

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Agricultural Research Division News & Annual
Reports

Agricultural Research Division of IANR

12-1991

ARD News December 1991

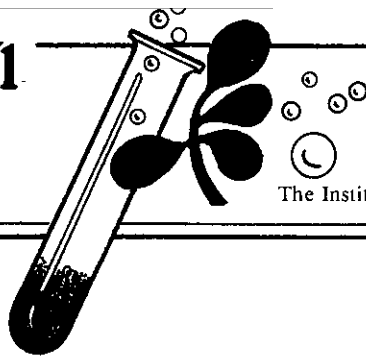
Follow this and additional works at: <http://digitalcommons.unl.edu/ardnews>



Part of the [Agriculture Commons](#)

"ARD News December 1991" (1991). *Agricultural Research Division News & Annual Reports*. 116.
<http://digitalcommons.unl.edu/ardnews/116>

This Article is brought to you for free and open access by the Agricultural Research Division of IANR at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Agricultural Research Division News & Annual Reports by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.



December 1991

Volume 26, Number 3

SEASONS GREETINGS

The Agricultural Research Division extends to all IANR faculty and staff our best wishes for a joyful holiday season and a productive new year. We appreciate your assistance and cooperation in serving on project reviews committees, preparing research project outlines and grant proposals, and interacting with our office in a highly professional manner. Much valuable research has been accomplished during 1991 as a result of your efforts and expertise even though the budget reduction activities impacted our overall capabilities. Thanks for your dedicated efforts on behalf of Nebraska citizens during the past year. Please feel free to call upon ARD staff at any time that you need assistance. Our mission is support the research efforts carried out by faculty members.

Best Wishes;

Darrell
Nelson
Alice
Diane
Tom
Dale

Kathy
Steve
Dora



CRITERIA USED TO EVALUATE FACULTY WITH RESEARCH APPOINTMENTS

The annual IANR faculty performance evaluation process is currently underway. We believe that it is important for all faculty with research appointments to understand the specific criteria used by ARD administrators to evaluate their performance. Therefore, listed below is the ARD evaluation criteria. This criteria was originally published in the May 1990 issue of the Agricultural Research Division News. Please contact Darrell Nelson or Dale Vanderholm if you have any questions about the criteria.

Almost every faculty member in IANR has a unique assignment, and, thus, evaluations are done in relation to the position description of each individual. All administrators attempt to take a holistic view of the contributions 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 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, thus, 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 & activities:** Presentation 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. Service as an officer of a professional society and editing journals, books, or proceedings are significant contributions.

***Grantmanship:** 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 grantmanship 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, thus, involvement with human resource development is not a requirement.

***Team effort:** Participation in team activities is not a requirement for faculty members, however, 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.

SARE/ACE CALL FOR PREPROPOSALS.

The North Central Region Administrative Council received 154 preproposals for 1992 LISA/ACE funds. There were 117 LISA and 37 ACE preproposals submitted for evaluation by the NCR Administrative Council. The total funding requested was \$11,977,769.

This year the Council evaluated the 1992 preproposals based on suitability of objectives to NCR LISA priority issues, potential significance, feasibility of achieving stated objectives, and general components of technical design. The Council selected 27 LISA preproposals for development into full proposals that totaled \$2,462,076 in LISA funding requests. All 12 states in the North Central Region have projects being considered for further development, including 4 from Nebraska. The 16 ACE preproposals selected for further development totaled \$1,101,906 and included 3 from Nebraska.

The North Central Region Sustainable Agriculture Research and Education program has funded 41 new or continued projects since 1988. Twenty-one LISA projects were funded in 1988, 18 in 1989, 9 in 1990 and 14 in 1991. The Agriculture in Concert with the Environment Program, a cooperative USDA/CSRS/EPA effort, funded 9 projects in 1991.

