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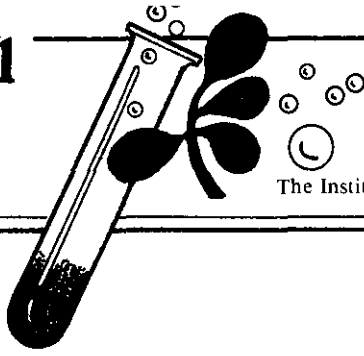
ARD News December 1993

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December 1993

Volume 28, Number 3

SEASON'S 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 willingness to serve on research project reviews, review your colleagues' manuscripts, prepare grant proposals, complete annual reports of research, and interact with our office in a highly professional manner. Your assistance and good humor make our jobs easier.

We believe that 1993 has been a banner year from the standpoint of research accomplishments. Some excellent junior faculty have been hired, outputs (publications, cultivar releases, presentations, etc.) have increased, grant and contract income and the number of graduate students in our programs are at all-time highs, and a large number of faculty and administrators have received national recognition for excellence in research. We appreciate your dedicated service to the people of Nebraska. Keep up the good work in 1994.

Diane Says

The wise man studies others so that he can learn from their mistakes and at their expense.

GRADUATE STUDENT ENROLLMENT FOR 1993-1994

The table on the next page provides data on the number of graduate students matriculating in degree programs administered by IANR units. During the past year, the number of graduate students increased by 60 in CASNR units and decreased by 48 in CHRFS units. The decrease in CHRFS units may in part result from a more accurate determination of the number of students actively pursuing degrees than that of previous years. Overall, the number of graduate students in IANR units increased by 1.7 percent from one year ago. In CASNR units, M.S. and Ph.D. students represent 50.3 and 49.7 percent of the total, respectively. Interestingly, Ph.D. students represent 20.4 percent of the total graduate students in CHRFS units. Women comprise 80.3 percent of the graduate students in CHRFS units as compared to 27.3 percent of the graduate students in CASNR units.

International students comprise 46.3 percent of the graduate students in CASNR units, but only 10.5 percent in CHRFS units. In CASNR units, graduate students are supported as follows: state GRAs, 18.6 percent; grant-funded GRAs, 34.1 percent; state GTAs, 2.6 percent; international agency funds, 11.1 percent; own funds, 33.7 percent. In CHRFS units, graduate students are supported as follows: state GRAs, 10.6 percent; grant-funded GRAs, 8.9 percent; state GTAs, 16.3 percent; international agency funds, 0.8 percent; own funds, 63.4 percent.

The graduate programs in many units are expanding and students are receiving a high quality education. We encourage all graduate student advisors to work closely with students in a true mentoring relationship. It is essential that our graduate students are highly competent in research as they leave UNL. Units should maintain high standards for admission of graduate students into their programs and should provide rigorous educational experiences for all students.

Darrell
Diane
Keebrya
Dana
Steve
Melville
Alan
Tom
Carisa
Mary



Department	M.S. Students		Ph.D. Students		Total Graduate Students	
	Men	Women	Men	Women	1992- 1993	1993- 1994
-----Number of Students Reported-----						
CASNR UNITS:						
Agr. Economics	17	5	13	1	29	36
Agr. Education ¹	9	5	2	2	9	18
Agr. Meteorology ²	(2)	(2)	(9)	(3)	(12)	(16)
Agronomy	53	18	84	17	163	172
Animal Science	24	12	32	10	76	78
Biochemistry	1	1	14	10	22	28
Biol. Systems Eng. ⁴	28	4	18	1	42	51
Biometry	15	4	(1) ²	0	6(1) ²	19(1) ²
Entomology	6	4	16	2	22	28
Food Sci and Tech	10	15	10	4	42	39
Forestry, Fish/Wildlife	18	9	6	2	27	35
Horticulture	5	6	7	4	21	22
Plant Pathology ³	1	1	5	5	12	12
Vet Biomedical Sci ⁵	8	7	12	7	41	34
Total:	195	91	219	65	512	572
CHRFS UNITS:						
Fam and Consumer Sci	11	35	0	0	103	46
Nutrit Sci/Dietetics	5	34	4	4	55	47
Tex., Clothing/Design	1	10	0	0	17	11
Interdepartmental	0	5	4	14	---	23
Total:	17	84	8	18	175	127
GRAND TOTAL:	214	177	237	86	687	699

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

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

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

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

⁵Ph.D. degrees are awarded by UNMC.

