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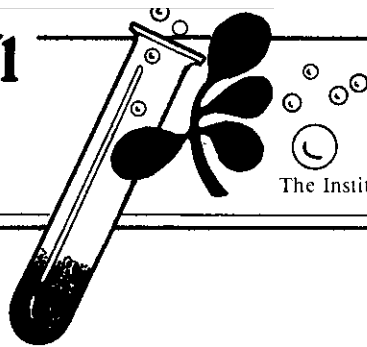


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July 1988

Volume 21, Number 7



GARDNER RECEIVES USDA DISTINGUISHED SERVICE AWARD

Dr. Charles O. Gardner, Foundation Professor (Agronomy), received the USDA Distinguished Service Award for Education and Information in Washington, D.C., on June 22, 1988. Dr. Gardner was cited for his 41 years of innovative work on quantitative genetics and plant breeding to effect the improvement of maize, sorghum, and other crops in the United States and internationally. Dr. Gardner is a Fellow in the Crop Science Society of America and has served as President of the organization.

Dr. Gardner became the Interim Head of the Biometrics and Information Systems Center on July 1, 1988. He will be serving in that capacity on a half-time basis for one year.

INTERDISCIPLINARY RESEARCH PROJECT FUNDED

One research project was selected from 15 proposals to be funded for \$15,000 by the ARD Interdisciplinary Research Support Program. The selected project entitled "Utilization of Cereal Grains and Food Processing Wastes as Substrates for Mushroom Production" was submitted by **Lloyd Bullerman** and **Susan Cuppett** (Food Science and Technology), **Wendell Gauger** (Biological Sciences), **Milford Hanna** (Agricultural Engineering), **Roger Uhlinger** (Horticulture), and **James Kordick** (Prairie Marketing Corporation).

Projects are eligible for funding from this program for up to three years if suitable progress is demonstrated. The following two interdisciplinary projects received approval for second-year funding:

"Analysis of Genetic Recombination in Maize Populations Using Molecular Markers" with **Bill Compton**, **Mary Thomas-Compton**, **Rosalind Morris**, **Paul Staswick**, **Charles Gardner** (Agronomy), **David Galbraith** (Biological Sciences), and **Mark Walton** (Native Plants Inc., Salt Lake City, Utah) serving as investigators.

"Alternative Fertility Sources in Crop Rotations" with **Chuck Francis**, **Mike Jawson**, **Steve Mason**, **Darrell Nelson**, **Jim Power**, **Dan Walters**, **Pat Shea** (Agronomy), **Tom Sullivan** (Animal Science), **Warren Sah** (ARD), and **Glenn Helmers** (Ag Economics) as investigators.

A committee consisting of **Merlyn Nielsen** (Animal Science), **Tom Powers** (Plant Pathology), **Pat Shea** (Agronomy), **Dave Shelton** (NEREC), and **John Smith** (PREC) screened the proposals and made funding recommendations.

GRADUATE STUDENT RECRUITMENT TRAVEL FUND

The Agricultural Research Division established a travel reimbursement program for prospective graduate students in 1987. The program was designed to help attract high quality students into ARD research programs.

A special account has been established in the Dean's office to provide administrative units with funds to partially reimburse travel expenses for prospective graduate students who wish to visit the department/district center before making a decision. Only individuals who have been offered graduate research assistantships are eligible for reimbursement. Funding is limited to two graduate students per calendar year per administrative unit, although administrative units may also use internal resources to reimburse additional students. Maximum reimbursement is up to 50 percent of transportation, lodging, and meal expenses or \$200, whichever is less.

Additional information may be obtained from the Agricultural Research Division office.

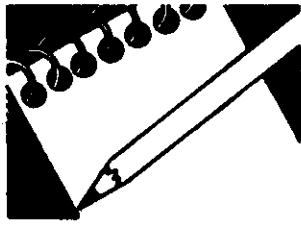
NEW PROFESSIONAL TRAVEL ACCOUNT NUMBER

The new Professional Travel Account Number is **LGE/62-016-03**. Please use this number in place of 62-016-014-01 after July 1, 1988.



The Agricultural Research Division provides information and educational programs to all people without regard to race, color, national origin, sex or handicap.