NEW OR REVISED PROJECTS

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

10-111 (Ag Economics) Quantifying Long-Run Agricultural Risks and Evaluating Farmer Responses to Risk

Investigator(s): D. M. Conley, G. Helmers

Status: New Hatch project effective October 1, 1990 that contributes to regional project S-232

10-112 (Ag Economics) Legal Aspects of National & International Regulations of Agricultural Trade

Investigator: R. L. McGeorge

Status: New Hatch project effective August 1, 1991

11-044 (Biological Systems Engineering) Improvement of Thermal Processes for Foods

Investigator(s): M. A. Hanna, R. Chinnaswamy

Status: Revised Hatch project effective October 1, 1990 that contributes to regional project NC-136

11-088 (Biological Systems Engineering) Movement of Agricultural Chemicals Beneath Conservation Tilled — Furrow Irrigated Land

Investigator(s): D. E. Eisenhauer, R. B. Ferguson, F. W. Roeth, R. F. Spalding

Status: New Special Grant effective July 1, 1991

11-089 (Biological Systems Engineering) Environmental and Genotypic Control of Assimilate Allocation in Grain Crops

Investigator: G. E. Meyer

Status: New Hatch project effective October 1, 1990 that contributes to regional project NE-175

11-090 (Biological Systems Engineering) Modeling Responses of Growing Pigs

Investigator: T. L. Thompson

Status: New Hatch project effective October 1, 1990 that contributes to regional project NC-204

12-210 (Agronomy) Environmental and Genotypic Control of Assimilate Allocation in Grain Crops

Investigator(s): T. J. Arkebauer, S. B. Verma

Status: New Hatch project effective October 1, 1990 that contributes to regional project NE-175

12-211 (Agronomy) Environmental and Genotypic Control of Assimilate Allocation in Grain Crops

Investigator(s): M. D. Clegg, J. W. Maranville, J. D. Eastin

Status: New Hatch project effective October 1, 1990 that contributes to regional project NE-175

12-212 (Agronomy) Water Relations, Gas Exchange and Growth of Plants and Canopies

Investigator: T. J. Arkebauer

Status: New Hatch project effective October 1, 1991

12-215 (Agronomy) Integrated Weed Management to Improve Grasslands of the Central Great Plains

Investigator: R. A. Masters

Status: New State project effective November 1, 1991

12-151 (Agronomy) Tillage Influence on Crop Production and Physical Properties of the Soil Surface and Rhizosphere

Investigator: A. J. Jones

Status: Revised Hatch project effective November 1, 1991

15-060 (Biochemistry) Structure, Function and Organization of Photosystem I Reaction Center

Investigator: J. H. Golbeck

Status: New Hatch project effective September 1, 1991

15-061 (Biochemistry) Environmental and Genotypic Control of Assimilate Allocation in Grain Crops

Investigator: F. W. Wagner

Status: New Hatch project effective October 1, 1990 that contributes to regional project NE-175

27-010 (Agricultural Meteorology) Environmental and Genotypic Control of Assimilate Allocation in Grain Crops

Investigator(s): S. B. Verma, T. J. Arkebauer

Status: New Hatch project effective October 1, 1990 that contributes to regional project NE-175

43-051 (West Central Research & Extension Center) Quantifying Nitrate Leaching Under Continuous Corn Versus a Corn-Soybean Rotation

Investigator(s): G. Hergert, N. L. Klocke

Status: New Special Grant effective September 1, 1991

48-018 (South Central Research & Extension Center) Blocked and Open End Furrow Irrigation system Management

Investigator: J. Cahoon

Status: New Hatch project effective August 1, 1991

**DAN DUNCAN HIRED AS
ARDC DIRECTOR/SUPERINTENDENT**

ARD is pleased to announce that Mr. Dan Duncan assumed the duties of ARDC Director/Superintendent on November 11, 1991. Dan was previously Operations Manager at the Panhandle R & E Center. He brings to the position a wealth of experience in supporting field-oriented research and in managing complex crop and livestock research operations. Dan implemented model safety program while at PREC and was highly involving in solving several environmental problems associated with the Center.

Mr. Duncan is a previous LEAD Fellow and served on the Board of Directors for Leadership Scottsbluff. He has been very active in civic affairs in the Scottsbluff area including the United Fund Campaign.