ARD ADMINISTERED GRANT AND AWARDS PROGRAMS

The Agricultural Research Division administers several grant and recognition programs using ARD funds, NU Foundation funds and funds from other sources. Some of these are awarded annually on a regular schedule and some on an ad hoc basis as funds permit. The following summary explains some of these programs and how they currently are administered.

NU Foundation Endowments

Anna H. Elliott Fund Grants

Awarded every two years as endowment income permits. Income is about \$70,000 annually and program is oriented to plant science research directed to western Nebraska. RFP issued about Jan. 15.

Sampson Range and Pasture Management Endowment

Awarded every two years as endowment income permits. Three research, extension or teaching projects are funded every two years. The program is directed at pasture and rangeland management and the study of native grasses. RFP issued about Jan. 15.

Mussehl Poultry Research Endowment

Awarded every two years as endowment income permits. Income is about \$25,000 per year. Research in poultry management, health, nutrition, physiology, waste management and utilization, and poultry product research is supported by the endowment. RFP is issued about June 1.

Widaman Trust Graduate Fellowship

Awarded annually. \$1,200 added to stipend of outstanding graduate students. Nominations are due about May 10.

Hardin Distinguished Graduate Fellowship in Plant Stress Physiology

Awarded annually. \$2,000 added to stipend of a selected student plus \$1,000 to the department to assist student's research. One grant awarded annually. Nominations are due about May 10.

Mary and Charles C. Cooper/Emma I. Sharpless Fellowships

Jointly awarded on an annual basis by ARD and CASNR. \$1,000 or \$2,000 added to stipend of selected graduate students for assistance in recruitment. Applications are accepted throughout the year.

Junior Faculty Excellence in Research Recognition (Ruth E. Branham Endowment)

Up to two junior faculty recognized per year. Recognition consists of certificate, plaque, and \$3,000 for use in research or professional development. Call for nominations is issued June 1.

Burlington Northern Water-Science Endowment

Awarded on an annual basis for water science research. Approximately \$30,000 is available annually. RFP is issued about Jan. 15.

ARD/International Programs Indirect Cost Funds

ARD Foreign Travel Awards

One or more grants of up to \$1,000 each awarded. \$3,000 to \$5,000 available annually for research-related foreign travel for professional development opportunities (not for professional society meetings). RFP issued when funds are made available.

ARD Research Facility Renovation Funds

Funding is provided to units for renovation of research facilities. Amount of funding available depends on indirect cost recovery within IANR units. Requests are received from unit administration throughout the year.

ARD Discretionary Funds

Interdisciplinary Research Grants

Awarded annually, depending on availability of funds. Two or three grants awarded for up to two years duration and for up to \$20,000 annually. RFP issued about Feb. 1.

Innovative and High Risk Research Program

Awarded annually, depending on availability of funds. The purpose is to provide initial funding for innovative research that will lead to extramural grant proposals. \$15,000 per year for up to two years will be provided. Applications accepted anytime during the year, although

call for proposals will be issued about **June 1**. Evaluations of proposals will occur about **Oct. 15, Jan. 15, April 15, and July 15** each year.

Graduate Student Recruitment Funds

Awarded as requested by departments. Up to two per department per calendar year. Award pays up to 50 percent of expenses, or \$200 per student. Purpose is to reimburse recruitment visits to UNL for students offered assistantships.

SAES Leadership Development Course

One or two faculty members are selected for participation each year. Award consists of tuition and travel expenses associated with SAES Leadership Development Course. Participants spend about 10 percent of their time serving as administrative interns in ARD. Request for applications is issued about **Feb. 1**.

ARD/State Budget Funds

ARD Research Equipment Awards

Awarded annually, as provided in state appropriations. Approximately \$225,000 awarded annually to all ARD units, according to prioritized requests. RFP issued about **Sept. 1**.

ARD Royalty Income

Calf Scours Royalty Funds Grants

Awarded annually or biannually, depending on income. Approximately \$60,000 awarded annually for animal health-related research laboratory improvements.

Other Programs Coordinated by ARD

Layman Awards (NU Foundation Funds)

Awarded annually for research support. Size of awards vary from \$1,000 to \$15,000. RFP issued about **Oct. 1**.

NU Foundation Grants (NU Foundation Funds)

Awarded annually for equipment purchase and support of special programs. Size of awards vary from \$10,000 to \$50,000. RFP issued about **March 1**.

