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ARD News April 1997

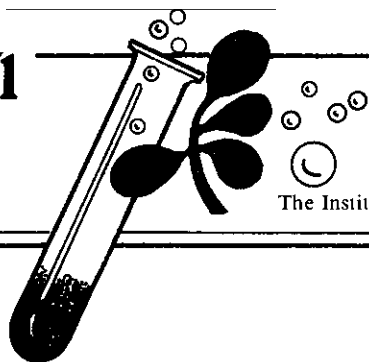
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April 1997

Volume 31, Number 5

COMMENTS FROM THE ASSOCIATE DEAN

Dear Colleagues:

Annually, at this time of the year, Congress is in the process of developing legislation that determines how federal money is to be spent in the coming fiscal year. There are two types of legislation necessary in this process.

One is spending authorization, which is language in the legislation that authorizes funds to be spent by the federal government for specific purposes. The second is appropriation legislation, by which the Congress approves the actual appropriation of the funds to be spent under the authorization. The fact that an authorization has been approved does not guarantee that funds will be appropriated for that purpose.

This process is of significant importance to the Agricultural Research Division since federal formula funds comprise about 7 percent of our annual ARD research expenditures and federal grant funds provide about 21 percent. With 28 percent of the total ARD budget coming from Federal funds, stabilization and enhancement of these sources is critical for our long-term program support.

The congressional deliberations currently underway are especially important for the reason that the 1996 Farm Bill did not include new authorization language for the Research, Extension, and Education Title of USDA funding. The old title was extended for two years and the Congress is now working on a new Title (Title 8) to begin when the two-year extension expires. This authorization will be critical to the future of federal funding for agriculture and natural resources research as well as funding for the other traditional land-grant programs in extension and teaching.

A strong coordinated effort has been organized to communicate to the Congress that federal funding for agriculture and natural resources research, extension, and teaching is a very important investment for the future of this country. This message is being carried by the many clientele, or stakeholders, who have benefited from and who value the technology and the trained human resources that come from the land-grant university system. In upcoming editions of *ARD News*, we hope to be able to report some positive developments related to this effort.

Dale H. Vanderholm

Associate Dean and Associate Director



It is the policy of the University of Nebraska-Lincoln Institute of Agriculture and Natural Resources not to discriminate on the basis of sex, age, handicap, race, color, religion, marital status, veteran's status, national or ethnic origin or sexual orientation.

FY 1998 USDA-CSREES BUDGET

As Congress debates reauthorization of the Research, Extension, and Education title of the Farm Bill, the annual appropriations process also is underway. Proposed appropriation budgets for USDA-CSREES have been submitted to Congress by President Clinton and by the agricultural research, extension, and education sections within the National Association of State Universities and Land-Grant Colleges (NASULGC). A summary of those proposed budgets follows.

Congressional appropriations hearings currently are underway and it likely will be several months before we know the final budgets and the amounts of formula funds coming to Nebraska, and grant funds that are available.

FY 1998 Budget Proposals

Program	FY 1997	FY 1998 President Request	FY 1998 NASULGC Recommend
	----- \$, thousands -----		
BASE PROGRAMS			
Hatch Act	168,734	168,734	178,015
McIntire-Stennis	20,497	20,497	21,625
Animal Health	4,775	4,775	5,038
National Research Initiative	94,203	130,000	113,500
SPECIAL RESEARCH GRANTS			
National Programs			
Managing Change in Ag/Int.			
Animal Systems	0	0	2,000
Food Safety	0	2,000	3,000
Pest Control Strategies			
Critical Issues	200	200	200
Expert IPM Decision Support System	177	300	300
Pest Management Alternatives	1,623	4,200	4,200
Int. Pest. Mgt./Biocontrol	2,731	8,000	11,000
Pest. Clear.	5,711	10,711	10,711
Pest. Imp. Assess.	1,327	1,327	1,327
Minor Use Ani. Drugs	550	550	550
Bio. Impact Assess.	254	254	0
Rural Dev. Centers	423	423	1,595
Trop./Subtrop.	2,724	0	2,724
Water Qual.	2,757	2,757	4,500
Global Change	1,567	1,567	2,567
Rural Econo. & Social Dev.	0	0	2,000
Soil Quality Initiative	0	0	2,500
Other Research Grants			
Rangeland	475	0	1,475
Aquaculture Centers	4,000	4,000	4,000
Supple. & alt. Crops	650	650	650
Sustainable Ag Systems	8,000	8,000	8,100
Crit. Materials	500	0	0