**GRANTS AND CONTRACTS
RECEIVED
OCTOBER & NOVEMBER, 1991**

Agricultural Meteorology	
Verma, S. B. & Ullman, F. G. - Midwest Regional Center of the National Institute for Global Environmental Change	139,110
Walter-Shea, E. A. & Blad, B. - NASA	40,075
Wihite, D. A. - USDA/SCS	19,972
Agronomy	
McCallister, D. - USDA/ARS	45,000
Walters, D. T. - USDA/ARS	69,881
Miscellaneous Grants Under \$5,000 each	23,928
Animal Science	
Aberle, E. D. - USDA/ARS	26,040
Miscellaneous Grants Under \$5,000 each	43,450
Biological Systems Engineering	
Miscellaneous Grants Under \$5,000 each	935
Entomology	
Meinke, L. J. - USDA/ARS	40,000
Miscellaneous Grants Under \$5,000 each	15,450
Food Processing Center	
Miscellaneous Grants Under \$5,000 each	3,358
Food Science & Technology	
Miscellaneous Grants Under \$5,000 each	8,084
Forestry, Fisheries & Wildlife	
Hoagland, K. D. - U.S. Army Corps of Engineers	23,992
Hoagland, K. D. & Ernst, S. G. - U.S. Department of Energy	66,968
Horticulture	
Coyne, D. P. - USDA/AID	132,175
Miscellaneous Grants Under \$5,000 each	12,449
Industrial Ag Products Center	
Sayler, R. & Hanna, M. A. - NEOS Corporation	9,999
Northeast Research & Extension Center	
Miscellaneous Grants Under \$5,000 each	14,500
Panhandle Research & Extension Center	
Miscellaneous Grants Under \$5,000 each	22,797
Plant Pathology	
Vidaver, A. K. - Crop Genetics International	95,759
South Central Research & Extension Center	
Miscellaneous Grants Under \$5,000 each	2,500
Veterinary Science	
Miscellaneous Grants Under \$5,000 each	13,560
West Central Research & Extension Center	
Miscellaneous Grants Under \$5,000 each	4,000
Grand Total	873,982

PROPOSALS SUBMITTED FOR FEDERAL GRANTS

A new feature that is being initiated is a listing of proposals submitted by faculty for federal grant programs. The following is a listing of proposals that were submitted after July 1, 1991. While not all grants will be funded, we applaud the faculty member's efforts in submitting proposals to the various agencies:

H. Edward Grotjan - National Science Foundation - Luteinizing Hormone Heterogeneity: Secreted Isoforms - \$305,008

Sylvia C. Darr - National Institutes of Health - Ribonuclease P in the Nucleus and an Organelle - \$494,564

John P. Markwell - National Science Foundation - Biosynthesis of Chlorophyll *b* - \$278,335

John H. Golbeck - National Science Foundation - Resolution and Reconstitution of Photosystem I in Cyanobacteria and Higher Plants - \$761,657

Sylvia C. Darr - National Science Foundation - Isolation and Characterization of Ribonuclease P from *Chlamydomonas reinhardtii* - \$303,049

Robert J. Spreitzer - National Science Foundation - Genetic Modification of Chloroplast Rubisco - \$85,000

Wayne Woldt - Hazardous Substance Research Center - U.S. EPA Regions VII and VIII - Quantification of Vadose Zone Contamination Using in situ Active Soil Gas Sampling Yield - \$152,301

David Jones and Susan Cuppett - USDA - Federal Grain Inspection Service - Quantification of Rancidity Development as a Result of Treating Grains with RDB and Unrefined Soybean Oil - \$79,680

Louis Leviticus - U.S. Department of Education - Development of Engineering Solutions for Machine Control Systems to Aid Paraplegic Farmers - \$126,843

Dennis McCallister - Hazardous Substance Research Center for U.S. EPA Regions VII and VIII - Evaluation of Active Soil-Gas Technology at Four Sites Contaminated with Carbon Tetrachloride - \$155,852

Jerry Maranville - US/AID Science & Technology - Physiological Basis for Nitrogen Use Efficiency in Pearl Millet - \$150,000

Dennis McCallister - USDA/ARS - Nitrogen in Cultivated Ecosystems - \$45,000

Daniel T. Walters - USDA/ARS - Rooting Zone Nitrate as Regulated by Available C, Microbial Activity, and Conservation Management - \$69,881