Nebraska Bankers Association Grants

Awarded annually for research/education programs relating to economic development. Size of awards vary from \$5,000 to \$20,000. RFP issued about **Sept. 1**.

Nebraska Commodity Check-off Board Grants

Annual research grants usually in the \$5,000 to \$20,000 range. RFP issued about **Oct. 1**.

The Agricultural Research Division also helps process research grant proposals directed at federal and state agencies, foundations, corporations, and private organizations. The Dean for Agricultural Research has final sign-off authority for all proposals directed to USDA agencies. Proposals to other agencies and organizations are sent by ARD to the Office of Sponsored Programs for final processing.

Anyone with questions about these programs is encouraged to contact the Agricultural Research Division office.

INDIRECT COST RECOVERY BY ARD UNITS DURING FY 1993

Provided below is a listing of the indirect costs recovered from grants and contracts awarded to faculty in ARD units during FY 1993. About 34 percent of the total indirect cost generated by our units was returned to ARD for further allocation. Two-thirds of the indirect costs returned to ARD was allocated to the unit whose faculty received the grants and generated the indirect cost recovery. These funds may be used to enhance research programs within the unit at the discretion of the unit administrator. The remaining one third of direct cost recovery provided to ARD is used to fund renovation of research facilities on an IANR-wide basis. Units not listed below did not generate any indirect cost recovery during FY 1993.

Unit	Indirect Costs Generated, \$
Agricultural Economics	\$ 999
Agricultural Meteorology	92,514
Agronomy	146,295
Animal Science	49,877
Biochemistry	239,434
Biological Systems Engineering	12,725
Biometrics	6,338
Entomology	33,398
Food Science and Technology	138
Forestry, Fisheries and Wildlife	54,594
Horticulture	26,652
Nutritional Science and Dietetics	120
Plant Pathology	77,975
Veterinary and Biomedical Sciences	62,275
Industrial Agricultural Products Center	10,122
Water Center/Environmental Programs	30,693
ARD Total:	844,149

The total indirect cost recovery in ARD units increased by 11.2 percent from FY 1992. This increase resulted primarily from improved grant activity by faculty members, rather than from an increase in the percent of indirect costs recovered on our grants.

NEW OR REVISED PROJECTS

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

NEB-12-011 (Agronomy) Changes in Soil Properties Associated with Changes in Land Use Over the Past Century

Investigator: D. T. Lewis

Status: Revised Hatch project effective June 1, 1993

NEB-12-234 (Agronomy) Cloning Differences Between Plant Genomes

Investigator: S. Kaeppler

Status: New state project effective July 1, 1993

NEB-13-119 (Animal Science) Nitrogen Metabolism in *Prevotella Ruminicola*: A Molecular Genetics Approach

Investigator: M. Morrison

Status: New Hatch project effective Sept. 1, 1993

NEB-14-009 (Veterinary and Biomedical Sciences)
Prevention and Control of Enteric Disease of Swine
Investigator(s): R. Moxley and G. E. Duhamel
Status: Revised Hatch project that contributes to regional project NC-62

NEB-15-069 (Biochemistry) Chloroplast Thylakoid Protein Phosphatase
Investigator: J. P. Markwell
Status: New Hatch project effective Oct. 1, 1993

NEB-27-013 (Ag Meteorology) Ultraviolet Radiation Interactions in a Vegetative Canopy
Investigator: E. A. Walter-Shea
Status: New state project effective July 1, 1993

NEB-42-007 (Northeast Research and Extension Center) Feedlot Management and Production Considerations for the Cattle Feeder
Investigator(s): T. L. Mader and R. A. Stock
Status: Revised Hatch project effective Oct. 1, 1993

PROPOSALS SUBMITTED FOR FEDERAL GRANTS

The following is a listing of proposals that were submitted after Oct. 1, 1993, 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.