HAZARDOUS MATERIALS COLLECTION FEES

In recent years, we have encountered a dilemma in how to equitably handle the cost of hazardous materials disposal from laboratory and field operations. These costs have risen enormously. Fortunately, after a major collection effort two years ago, good management has helped control hazardous waste quantities. IANR must still bear a significant portion of the ongoing disposal costs, however.

The ARD is directly paying this cost share of \$30,000 annually to the Hazardous Materials Program. Departments *are not* being charged for these costs. Small portions of the cost are charged back to the CASNR teaching program and to federal agencies on campus.

Units are urged to manage carefully to keep wastes and costs low, since these charges ultimately reduce the resources ARD can allocate to units.

NOTES FOR INFORMATION

Travel Voucher Processing:

Departments are reminded that all employee expense vouchers that charge expenses to the ARD Regional Research Travel Trust and other ARD -016- accounts *must* come to the ARD for signature prior to processing. This normally involves travel expenses for faculty who are official participants in regional research committees. Expense vouchers for other accounts that normally do not require ARD signatures should continue to be forwarded directly, as in the past.

Agricultural Research Service (ARS) Job Vacancy Announcements:

In recent years, we regularly received hard copy announcements of ARS job vacancies. We then forwarded these to appropriate units. ARS is no longer mailing hard copies. They now can be requested from ARS Dial-A-Vacancy at (301) 344-2288. Job information also can be obtained from the ARS Home Page at <http://www.ars.usda.gov>.

FULBRIGHT SCHOLAR AWARDS FOR FACULTY

The Fulbright Scholar Program offers approximately 800 grants per year for university lecturing, advanced research, and combined research and lecturing. Opportunities range from two months to an academic year. There are openings for Fulbright Scholars in 130 countries and, in many regions, multicountry research is possible. Virtually all disciplines can participate, including arts and humanities, social sciences, natural and applied sciences, and professional fields such as business, journalism and law.

The basic eligibility requirements for a Fulbright Scholar award are U.S. citizenship and the Ph.D. or comparable terminal degree. For lecturing awards, university or college teaching experience is expected. Language skills are needed in some countries, but most lecturing assignments are in English.

The deadline for applications for lecturing and research awards is **August 1** of the year before the award is to be implemented. For further information and application materials, contact the Council for International Exchange of Scholars, 3007 Tilden Street, N.W., Suite 5M, Box GNEWS, Washington, D.C. 20008-3009. You may discuss the Fulbright program with Joseph Stimpfl at 2-5358.

GRANT AND CONTRACT INCOME OBTAINED BY ARD UNITS DURING THE LAST FOUR CALENDAR YEARS

Listed below is the grant and contract income obtained by ARD units during the last four calendar years expressed on a \$/research FTE/year basis. Also listed is the average for the four years.

Grants obtained by interdisciplinary centers are not listed. Therefore, the listing is not a completely accurate representation of the grant and contract funds available to faculty, since some faculty obtain significant research funding from team efforts coordinated by centers.

Units not listed are either service-oriented or represent disciplines with very limited opportunities for grant funding.