Dennis Francis - Tennessee Valley Authority - Utilization of Residual Soil N by Wheat, Rye, and Hairy Vetch Winter Cover Crops Interseeded into Irrigated Corn in Nebraska - \$4,000

David Mortensen - USDA/ARS - Field Evaluation of Reduced Herbicide Rates when Applied in Ultralow-Volume (ULV) with Oil Diluents - \$10,000

James E. Specht - USDA/ARS - Establishment of a Soybean Genome Database: Genetic Collections - \$60,000

Chris R. Calkins - USDA/OICD - Maximizing Beef

Carcass Value Through Objective Determination of Lean Content - \$20,000

H. Edward Grotjan - National Institute of Health - Gonadotropin Biosynthesis: Subcellular Aspects - \$305,760

Shashi Verma - Midwestern Regional Center of the National Institute for Global Environmental Change - A Field Study of Methane and Carbon Dioxide Fluxes in a Boreal Wetland Ecosystem: Measurement and Analysis - \$139,110

Blair D. Siegfried - NCR/PIAP - Toxicology of Disulfoton and Parathion Resistance in the Greenbug, *Schizaphis graminum* (Homoptera: Aphididae) - \$16,000

Leon G. Higley - NCR/PIAP - Reducing Environmental Risks from Pesticides and Improving Pesticide Risk Assessment Through Environmental Cost Estimates - \$32,500

Kenneth P. Pruess & Thomas O. Powers - National Science Foundation - Black Fly Sibling Species: A Model for Ecological Genetics - \$219,075

Lance J. Meinke - USDA/ARS - Control of Western Corn Rootworms Through Adult Suppression - \$40,000

Michael Zeece - US Irish Program - Collaborative Research Review and Development of Potential Student Exchange Programs - \$5,611

Kyle D. Hoagland - NCR/PIAP - Individual and Synergistic Effects of Pesticides on Streams in the Midwest - \$43,291

Kyle D. Hoagland - U.S. Army Corps of Engineers - Changes in the Benthic Macroinvertebrates of Pawnee Reservoir Over the Past Two Decades - \$23,906

Dermot P. Coyne - US/AID - Biology, Epidemiology, Genetics and Breeding for Resistance to Pathogens of Beans with Emphasis on Those Causing Rust, Bacterial Blight and Golden Mosaic - \$126,360

A. Mitra - National Science Foundation - Fungal Zoospore Mediated Transfer of Foreign DNA in Plants - \$180,371

James L. Van Etten - National Institutes of Health - DNA Replication and Gene Expression of *Chlorella* Virus - \$1,006,044

Anne K. Vidaver - USDA/ARS - Olpidium-Mediated Plant Transformation System - \$70,000

Alex Chen Swey-Shen - National Institute of Health - Mechanisms of Perinatal IgE Tolerance - \$676,658

Pauline Zeece - USDA Irish Program - Irish Early Childhood Educator's View of Appropriate Practice - \$5,611

Don C. Adams and Richard T. Clark - USDA/NCR 1992 Sustainable Agriculture Program - Calving Season and Resource Management to Reduce Input Use While Maintaining or Improving Ranch Profitability - \$91,300

John B. Campbell - NCR/PIAP - Management Strategies for Pyrethroid-Resistant Horn Flies - \$23,992

Robert Volk - USDA/ARS - Integrated Nitrogen, Water & Pesticide Management Systems to Protect Ground Water Quality - \$290,000

Darrell G. Watts - USDA/CSRS - Management of Irrigated Corn and Soybeans to Minimize Ground Water Contamination - \$352,600

Joel Cahoon - U.S. Geological Survey - Observation/Response Techniques for Enhancing Furrow Irrigation Efficiency and Uniformity - \$118,757

Clinton Jones and Fernando Osorio - USDA/IPM - Is the Latency Related Gene of BHV-1 Necessary for a Latent Infection of Cattle - \$141,052

David A. Mortensen, Linda J. Young and Alex R. Martin - USDA/IPM - Weed Distributions: A Diagnostic for Evaluating Preventive Weed Management Systems - \$105,340

Fred W. Roeth and Roger Elmore - USDA/IPM - Soybean Cultivar Competition with Weeds - \$96,645