Elton Aberle — USDA/ARS — Genetic Evaluation for Carcass Traits — \$27,120

Swey-Shen Alex Chen — NC-IPM — Intervening in the Inflammatory Cascade of Bovine Mastitis Caused by Staphylococcal Enterotoxin (SE) — \$100,000

Gary Hein, Roy French, Drew Lyon and John Watkins — NC-IPM — Wheat and Mite Population Dynamics and Epidemiology of Wheat Streak Mosaic Virus — \$89,982

Robert Wilson, Gary Hein and Eric Kerr — NC-IPM — Integrated Systems for Control of Canada Thistle — \$75,000

David Mortensen, Carol Gotway, Linda Young, Dawn Wyse and Alex Martin — NC-IPM — Events, Processes and Conditions Influencing the Stability of Weed Distributions — \$75,850

Shawn Kaeppler, K. Arumuganathan and Heidi Kaeppler — National Research Initiative Competitive Grants Program/USDA — Flow-Sorted Chromosomes for Maize Genome Research — \$139,958

Dennis Jelinski — NASA — Ecological Controls on Surface Energy and Water Balances in the Boreal Forest Landscapes — \$207,800

Ruma Banerjee — NIH — RXN Mechanisms of Mammalian Cobalamin Dependent Enzymes — \$90,562

Wei-ping Lu — NSF — Mechanistic Enzymology of the Oxidation of Thiosulfate to Sulfate by a Multienzyme Complex from *Thiobacillus versutus* — \$668,367

Kenneth Hubbard — USDA — Project Earthlink: Global Environmental Change Education National Initiative — \$131,001

Kathy Prochaska-Cue, Elizabeth Davis and Raedene Combs — USDA — Housing Affordability in Rural Areas — \$75,535

Steve Taylor and Dan Neumeister — USDA — Development and Quality/Safety Enhancement of Specialty Food Products — \$47,209

Robert Spreitzer — NSF — Chloroplast Heteroplasmic Suppression — \$330,353

Pat Shea — USDA/ARS — Assimilative Capacity of Subsurface for Pesticides and Nitrate—Nebraska MSEA Site — \$28,240

Terry Klopfenstein — USDA/OICD/Research and Scientific Exchanges Division — National Conference on Forage Quality, Evaluation and Utilization — \$12,700

David Stanley-Samuelson — NIH — Eicosanoids Modulate Mosquito Malpighian Tubule Function — \$447,064

Stephen Danielson and Blair Siegfried — NC-IPM — Glandular Trichome Exudate as an Insect Resistance Factor for Alfalfa — \$82,031

Blair Siegfried and Z B Mayo — NC-IPM — Immunological Estimation of Insecticide Resistance in the Greenbug — \$72,451

Nancy Lewis — National Research Initiative Competitive Grants Program/USDA — Breast Cancer Prevention: A Dietary Intervention — \$69,386

Nancy Betts and Kaye Stanek — National Research Initiative Competitive Grants Program/USDA — The Effect of Adult Literacy on Child Nutritional Status — \$84,303

Ruben Donis — NIH — Multicomponent Vaccine Development — \$280,733

James Brandle — USDA Forest Service — Rocky Mountain Research Station — Propagation of Juniperus for Conservation Planting — \$19,000

Robert Wright and Roger Elmore — NC-IPM — Millet as a Trap Crop in Corn for European Corn Borer Management — \$33,015

Robert Wright, Ronald Seymour, John Campbell and Norman Klocke — NC-IPM — Irrigation Practices for Preventive Management of Corn Spider Mites — \$72,295

