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Agricultural Research Division News

The Institute of Agriculture and Natural Resources

Office of the Dean, 207 Ag Hall
Lincoln, NE 68583-0704
Phone (402) 472-2045

University of Nebraska-Lincoln

December 1990

Volume 24, Number 2

SEASONS GREETINGS

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Of the total, women comprise 45, 19, and 36% of M.S., Ph.D. and all graduate students, respectively. International students constitute 26, 58, and 37% of M.S., Ph.D., and all graduate students, respectively. About 24 and 16% of graduate students received appropriated and grant-supported GRAs, respectively. Graduate students that receive support from an international agency or are self-supported comprise 7 and 48%, respectively, of all students.

Graduate education is an essential mission of the Agricultural Research Division. Given below is a table providing information about the quantitative aspects of our graduate program.

	M.S. Students		Ph.D. Students		Total	
Department	Men	Women	Men	Women	1990-91	1989-90
Agr. Economics	18	6	5	1	30	28
Agr. Education[1]	6	3	5	1	15	67
Agr. Meteorology[2]	6	1	7	0	14	14
Agronomy	64	17	69	8	158	161
Animal Science	24	18	29	7	78	62
Biochemistry	3	0	10	5	18	21
Biol. Systems Engineering	19	1	6	0	26	32
Consumer Science & Ed	0	26	0	2	28	42
Entomology	8	31	3	0	24	22
Food Science & Technology	12	14	5	4	35	24
Forestry, Fisheries & Wildlife	6	5	2	0	13	15
Horticulture	9	5	4	3	21	23
Human Dev & Family	8	37	0	0	45	107
Nutr Science & Hosp Mgmt.	5	37	7	8	57	47
Plant Pathology	3	3	6	5	17	11
Textiles, Clothing & Design	0	12	0	0	12	18
Vet Science	20	0	6	0	26	24
Total:	205	175	179	44	603	704

[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.

THE CRP IN NEBRASKA

As of July 1990, Nebraskans have executed 13,323 contracts with the federal government to place 1,348,900 acres of highly-erodible cropland in the Conservation Reserve Program. Nebraska CRP land represents about 8% and 4%, respectively, of land in the NC Region and the nation enrolled in the program.

RESEARCH PROVISION OF THE 1990 FARM BILL

The 1990 Farm Bill (Food, Agriculture, Conservation and Trade Act of 1990), was recently passed by Congress and signed by the President on November 28th. Title XIV of this legislation deals with science and education programs in USDA agencies and Land-Grant Universities. The Act authorizes programs and provides upper boundaries for funding these programs, but does not appropriate funds. Appropriations are made by Congress on an annual basis. Listed below are some of the key research provisions of the 1990 Farm Bill:

* Reauthorizes formula funded programs and increases authorization level for Hatch funds from $600 million to $850 million annually (Section 1601).

* Authorizes a new agricultural research facilities grants program at a level of $50 million per year (Section 1601).

* Reauthorizes the Supplementary and Alternative Crops, Rangeland Research, and Critical Agricultural Materials programs (Section 1601).

* Defines sustainable agriculture (Section 1603).

* Authorizes a competitive grants program for veterinary medicine facilities (Section 1607).

* Reauthorizes grants program for research on alcohol and industrial hydrocarbons (Section 1608).

* Authorizes a competitive grants program for international trade development centers (Section 1613).

* Increases authorization for aquaculture research and aquaculture centers (Section 1614).

* Authorizes a national competitive research initiative on food, agriculture, and the environment at a level of $500 million in 1995 (Section 1615).

* Authorizes $40 million annually for the LISA program and $15 million annually for a matching grant program to encourage adoption of sustainable agriculture practices (Section 1624).

* Creates a National Agriculture Weather Information System and provides a competitive grants program on research in atmospheric science and climatology related to agriculture (Section 1640).