UNIT	1993	1994	1995	1996	Average 1993-96
Agricultural Economics	22,945	18,869	3,955	3,111	12,220
Agricultural Meteorology	422,431	430,606	617,943	419,140	472,530
Agronomy	73,749	66,960	91,364	102,631	83,676
Animal Science	54,820	62,363	42,776	77,981	59,485
Biochemistry	166,383	185,078	222,334	184,299	189,523
Biological Systems					
Engineering	98,040	103,544	50,519	58,619	77,681
Biometry	1,899	1,646	16,086	-0-	4,908
Entomology	82,907	107,809	57,578	131,234	94,882
Family & Consumer Science	24,765	22,695	21,293	-0-	17,188
Food Science & Technology	88,234	170,152	208,439	200,032	166,714
Forestry, Fisheries, & Wildlife	255,458	311,368	284,425	167,937	254,797
Horticulture	139,163	34,891	65,420	104,240	85,929
Northeast R&E Center	52,738	48,443	66,883	76,140	60,801
Nutritional Science & Dietetics	5,456	25,235	12,992	3,226	11,727
Panhandle R&E Center	78,378	83,445	92,581	142,273	99,169
Plant Pathology	101,971	186,034	157,817	138,274	146,024
South Central R&E Center	91,034	29,409	88,292	64,918	68,413
Textiles, Clothing & Design	-0-	-0-	-0-	13,075	3,268
Veterinary & Biomedical Sciences	76,137	117,863	167,402	168,937	132,584
West Central R&E Center	20,146	25,179	22,484	29,177	24,247
AVERAGE	92,833	101,579	114,529	104,231	103,293

The 1996 average grant and contract income per research FTE decreased by about 9 percent from 1995 but exceeded the 1994 level. A number of units exhibited significant increases in 1996 as compared to the 1995 level. We are hopeful that the 1997 average grant and contract income per research FTE will return to the 1995 level. Even though federal grant programs are becoming more competitive, we encourage faculty to continue submitting proposals.



**GRANTS AND CONTRACTS
RECEIVED
FEBRUARY AND MARCH, 1997**

Agricultural Meteorology	
Easterling, W. E. — National Center Atmospheric Research	46,823
Easterling, W. E. — NSF	85,619
Agricultural Research Development Center	
Duncan, D. — Barta Bros via UN Foundation	8,000
Agronomy	
Johnson, B. — Pioneer Hi-Bred	7,700
Staswick, P. — Pioneer Hi-Bred	10,000
Miscellaneous grants under \$5,000 each	9,697
Animal Science	
Klopfenstein, T. J. — M. G. Waldbaum	14,000
Klopfenstein, T. J. — Cargill Corn Milling	32,896
Klopfenstein, T. J. — Fats and Proteins Research Foundation, Inc.	16,000
Scheideler, S. — North Dakota State	10,280
Miscellaneous grants under \$5,000 each	16,794
Biochemistry	
Ragsdale, S. W. — Sandoz	10,000
Ragsdale, S. W. — U.S. Department of Energy	104,000
Biological Systems Engineering	
Hoffman, G. — Tractor Museum Fund via UN Foundation	92,700
Watts, D. G. — Iowa State University	35,000
Miscellaneous grants under \$5,000 each	1,000
Center for Sustainable Agriculture	
Francis, C. A., Klopfenstein, T. J., and Brandle, J. R. — USDA/CSREES	55,142
Entomology	
Siegfried, B. D. — Rhone Poulenc	20,000
Stanley-Samuelson, D. W. — UN Foundation	32,500
Miscellaneous grants under \$5,000 each	14,410
Food Processing Center	
Preston, M. B. — Nebraska Department of Economic Development	6,250
Food Science and Technology	
Meagher, M. — U.S. Army Medical Research	99,995
Taylor, S. — USDA/CSREES	395,338
Taylor, S. — USDA/CSREES	140,191
Taylor, S. — USDA/CSREES	39,253
Forestry, Fisheries and Wildlife	
Hoagland, K. — Central Platte NRD	5,299
Savidge, J. — Nebraska Game and Parks	33,046
Miscellaneous grants under \$5,000 each	650
Horticulture	
Miscellaneous grants under \$5,000 each	34,739