Dennis Diestler — NSF — Computer Studies in Molecular Tribology — \$189,621



**GRANTS AND CONTRACTS
RECEIVED
OCTOBER AND NOVEMBER, 1993**

Agricultural Economics	
Helmers, G. — USDA/ERS	\$ 53,590
Turner, M. and Royer, J. — USDA/ACS	24,915
Agricultural Meteorology	
Wilhite, D. — Desert Research Institute/Western Region Climate Ctr.	8,696
Wilhite, D. and Hubbard, K. — Environmental Canada	20,000
Agronomy	
Baenzliger, S. and Yen, Y. — USDA	201,000
Johnson, B. — Pioneer Hi-Bred International, Inc.	60,000
Kaeppler, S. — Pioneer Hi-Bred International, Inc.	60,000
Shea, P. — USDA/ARS	28,240
Specht, J. — USDA/ARS	51,650
Miscellaneous grants under \$5,000 each	25,475
Animal Science	
Aberle, E. — USDA/ARS	27,120
Kinder, J. — USDA	145,000
Mandigo, R. — UN Foundation	32,505
Miscellaneous grants under \$5,000 each	17,888
Biochemistry	
Klucas, R. — USDA	110,000
Biometry	
Miscellaneous grants under \$5,000 each	5,092
Entomology	
Miscellaneous grants under \$5,000 each	11,000
Food Processing Center	
Miscellaneous grants under \$5,000 each	1,775
Food Science and Technology	
Hutkins, R. — National Dairy Promotion and Research Board	31,140
Hutkins, R. and Conway, T. — USDA	95,436
Summer, S., Bullerman, L. and Albrecht, J. — USDA	102,972
Taylor, S. — The Gerber Companies Foundation	10,000
Miscellaneous grants under \$5,000 each	20,173
Forestry, Fisheries and Wildlife	
Arumuganathan, K. — Cornell University	55,301
Brandle, J. — USDA	35,000
Brandle, J. — USDA Forest Service — Rocky Mountain Research Station	19,000
Kayes, T. — Michigan State University	17,000
Horticulture	
Miscellaneous grants under \$5,000 each	20,350
Industrial Ag Products Center	
Hanna, M. — National Corn Growers Association	28,485
Miscellaneous grants under \$5,000 each	5,500
Northeast Research and Extension Center	
Kranz, W. and Powell, T. — Nebraska Pork Producers	16,000
Shapiro, C. and Brumm, M. — Nebraska Pork Producers	17,500
Miscellaneous grants under \$5,000 each	15,700
Nutritional Sciences and Dietetics	
Stanek, K. — National Institutes of Environmental Health Sciences	8,114
Panhandle Research and Extension Center	
Weichenthal, B. — UN Foundation	8,300
Miscellaneous grants under \$5,000 each	18,000

Plant Pathology	
Miscellaneous grants under \$5,000 each	4,000
South Central Research and Extension Center	
Miscellaneous grants under \$5,000 each	7,100
Veterinary and Biomedical Sciences	
Dewey, C. and Schmitz, J. — Syntex	30,000
Hamernik, D. — USDA/CSRS	126,000
Schneider, N. and Schmitz, J. — Nebraska Bankers Association	20,000
Miscellaneous grants under \$5,000 each	14,577
Water Center/Environmental Programs	
Miscellaneous grants under \$5,000 each	11,500
West Central Research and Extension Center	
Miscellaneous grants under \$5,000 each	3,800
GRAND TOTAL	1,624,894

IANR RESEARCH TRAVEL FUND PROGRAM

The IANR Research Travel Fund Program supports attendance at professional society meetings where the faculty member is presenting the results of his or her research and/or scholarly investigations. All IANR faculty having full-time appointments are eligible, with the exception of those who are or have adjunct or courtesy appointments. Grants under this program are limited to a maximum of \$800 per individual per fiscal year. There is also a limit of \$500 per trip, with the exception that up to \$800 will be provided for a single trip if the funding is used entirely for transportation, i.e., most international travel. Further information about the program is available from Associate Vice Chancellor Ted Hartung.

Application Deadlines

<i>For Travel Between</i>	<i>Deadline</i>
Oct. 15 - Dec. 31	Sept. 1
Jan. 1 - March 31	Nov. 15
April 1 - June 30	Feb. 1
July 1 - Oct. 14	April 15

**CHEMICAL SAFETY/HAZARDOUS
MATERIALS ISSUES**

UNL is staffed to deal with a wide range of chemical safety and hazardous materials issues. Faculty and administrators are urged to contact the personnel listed below for answers to questions related to chemical safety and hazardous materials regulations and guidelines. These offices also are equipped to provide training in the proper handling, storage, and disposal of chemicals and radioactive materials and in laboratory safety policies and procedures.

Organization	Person and Title	Telephone
Environmental Health and Safety	Del Weed, Manager	2-9551
Hazardous Materials Office	James Rhone, Manager Dan Olson, Haz Mat Spec	2-9316 2-4928
Radiation Safety Office	Lawrence Grimm, Manager	2-2157