ARD ADVISORY COUNCIL NOTES AND ELECTION RESULTS

As a result of recent elections, the following individuals were selected to serve on the Agricultural Research Division Advisory Council:

District 2 - Ag. Engineering, Northeast Research & Extension Center, South Central Research & Extension Center, Southeast Research & Extension Center - **Fred Roeth**

District 3 - Agronomy - **Steve Baenziger** (1 year to complete Bill Compton's term)

District 5 - Animal Science - **Rodger Johnson**

District 8 - Ag. Education, Ag. Communications, Consumer Science & Education, Human Development & the Family, Human Nutrition & Food Service Management, Textiles, Clothing & Design - **Rita Kean**

Returning Advisory Council members are:

District 1 - Ag. Economics, Food Science & Technology - **John Yanagida**

District 4 - CAMaC, Entomology, Environmental Programs, Horticulture - **Dermot Coyne**

District 6 - Biometrics and Information Systems Center, Forestry, Fisheries & Wildlife, Veterinary Science - **S. Srikumaran**

District 7 - Ag. Biochemistry, Plant Pathology - **Tom Powers**

District 9 - West Central Research & Extension Center, Panhandle Research & Extension Center - **John Smith**

The ARD appreciates all of the contributions to the Council by out-going members **Bill Compton**, **Terry Meisenbach**, **Jim Kinder**, and **Dave Shelton**.

Council members are revising the ARD Advisory Council Bylaws and have been addressing the alignment of ARD Districts. They recently evaluated and selected individuals for the Widaman, Hardin, and ARD International Travel Awards. They also evaluated the Interdisciplinary Research Proposals. The review process for ARD project proposals is current being evaluated.

This Council serves an important function in the Agricultural Research Division by providing counsel and maintaining liaison with the Dean's office and by surfacing issues and ideas pertaining to the agricultural research programs. Faculty are urged to contact their representatives on the Advisory Council relative to items they would like to see addressed by the Council. The 1988-89 Council officers are **John Smith**, Chairman, and **Tom Powers**, Secretary.

NEW FACULTY ORIENTATION

Plans are now being made for New Faculty Orientation to be held from 8:00 a.m. to approximately 3:00 p.m. on **Tuesday, August 23**, at the East Campus Union. In early August, Chancellor Massengale will send personal invitations to all new faculty. It is important that new faculty attend orientation. Evaluations from past orientations indicate that new faculty find the sessions very informative and helpful; they also appreciate the opportunity to meet other new faculty members from across the University.

INTERNATIONAL TRAVEL AWARDS

Three individuals were selected to receive awards from the ARD International Travel Program for the period of July 1, 1988 through December 31, 1988. The three proposals recommended by the ARD Advisory Council Selection Committee were:

Martin B. Dickman (Plant Pathology) to participate in the 5th International Congress of Plant Pathology and confer with scientists in Japan.

Roger Uhlinger (Horticulture) to conduct research on post harvest handling of horticultural commodities at the Horticultural Research Institute, Knoxfield, Victoria, Australia.

John F. Yanagida (Ag Economics) to participate in the 8th International Symposium on forecasting and confer with scientists in Amsterdam, The Netherlands.

HARDIN DISTINGUISHED GRADUATE FELLOWSHIP

Kevin D. Eichelberger has been named as the 1988-89 recipient of the Hardin Distinguished Graduate Fellowship in Plant Stress Physiology. Eichelberger, a student in the Department of Agronomy under C. O. Gardner, is combining research on breeding, quantitative genetics, and molecular biology into a comprehensive study of freeze and heat tolerance in maize. The fellowship includes a \$2,000 addition to his graduate assistantship and \$1,000 operational support. The fellowship was initiated by former UN-L Chancellor and former Secretary of Agriculture Clifford Hardin.

SCHNEIDER RECEIVES RESEARCH COUNCIL GRANT-IN-AID

The Research Council has awarded a grant-in-aid to **Norman R. Schneider** (Veterinary Science). The \$2,500 grant will be used to study listeriosis in nitrate-exposed mice.

WHERE DOES NEBRASKA RANK IN AGRICULTURE?

