrative Adviser; R.C. Riley, CSRS Representative.

NE-127 (Rev.) Biophysical Models for Poultry Production Systems; G.A. Donovan (RI), Administrative Adviser; E.C. Naber (OH) and H.S. Teague, CSRS Representatives.

NE-132 (Rev.) Assessment of Technological Changes on Forage-Dairy Production Systems Using Computer Modeling; A.L. Barr (WV), Administrative Adviser; J.P. Jones, CSRS Representative.

S-226 Enhancing Beneficial Microorganisms in the Rhizosphere; D.T. Smith (TX), Administrative Adviser; C.M. Smith, CSRS Representative.

S-227 Economic Analysis of Southern Regional Adjustments to a Dynamic Livestock-Meat Sector; T.H. Klindt (TN), Administrative Adviser; R.R. Robinson, CSRS Representative.

S-228 Forage Legume Viruses: Identification and Genetic Resistance for Improved Productivity; D.T. Smith (TX), Administrative Adviser; J.M. Barnes, CSRS Representative.

S-229 The Changing Structure of Local Labor Markets in Nonmetropolitan Areas; V.G. Hurt (MS); Administrative Adviser; R.R. Robinson and J. Nielsen (WA), CSRS Representatives.

S-230 Biology, Ecology and Management of Riceland Mosquito Populations; G.J. Musick (AR), Administrative Adviser; J.A. Naegele, CSRS Representative.

W-126 (Rev.) Integration of Physiological and Morphological Criteria for Alfalfa Breeding; G.A. Mitchell (AK), Administrative Adviser; D.A. Slepser (MO), CSRS Representative.

W-166 (Rev.) Characteristics and Feed Value of Barley and Western Protein Supplements for Swine; R.B. Muntifering (MT), Administrative Adviser; H.S. Teague, CSRS Representative.

W-180 Identification, Behavioral Ecology, Genetics and Management of African Honeybees, W.W. Allen (CA-B), Administrative Adviser, J.A. Naegele, CSRS Representative.

NEW AND REVISED HATCH AND STATE PROJECTS

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

11-080 Improving Field Productivity and Predicting Energy Requirements of Soil-Engaging Equipment
Investigator(s): R. D. Grisso, L. L. Bashford, and L. N. Mielke, Ag Engineering
Status: New Hatch project effective September 1, 1988.

12-178 Dissipating and Bioavailability of Herbicides and Other Pesticides in Soil
Investigator: P. J. Shea, Agronomy
Status: New Hatch project effective July 11, 1988.

12-179 Improvement and Evaluation of Doubled Haploid Techniques in Wheat
Investigator: P. S. Baenziger, Agronomy
Status: New Competitive Grant project effective September 1, 1988.

14-052 Interaction of Persistent Viruses with the Bovine Immune System
Investigator(s): F. A. Osorio and D. L. Rock, Veterinary Science
Status: New Special Grant project effective August 1, 1988.

16-049 Utilization of Cereal Grains and Waste Products for Exotic Mushroom and Fungal Biomass Production
Investigator(s): L. B. Bullerman, S. L. Cuppett, W. L. Gauger, M. A. Hanna and R. D. Uhlinger, Food Science and Technology
Status: New Hatch project effective July 1, 1988.

21-041 Pathogenic Determinants of Phytopathogenic Fungi
Investigator: M. B. Dickman, Plant Pathology
Status: New Hatch project effective November 1, 1988.

26-011 Windbreak Shelter Effects
Investigator: J. R. Brandle, Forestry, Fisheries and Wildlife
Status: New McIntire-Stennis project effective September 14, 1988.

42-007 Feedlot Management and Production Considerations for the Cattle Feeder
Investigator: T. L. Mader, Northeast Research and Extension Center
Status: Revised Hatch project effective October 1, 1988.