FY 1992 CASH RECEIPTS AND EXPENDITURES BY FUND SOURCE NORTH CENTRAL STATE AGRICULTURAL EXPERIMENT STATION^{1,2}

State	Ag Cash Receipts 1992	State Approp to SAES		State Approp and Product Sales		Federal Formula Funds		Other Federal Funds		Indust -Other		Total		State Approp and Product Sales Per \$1,000 Cash Rept		
		Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank
Illinois	7,952	3	14,114	10	18,149	10	5,166	3	4,874	8	8,284	4	36,473	9	2.28	11
Indiana	4,679	7	21,557	6	25,978	5	4,848	6	8,836	4	7,657	6	47,319	6	5.55	3
Iowa	10,822	1	21,957	5	24,527	7	5,569	2	13,748	3	12,229	1	56,073	4	2.27	12
Kansas	7,629	4	20,854	8	26,449	3	3,265	9	6,711	6	4,130	8	40,555	7	3.47	9
Michigan	3,170	11	22,962	4	25,670	6	4,742	7	19,576	2	7,755	5	57,743	2	8.10	1
Minnesota	7,337	5	32,519	1	36,534	1	4,986	5	4,888	7	9,812	3	56,220	3	4.98	5
Missouri	4,125	8	16,876	9	19,937	9	4,619	8	2,959	11	3,332	10	30,847	10	4.83	6
N. Dakota	3,087	12	12,981	11	15,706	11	2,255	12	4,206	9	3,041	11	25,208	11	5.09	4
Nebraska	9,312	2	23,311	3	35,488	2	3,154	10	7,875	5	4,018	9	50,535	5	3.81	8
Ohio	4,004	9	20,885	7	22,572	8	5,678	1	3,966	10	5,122	7	37,338	8	5.64	2
S. Dakota	3,552	10	6,457	12	10,430	12	2,353	11	673	12	505	12	13,961	12	2.94	10
Wisconsin	5,549	6	26,183	2	26,183	4	5,039	4	22,452	1	10,649	2	64,323	1	4.68	7

¹Compiled by the Office of the North Central Executive Director (1/93).

²Cash receipts are in millions; expenditures are in thousands.

³Hatch and McIntire-Stennis.

⁴Includes special grants, competitive grants, animal health, other CSRS funds, USDA cooperative agreements and contracts, and other federal funds.

Sources: Rankings of States and Commodities by Cash Receipts, 1991, ERS Bulletin No. 848, 11/92, Inventory of Agricultural Research FY 1991, Current Research Information System, USDA, Page 123.

ARDC RESEARCH AND OUTREACH FACILITY

The re-design of the ARDC Research and Outreach Facility has been completed and will be considered by the Board of Regents at their December meeting. Changes in the new design are minor, with the exception of the width of the main corridor and the roof design over the multi-purpose room. Artificial light will replace the natural light planned for this room. The building visibility was reduced with the elimination of the teflon-coated fabric roof, and will be partially compensated for by the addition of a colored metal roof, signage, and landscaping.

Fortunately, the rest of the building's unique characteristics have been retained. The facility will be very efficient in its use of space and energy. Building materials that are "environmentally friendly" will be used throughout the facility. Designed with the IANR Strategic Plan in mind, this building will serve as an example of wise resource management, as well as a very functional and aesthetically pleasing facility.

If the Board of Regents approves the new design, bids will be requested early in January. The Regents are scheduled to review and award the contract for construction at their March meeting. Construction should begin in early spring, with a completion date set for early 1995.

ARDC UPDATE

The University of Nebraska Agricultural Research and Development Center (ARDC) is a component of the Agricultural Research Division (ARD) of the University of Nebraska's Institute of Agriculture and Natural Resources (IANR). It serves as the primary site for field-based research involving 80 faculty and 150 graduate students within nine departments of IANR. IANR departments with research programs at the ARDC are Agricultural Meteorology; Agronomy; Animal Science; Biological Systems Engineering; Entomology; Forestry, Fisheries and Wildlife; Horticulture; Plant Pathology; and Veterinary and Biomedical Sciences.

The ARDC consists of approximately 9,500 acres (3,846 hectares), of which 5,000 acres (2,024 hectares) are in row crops. Forty percent of the row crops are irrigated. The balance of the 9,500 acres is predominately in cool and warm season pasture. Over 5,000 farm animals used for research and teaching reside at ARDC. The woodland, wetlands and streams on the ARDC provide habitat for a multitude of plant and animal species. This diversity of environments creates many research and teaching opportunities.

In 1992, the ARDC established a 4,000 acre (1,600 hectare) "Integrated Farm" to study innovative cropping and grazing systems. An interdisciplinary team of research, teaching, and extension faculty is involved in establishing long-term priorities and reviewing specific projects that will be included in the program. The goal of the team is to develop systems of management that continue to increase the profitability of Nebraska agricultural producers while protecting the environment.

Many changes are occurring on the ARDC as units move toward implementation of IANR's Strategic Plan. These changes will ensure that faculty, staff, and students will be able to take full advantage of the resources of the ARDC as we address agricultural and environmental issues facing all Nebraskans.