	<i>1st</i>	<i>2nd</i>	<i>3rd</i>	<i>4th</i>	<i>5th</i>	<i>6th</i>	<i>7th</i>	<i>8th</i>
Land in farms (acres in thousands)	TX 133,200	MT 60,800	KS 47,900	NE 47,200	NM 44,600	SD 44,500	ND 40,500	AZ 37,000
Value of farm real estate (millions of \$)	TX 64,539	CA 44,820	IL 29,856	IA 25,136	FL 19,033	MO 16,938	KS 16,304	NE 15,810
Number of cattle and calves (thousand head)	TX 13,500	KS 5,860	NE 5,450	OK 5,050	CA 4,600	IA 4,600	MO 4,250	WI 4,230
Number of hogs and pigs (thousand head)	IA 13,800	IL 5,300	IN 4,600	MN 4,350	NE 4,000	MO 2,950	NC 2,500	OH 2,150
Cash receipts from crops (millions of \$)	CA 9,602	IL 4,737	IA 4,124	FL 3,688	TX 2,928	MN 2,679	NE 2,669	IN 2,258
Cash receipts from livestock (millions of \$)	TX 5,516	IA 4,982	CA 4,556	NE 4,260	WI 4,164	KS 3,447	MN 3,395	PA 2,239
Direct government payments (millions of \$)	IA 1,161	TX 978	IL 883	KS 871	NE 868	MN 802	ND 700	IN 411
Net cash income from farming (millions of \$)	CA 5,034	IA 3,596	TX 2,984	IL 2,727	NE 2,674	MN 2,625	FL 2,261	WI 2,102

SOYBEAN BOARD FUNDING

The Soybean Development, Utilization and Marketing Board recently approved the following two projects making the funding total \$215,852 for FY 1988-89.

G. H. Pfeifer	Evaluating Alternative Marketing Strategies for Nebraska Soybean Producers	\$17,000
J. G. Kendrick		
M. A. Hanna	A Study on the Film Forming Properties Biopolymers	5,000
R. Chinnaswamy		

CORN BOARD FUNDING

The following project was recently added to the ten projects previously funded by the Nebraska Corn Development, Utilization and Marketing Board making the funding total \$141,050 for FY 1988-89.

R. W. Elmore	White Corn Hybrid Performance Trial	\$3,150
Ben Doupnick, Jr.		

WHEAT BOARD GRANTS

The Nebraska Wheat Board recently met in Ogallala and selected the following projects for funding during FY 1988-89.

P. S. Baenziger	Improving Wheat for Nebraska	\$19,000
P. J. Mattern		
C. J. Peterson		
P. J. Mattern	Selecting Nebraska Wheats for Processing Needs of Domestic and Foreign Markets	17,900
P. S. Baenziger		
C. J. Peterson		
F. P. Baxendale	Determine Factors Affecting the Economic Impact and Control of the Russian Wheat Aphid	7,500
J. B. Campbell		
J. E. Watkins		

NEBRASKA DRY BEAN COMMISSION

The following projects were approved by the Nebraska Dry Bean Commission for funding for FY 1988-89.

J. H. Rupnow	The Effect of Infra-red Heat Treatment on the Nutritional Value and Functional Properties of <i>Phaseolus vulgaris</i>	\$10,150
E. R. Peo		
T. W. Sullivan		
E. D. Kerr	New Production Systems for Dry Edible Beans to Improve Production Efficiency	10,800
J. G. Robb		
J. A. Smith		
R. G. Wilson		
C. D. Yonts		
R. D. Fritschen	Establish a Regional Dry Bean Resource Library	2,400
D. A. Martin		
A. J. Bateman		
J. G. Robb		
D. S. Nuland		
D. P. Coyne	Breeding Dry Beans with Multiple Disease Resistance Combined with Improved Seed Quality, Yield, and Plant Type	9,500
J. R. Steadman		
A. K. Vidaver		
D. S. Nuland		
D. T. Lindgren		
D. S. Nuland	Evaluation of Dry Bean Cultivars for Adaptive Characteristics and Performance in Western Nebraska	2,250
D. T. Lindgren		
J. R. Steadman		
D. P. Coyne		