Northeast Research and Extension Center	
Witkowski, J. F. — Ohio State University	10,000
Miscellaneous grants under \$5,000 each	12,586
Panhandle Research and Extension Center	
Baltensperger, D. — Nebraska Sustainable Ag Society	15,000
Kerr, E. D. — Western Sugar Company	26,594
Hibberd, C. — Clive Ostenberg Fund via UN Foundation	19,000
Smith, J. A. — Western Sugar Company	7,550
Wilson, R. G. — Cascadian Inulin LLC	94,000
Wilson, R. G. — Western Sugar Company	10,000
Yonts, C. D. — Western Sugar Company	15,050
Miscellaneous grants under \$5,000 each	23,222
Plant Pathology	
Miscellaneous grants under \$5,000 each	3,200
South Central Research and Extension Center	
Miscellaneous grants under \$5,000 each	9,539
Textiles, Clothing and Design	
Miscellaneous grants under \$5,000 each	1,000
Veterinary and Biomedical Sciences	
Moxley, R. — National Cattleman's Beef Association	30,000
Steffen, D. — National Association of Animal Breeders	15,000
Miscellaneous grants under \$5,000 each	4,754
Water Center	
Kamble, S. — USDA/CSREES	22,527
Spaulding, R. — Upper Big Blue NRD	57,500
West Central Research and Extension Center	
Deutscher, G. — Zinpro Corporation	50,600
Miscellaneous grants under \$5,000 each	15,775
Grand Total	1,820,219

PROPOSALS SUBMITTED FOR FEDERAL GRANTS

The following is a listing of proposals that were submitted after February 1997 by faculty for federal grant programs. While not all grants will be funded, we are appreciative of the faculty member's effort in submitting proposals to the various agencies.

Thomas O. Powers and Allen L. Szalanski — NSF — Molecular Systematics of Tylenchid Nematodes — \$104,513

Kathleen Liang, Dillon Feuz and David S. Nuland — EPA/NSF — Assess Side Effects of Nitrogen Movement by Adding Iron Supplements on Dry Bean Production — \$244,562

R. Garth Taylor — EPA/NSF — An Integrated Watershed Scale Computable General Equilibrium (CGE) and Stream Aquifer Management Decision Support System (SAMDSS) Mode of Alternative Environmental Water Demands — \$647,796

Clinton Jones — NIH — Analysis of BHV-1 Latency Related Gene Products — \$654,169

Robert Klucas and Gautam Sarath — USDA/NRI — Role of Ferric Leghemoglobin Reductase in Legume Nodules — \$130,430

James E. Kinder and Terry M. Nett (through Colorado State) — USDA/NRI — Mechanisms Regulating the Mid-Luteal Phase Increase in Secretion of FSH in Cows — \$101,401

Albert Weiss, Timothy J. Arkebauer, P. S. Baenziger, K. M. Eskridge, G. A. Helmers, J. W. Maranville and D. R. Shelton — NSF — Quantity and Quality in the Wheat Ecosystem: Assessment of Climate Change in the Great Plains — \$395,020

Gautam Sarath and Robert Klucas — USDA/NRI — Soybean Root Nodule Acid Phosphatase — \$166,117

Michael G. Zeece and Steve Taylor — USDA/NRI — Skeletal Muscle Gelsolin and Its Involvement in Myofibrillar Disassembly — \$145,397

Charles A. Francis and Gary D. Lynne — USDA/NRI — How Farmers Use Goals, Resources, and Farming Strategies Across Landscape Scales — \$259,572

Daniel Pomp and Rodger K. Johnson — USDA/NRI — subcontract through University of Minnesota — Fine Mapping of Putative QTLs Affecting Ovulation Rate on Porcine Chromosome 8 — \$114,251

Jess L. Miner — USDA/NRI — Complement Proteins in Regulation of Adipose Tissue — \$133,741

Ruma Banerjee — NIH — Reaction Mechanisms of Mammalian Biz-Dependent Enzymes — \$1,277,114

Mark Morrison — USDA/NRI — Molecular Biology of Protein Degradation and Utilization by *Prevotella Ruminicola* — \$271,478

Darrell G. Watts — USDA/CSREES — Management of Irrigated Corn and Soybeans to Minimize Ground Water Contamination — \$200,000

Roy F. Spalding — USEPA — Rates and Mechanisms of Chlorinated Solvent Degradation in the Vadose Zone, Ground Water and Atmosphere — \$491,010

NEB-13-134 (Animal Science) Integration of Quantitative and Molecular Technologies for Genetic Improvement of Pigs

Investigator(s): R. K. Johnson and D. Pomp

Status: New Hatch project that contributes to regional project NC-220 effective Oct. 1, 1996

NEB-14-091 (Veterinary and Biomedical Sciences) Molecular Characterization of MHC Class I Down-Regulation by Bovine Herpesvirus I