* Establishes a new research program on production, preparation, processing, handling, and storage of agricultural products with a competitive grants program on food safety issues (Section 1643).

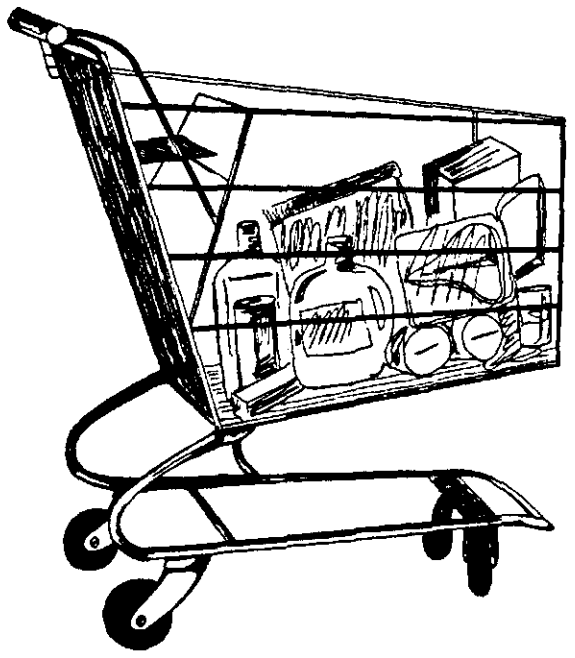
* Establishes a research program in integrated pest management particularly in regards to exotic pests and chinch bugs (Section 1652).

* Establishes a competitive grants program and regional centers dealing with development and production of new non-food and non-feed uses of agricultural commodities (Section 1657-1663).

CONSUMER EXPENDITURES FOR FOOD

The Economic Research Service has recently issued ERS Report 636 that deals with consumer expenditures for food. The data in this report clearly show that consumers are spending a lower proportion of their disposal income for food each year and that an increasing percentage of meals are consumed away from the home. Farmers are receiving a decreasing proportion of the total expenditures for food whereas the percentage of expenditures used for processing, transportation, and merchandizing of food is increasing.

	1963	1976	1989
Total expenditures (billion $)	74.0	183.3	423.4
Consumed at home (% of $)	75.6	69.4	61.0
Farmers share of expenditure (%)	33.0	32.0	24.0
Proportion of income spent on food (%)	16.1	14.1	11.8



CSRS APPROPRIATIONS FOR FY 1991

There were a number of encouraging signs associated with the CSRS budget for FY 1991 that was passed by Congress and signed by the President in late October. Formula funds increased by about 4.4%, competitive grants increased by $30 million, and significant increases were obtained for pest management, LISA, and water quality programs. Listed below is a table showing the federal appropriations for CSRS for FY 1990 and 1991.

	FY 1990[1] Actual	FY 1991[1] Actual
FORMULA FUNDS:		
Hatch Act	155,058	162,293
McIntire-Stennis	17,279	17,820
Animal Health	5,476	5,551
SPECIAL RESEARCH GRANTS[2]	55,828	61,976
NATIONAL RESEARCH INITIATIVE[3]	43,066	73,000
OTHER PROGRAMS:		
Rangeland Research	475	475
Aquaculture Centers	3,750	3,750
International Trade Centers	3,112	3,152
Low Input Sustainable Agriculture	4,450	6,725
Alternative Crops	321	1,168
Water Quality	6,615	8,000

[1]All numbers are in thousands.

[2]Includes funding for IPM, Pesticide Clearance, PIAP, and many other programs.

[3]Includes $35 million for plant systems ($11 million for genome mapping); $20 million for animal systems; $4 million for nutrition, food quality and health; and $14 million for natural resources and the environment.

1991 ESCOP RESEARCH INITIATIVE PRIORITIES

Each year State Agricultural Experiment Stations are asked to rank research thrusts in priority order as viewed from their perspective of state needs. For 1991 we were asked to rank 31 research initiatives that represented all disciplines and that were identified as important nationally. Input for the ranking was obtained from unit administrators and members of the ARD Advisory Council. Listed below are the top twelve research initiatives as viewed by the Agricultural Research Division and the average of rankings of the North Central Region AES.