WIDAMAN AWARDS

The Agricultural Research Division has approved 18 Widaman Trust Distinguished Graduate Assistantship Awards based on recommendations from the ARD Advisory Council. Each recipient will receive a \$1,200 stipend supplement during the 1988-89 academic year. The graduate students receiving the awards are:

Name/Department	Field of Study	Adviser(s)
Bargman, Tracy J. Food Sci. & Tech.	Food Allergens	John Rupnow Steve Taylor
Byers, Matthew B. Environmental Programs/ Entomology	Toxicology	S.T. Kamble J.F. Witkowski M.R. Morris
Chiba, Lee I. Animal Science	Nonruminant Nutrition	A.J. Lewis
Christianson, Steven L. Interdepartmental Nutrition Area	Nonruminant Nutrition	E.R. Peo
Coleman, Gary D. Forestry, Fisheries & Wildlife	Forest Genetics	S.G. Ernst
Deffenbaugh, Lynn B. Food Sci. & Tech.	Carbohydrate Chemistry	R. Wehling
Douglas, Jihad H. Animal Science	Monogastric Nutrition	T.W. Sullivan
Elchelberger, Kevin D. Agronomy	Plant Breeding & Genetics	C.O. Gardner
El-Osta, Hisham Ag. Economics	Production Economics	G.A. Helmets
Fellows, Gary M. Agronomy	Weed Science	F. Roeth
Galetto, Aljandro Ag. Economics	Farm Management and Production Economics	G.A. Helmets
Garcia, Richard L. CAMaC	Agronomy/ Ag Meteorology	S.B. Verma
Grahammer, Kathrin Agronomy	Soil Science	M. Jawson
Hafley, Jenny Lynn Agronomy	Range Management	B.E. Anderson T.J. Klopfenstein
Tulsieram, Lomas K. Agronomy	Maize Breeding	W.A. Compton M.A. Thomas-Compton
Watson, David Wesley Entomology	Insect Pathology	J.J. Petersen
Wolfe, Michael W. Animal Science	Physiology/ Endocrinology	J.E. Kinder

APPOINTMENTS

Stephen Dofing (Agronomy), Assistant Professor
Gary Rupp (Veterinary Science), Professor and Director,
 USMARC
Wayne Youngquist (Agronomy), Assistant Professor

PROMOTIONS EFFECTIVE JULY 1, 1988

To Associate Professor:

Gary Anderson (Veterinary Science)
Alice Jones (Agronomy)
Derrel Martin (Agricultural Engineering)
Dennis McCallister (Agronomy)
Rick Stock (Animal Science)

To Professor:

Richard Foster (Agricultural Education)
Gary Hergert (Agronomy, WCREC)
Bruce Johnson (Agricultural Economics)
Paul Nordquist (Agronomy, WCREC)
Anne Parkhurst (Biometrics)

TRANSFER

Lenis A. Nelson transferred from PREC to Agronomy to coordinate statewide variety testing programs and alternative crops research.



NEW AND REVISED CSRS PROJECTS

10-105 Economic Consequences of Alternative Food and Agricultural Policies

Investigator: W. L. Miller, Ag Economics
Status: New Hatch project effective May 9, 1988

11-079 Agricultural Tractor Testing Board: Policies and Procedures

Investigators: K. Von Bargen, R. D. Grisso, Ag Engineering
Status: New Hatch project effective April 1, 1988

12-001 Corn Breeding and Genetics

Investigator: W. A. Compton, Agronomy
Status: Revised Hatch project effective May 9, 1988

12-011 Properties of Nebraska Soils as Related to Soil Genesis, Classification, Survey, and Land Use

Investigator: D. T. Lewis, Agronomy
Status: Revised Hatch project effective June 1, 1988

12-125 Modeling Water Use and Growth of Plants

Investigator: J. M. Norman, Agronomy
Status: Revised Hatch project effective December 1, 1987

12-174 Market Quality of Hard Wheat for Domestic

and International Foods

Investigator: P. J. Mattern, Agronomy
Status: Revised Hatch project effective October 1, 1987, contributing to NC-188

12-175 Improving the Forage Quality of Grasses for Nebraska and the Central Great Plains

Investigator: B. C. Gabrielsen, Agronomy
Status: New State project effective April 1, 1988

12-176 Development of an Economic Threshold Decision Aid for Weed Control in Soybeans