Albert Weiss, Timothy J. Arkebauer and Kent M. Eskridge - USDA/IPM - A Modeling Approach to Evaluate Avoidance Mechanisms in Plant Pests of Corn - \$124,383

Leon G. Higley - USDA/IPM - Developing Defoliation Tolerant Plants Through Photosynthetic Compensation - \$86,796

Stephen Danielson and Blair Siegfried - USDA/IPM - Glandular Trichome Exudate as an Insect Resistance Factor for Alfalfa - \$121,540

Ruben Donis - USDA/IPM - Bovine Monoclonal Antibodies Against Bovine Viral Diarrhea Virus - \$120,611

Gary L. Hein, David D. Baltensperger and Drew J. Lyon - USDA/IPM - Importance of Habitat Diversity in the Biological Control of Russian Wheat Aphid - \$114,448

Robert G. Wilson, Gary Hein and Eric Kerr - USDA/IPM - Integrated Systems for Control of Canada Thistle - \$111,262

SAES LEADERSHIP DEVELOPMENT COURSE

The Leadership Development Course implemented by the State Agricultural Experiment Station System is in its first year of existence. This course was developed to provide education and leadership opportunities for faculty members who have interest in becoming Land-Grant University administrators. Drs. Alice Jones and Steve Waller are participants in Class 1 of the course. An announcement concerning Class 2 has been sent to all IANR units. Additional information about the course will be sent to all units in early December. If you are interested in the program, please contact your unit administrator or ARD. Steve and Alice can provide you with some first-hand information about the course.

The SAES Leadership Development Course is designed for faculty who aspire to develop and refine leadership skills important for administering research programs. The course is targeted at senior Associate Professors and junior Professors who have research appointments and an interest in learning about academic administration. The course consists of three phases: (i) a six-day theory and

skill development workshop in October, (ii) an internship experience with ARD, and (iii) a three-day capstone experience in Washington, D.C. during June. The Agricultural Research Division will sponsor one or two faculty members for this course during 1992. Any faculty member with interest is encouraged to apply. Participants will be selected with assistance of the ARD Advisory Council.

CSRS APPROPRIATIONS FOR FY 1992

The CSRS budget for FY 1992 contained several encouraging aspects for funding of agricultural research in Nebraska. The budget legislation (PL 102-142) was passed by Congress and signed by the President in late October. Hatch Act and McIntire-Stennis funding was increased by 4%. The National Research Initiative (NRI) competitive grants program was increased by nearly \$25 million. Although this level of funding is below that requested in the President's Budget, increased funding does indicate strong support for the NRI program in Congress. Several competitive special grant programs including water quality, global climate change, and pest management strategies also received increased funding. Nebraska will be receiving several directed special grants totaling about \$530,000. The areas to be addressed by these grants include milkweed research, Sandhills grazing management, food processing, rural policy research, industrial agricultural products, and sustainable agricultural systems. UNL also received \$4,500,000 in construction funds for the George W. Beadle Center for Genetics and Biomaterials Research.

Program	FY1991 Appropriation	FY1992 Appropriation
----- \$ in thousands -----		
Base Programs:		
Hatch Act	162,293	168,785
McIntire-Stennis	17,820	18,533
Animal Health	5,551	5,551
Critical Ag Materials	800	400
Rangeland Research	475	475
Nat. Research Initiative **	73,000	97,500
Reg./Nat. Special Grants (Total)	37,861	42,183
IPM	4,000	4,457
Pesticide Clearance	3,000	3,500
Pesticide Impact Assess.	2,968	2,968
Biol. Impact Assess.	300	300
Global Change	0	2,000
Water Quality	8,000	9,000
State Spec. Special Grants	24,208	31,796
Aquaculture Centers	3,750	4,000
Sustainable Agriculture	6,725	6,725
Alternative Crops	1,168	1,168
Intern. Trade Centers	3,152	0
Ag Weather Inform. Systems	0	400

**Includes \$18 million for natural resources and environment; \$6.5 million for nutrition, food quality and health; \$40 million for plant systems, \$25 million for animal systems, \$4 million for markets, trade, and policy; and \$4 million for value added processing.