	ARD Rank	NC Region Rank
Protecting water quality	1	1
Genetic enhancement of plants	2	5
Safe & effective pest management	3	2
Sustaining natural resource productivity	4	6
Ensuring safety of consumer foods	5	3
Expand biomaterials utilization	6	11 (T)
Conservation and efficient use of water	7	17 (T)
Optimal health through improved nutrition	8	9
Develop new processing technologies	9	10
Management of range and pasture	10	23
Animal Health and well being	11	17 (T)
Enhancing rural development	12	11 (T)
Compatibility of agriculture, natural resources and environment	16	4
International markets and trade	14	7
Genetic enhancement of animals	17	8

PROGRAM SIZE AND FY 1989 RESEARCH EXPENDITURES OF SELECTED AGRICULTURAL EXPERIMENT STATIONS

	AGRICULTURAL EXPERIMENT STATION						
	NE	MN	KS	IA	IL	IN	WI
Number of Projects	299	388	374	355	346	340	551
Scientists Years	144	189	199	123	169	143	173
Formula Funds & CSRS Special Grants[1]	3,806	5,651	4,765	9,354	6,203	5,520	7,467
Federal Competitive Grants[1]	4,228	4,038	3,831	5,763	2,880	7,052	15,715
Industry & Other Grants1	2,577	5,577	4,153	11,112	5,469	7,316	7,902
State Appropriations	15,504	32,687	18,238	15,062	12,765	17,846	21,983

[1]Dollars expended in thousands.

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NEW OR REVISED PROJECTS

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

11-083 (Biological Systems Engineering) Starch Graft Copolymers
Investigator(s): R. Chinnaswamy and M. A. Hanna
Status: New Hatch project effective August 6, 1990

12-187 (Agronomy) Molecular Characterization of Genetic Variation in Soybeans
Investigator: D. J. Lee
Status: New Hatch project effective August 1, 1990

12-189 (Agronomy) Mapping of Loci Affecting the Uptake and Utilization of Nitrogen in Maize
Investigator(s): B. Johnson, D. Lee, J. Maranville, W. Wilhelm & J. Schepers
Status: New State project effective July 1, 1990

12-191 (Agronomy) Exploring the Interface of Qualitative and Quantitative Variation
Investigator: P. S. Baenziger
Status: New Competitive Grant effective August 1, 1990

12-192 (Agronomy) Molecular Control of Soybean Vegetative Storage Protein Gene Expression
Investigator: P. E. Staswick
Status: New Competitive Grant effective July 1, 1990

13-080 (Animal Science) Factors Regulating Protein Turnover and Growth in Skeletal Muscle
Investigator: S. J. Jones
Status: Revised Hatch project effective September 10, 1990

15-056 (Biochemistry) Analysis and Metabolism of Oxysterols
Investigator: R. Dam
Status: New Hatch project effective September 10, 1990

16-054 (Food Science & Technology) Chemical and Physical Quality Characteristics of Horticultural Crops and Their Products
Investigator: D. Smith
Status: New Hatch project effective August 9, 1990

17-053 (Entomology) Arthropod Induced Stress on Soybeans: Evaluation and Management
Investigator(s): L. G. Higley and J. F. Witkowski
Status: New Hatch project that contributes to regional project S-219

26-014 (Forestry, Fisheries & Wildlife) Wildlife Damage Management for Sustainable Systems
Investigator: R. J. Johnson
Status: New Hatch project effective July 16, 1990

48-016 (South Central Research & Extension Center) Soybean Production Practices and Alternative Crops with Resource-Efficient Cropping Systems in SC NE
Investigator: R. W. Elmore
Status: New Hatch project effective August 9, 1990