Investigators: D. A. Mortensen, G. A. Wicks, Agronomy
Status: New Special Grant effective June 1, 1988

13-083 Improving Dairy Cattle Genetically

Investigator: J. F. Keown
Status: Revised Hatch project effective October 1, 1987, contributing to NC-2

13-090 Muscle Proteolysis and Meat Tenderness

Investigators: C. R. Calkins, S. J. Jones, Animal Science
Status: New Hatch project effective April 15, 1988

15-048 Molecular Control of Photosynthetic Energy Production

Investigator: J. P. Markwell, Ag Biochemistry
Status: New Hatch project effective May 9, 1988

21-040 DNA Replication and Gene Expression of Chlorella Viruses

Investigator: J. L. Van Etten, Plant Pathology
Status: New Hatch project effective April 15, 1988

27-002 Chemistry of Atmospheric Deposition-Effects on Agriculture, Forestry, Surface Waters, and Materials

Investigator: S. B. Verma, Center for Ag Meteorology & Climatology
Status: Revised Hatch project effective October 1, 1987, contributing to IR-7

THE AMERICAN FARMER

- 2.2 million American farmers provide food and fiber for 251 million people—203 million in the U.S. and 48 million overseas;
- an American farmer provides food and fiber for 114 people—including 92 in the U.S. and 22 overseas. That figure is up from 73 in 1970 and 46 in 1960;
- a farmer spends \$484 to produce the food for one person annually;
- farmers get 25 cents of the consumers' food dollar spent for food raised on U.S. farms—down from 32 cents 20 years ago.



RESEARCH GRANTS AND CONTRACTS RECEIVED MAY 1988

AGRICULTURAL ENGINEERING	
Miscellaneous Grants under \$5,000 each	\$ 9,299
AGRICULTURAL RESEARCH DIVISION	
Sahs, W. W. - USDA	15,000
AGRONOMY	
Francis, C. A. - Nebr. Dept. of Agriculture	19,509
Mortensen, D. & Wicks, G. A. - USDA/CSRS	49,868
Nelson, D. W. - Pioneer Hi-Bred International	20,000
Miscellaneous Grants under \$5,000 each	37,050
ANIMAL SCIENCE	
Grotjan, H. E. - U.S. Dept. of Health & Human Services	156,478
Peo, E. R. - Syntex Animal Health, Inc.	12,000
Miscellaneous Grants under \$5,000 each	9,450
CENTER FOR AGRICULTURAL METEOROLOGY & CLIMATOLOGY	
Blad, B. L. - NASA	88,099
Verma, S. B. - National Science Foundation	127,800
Verma, S. B. - NASA	73,000
ENTOMOLOGY	
Miscellaneous Grants under \$5,000 each	7,600
ENVIRONMENTAL PROGRAMS	
Miscellaneous Grants under \$5,000 each	500
FOOD PROCESSING CENTER	
Miscellaneous Grants under \$5,000 each	4,000
FOOD SCIENCE AND TECHNOLOGY	
Shahani, K. M. - Roberts Research Foundation	10,000
Miscellaneous Grants under \$5,000 each	4,680
HORTICULTURE	
Miscellaneous Grants under \$5,000 each	12,307
NORTHEAST RESEARCH & EXTENSION CENTER	
Miscellaneous Grants under \$5,000 each	5,695
PANHANDLE RESEARCH & EXTENSION CENTER	
O'Keefe, R. B. - Nebr. Dept. of Agriculture	12,250
Miscellaneous Grants under \$5,000 each	19,800
PLANT PATHOLOGY	
Miscellaneous Grants under \$5,000 each	5,000
SOUTH CENTRAL RESEARCH & EXTENSION CENTER	
Elmore, R. W. - USDA	83,005
Elmore, R. W. - UN Foundation	10,000
Miscellaneous Grants under \$5,000 each	14,650
VETERINARY SCIENCE	
Anderson, G. A. - USDA	57,658
Rock, D. L. - National Science Foundation	7,396
Miscellaneous Grants under \$5,000 each	15,659
WEST CENTRAL RESEARCH & EXTENSION CENTER	
Miscellaneous Grants under \$5,000 each	11,519
TOTAL	\$899,272