ACTION PLAN FOR GRANTSMANSHIP WITHIN IANR

The IANR Administrative Council recently appointed a committee to develop an IANR Action Plan for Grantsmanship. This activity is part of an overall strategic effort to enhance grant and contract success at the University of Nebraska-Lincoln. All colleges within UNL have been asked to develop such plans.

The IANR Committee is composed of Ed Grotjan, Alice Jones, Anne Matherne, Phil Rzewnicki and Joe Skopp. Dr. Omtvedt has asked the committee to look broadly at grantsmanship issues and to identify innovative approaches for enhancing faculty success in obtaining grants and contracts. Components of the action plan recommended by Sponsored Programs include the following:

1. Compare G&C awarded during past three years.
2. Compare proposals submitted during past three years.
3. Review UNL policy on sponsored projects.
4. Establish a record keeping system for proposals and awards.
5. Establish a file of funded proposals.
6. Establish/expand a mentor system for G&C.
7. Develop a seminar for faculty on sponsored projects.
8. Target funding sources-industry, foundations, feds.
9. Establish a "Washington D.C." agenda.

GRADUATE STUDENT ENROLLMENT FOR 1991-92

Given in the table below are data for graduate student enrollments in programs administered by IANR units. Graduate student numbers increased during the last year by 55 in CASNR units and 49 in College of Home Economics (CHE) units. Overall, graduate student numbers in IANR units increased by 17% from one year ago. In CASNR units, M.S. and Ph.D. students represent 56 and 44% of the total, respectively. However, in CHE units, 91 and 9% of the students are M.S. and Ph.D. students, respectively. Men comprise 73% of the graduate students in CASNR units, but only 17% of the students in CHE units.

International students make up 44% of the students in CASNR units but only 13% in CHE units. In CASNR units, graduate students are supported as follows: state GRA, 25%; grant-funded GRA, 26%; state GTA, 3%; international agency, 10%; and own funds, 36%. In CHE units, graduate students are supported as follows: state GRA, 7%; grant-funded GRA, 1%; state GTA 10%; international agency, 1%; and own funds, 81%.

ARD is pleased that the graduate education programs in IANR units continue to grow in both quantity and quality. We encourage all faculty to become active in recruiting top quality graduate students to our programs.

NUMBER OF STUDENTS REPORTED BY UNITS

Department	M.S. Students		Ph.D. Students		Total		Enrolled in Classes this Semester
	Men	Women	Men	Women	1990-91	1991-92	
Agr. Economics	16	5	9	0	30	30	30
Agr. Education ¹	6	5	1	2	15	14	8
Agr. Meteorology ²	5	0	5	2	14	12	0
Agronomy	66	15	71	12	158	164	131
Animal Science	28	17	29	6	78	80	75
Biochemistry	5	0	10	6	18	21	0 ³
Biol. Systems Eng.	22	4	12	0	26	38	3 ⁴
Biometry	3	2	0	0	-	5	1
Entomology	9	4	13	0	24	26	22
Food Sci & Tech	16	17	6	4	35	43	38
Forestry, Fish & Wildlife	9	6	2	0	13	17	13
Horticulture	7	6	6	5	21	24	23
Plant Pathology	2	3	7	6	17	18	0 ³
Veterinary Sci ³	11	7	13	5	26	36	18
Total CASNR:	200	91	179	46	461	516	362
Consumer Sci & Edu	0	8	0	1	28	9	0
Human Dev & Family	19	91	0	0	45	110	58
Nutrit Sci & Hosp Management	7	37	5	6	57	55	40
Textiles, Clothing & Design	1	11	0	5	12	17	10
General Home Econo ⁶	-	-	-	-	-	-	22
Total CHE:	27	147	5	12	142	191	130
Grand Total:	227	239	184	58	603	707	492

¹ Ph.D. students obtain degrees in ACI or CHR programs in Teachers College.

² Graduate degree programs are not offered so degrees are obtained from other departments. Numbers are not included in total.

³ Degrees obtained through Biological Sciences. Head count credit is in the School of Biological Sciences.

⁴ Engineering degrees are obtained through College of Engineering & Technology.

⁵ Ph.D. degrees are awarded by UNMC.

⁶ Ph.D. candidates may be registered in the Interdepartmental Home Economics Ph.D. degree program.