Investigator: S. Srikumaran

Status: New Competitive Grant effective Sept. 15, 1996

NEB-16-073 (Food Science and Technology) Enhancement of Capillary Electrophoresis

Investigator(s): M. Zeece and D. Hage

Status: New Competitive Grant effective Sept. 15, 1996

NEB-21-054 (Plant Pathology) Genetic Basis for Pathogenicity in the Genus *Colletotrichum*

Investigator: M. B. Dickman

Status: New Competitive Grant effective Sept. 1, 1996

NEB-21-065 (Plant Pathology) Biological Control of *Sclerotinia sclerotiorum* on Legumes in the North Central Region

Investigator(s): G. Y. Yuen and J. L. Parke

Status: New Special Grant effective Sept. 15, 1996

NEB-27-016 (Agricultural Meteorology) Climate Change and the Winter Wheat Agroecosystem: Experiments and Modeling

Investigator: A. Weiss

Status: New Hatch project effective March 1, 1997

NEB-27-017 (Agricultural Meteorology) Remodeling the Surface Energy Budgets with a Universal Crop Coefficient and Natural Variability Specifications

Investigator: K. G. Hubbard

Status: New Hatch project effective March 1, 1997

NEW OR REVISED PROJECTS

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

NEB-12-256 (Agronomy) Stability of Soil Microbial Communities under Different Agroecosystems

Investigator: R. A. Drijber

Status: New Competitive Grant effective Dec. 15, 1996

NEB-13-131 (Animal Science) Screening the Pig Genome for QTL Controlling Reproduction

Investigator(s): D. Pomp and R. K. Johnson

Status: New Competitive Grant effective Sept. 15, 1996

Diane says

When you get to the end of your rope, tie a knot and hang on.

1996-97 GRADUATE PROGRAM

Graduate student data represents enrolled and non-enrolled students for the Fall 1996 semester. Only non-enrolled students actively pursuing graduate degrees within the time limit for granting degrees (eight years for a Ph. D. and six years for an M.S.) are considered.

The graduate program in the Agricultural Research Division (College of Agricultural Sciences and Natural Resources and the College of Human Resources and Family Sciences) increased 4.6 percent from the Fall Semester 1995 to the Fall Semester, 1996. Forty-one percent are in Ph. D. programs. Forty-four percent of our graduate students are female.

Eighty percent of all students were enrolled in courses on the sixth-day census of the Fall 1996 semester. Sixty-three percent of the graduate students in CASNR majors are supported by assistantships (state appropriated GRA's and GTA's; grants; fellowships; and international agency or foreign country support). Thirty-seven percent of the students in the College of Human Resources and Family Sciences are supported. Fifteen CHRFS students receive GTA's through Academic Affairs.

Major/Unit	MS				PhD				Total	
	GRA	GTA	Other ¹	Self	GRA	GTA	Other	Self	95	96
College of Agricultural Sciences and Natural Resources										
Agricultural Economics	2	0	2	11	3.5	0	10.5	6	38	35
Agricultural Leadership, Education and Communication ²	0	1	2	20	1	0	0	9	12	33
Agricultural Meteorology ³	0	0	2	0	1	0	8	1	14	12
Agronomy	3	2	26	34	7	0	44	22	143	138
Animal Science	17	1	17	13	10	0	20	4	79	92
Biochemistry	4	0	1	0	1	6	7	1	25	20
Biological Systems Engineering ⁴	4	1	8	10	2	0	13	3	40	41
Biometry	0	9	3	9	—	—	—	—	14	21
Entomology	0.5	0	9.5	4	2.5	0	8.5	2	25	27
Food Science and Technology	4	0	9	24	8	0	15	5	41	65
Forestry, Fisheries and Wildlife ⁵	2	0	12	9	—	—	—	—	46	23
Horticulture ⁵	1	0	7	2	—	—	—	—	16	10
Horticulture and Forestry	—	—	—	—	6	0	10	3	—	19
Mechanized Systems Management	2	1	0	5	—	—	—	—	8	8
Plant Pathology ⁶	0	0	0	3	6	0	4	3	16	16
Veterinary and Biomedical Sciences ⁷	3	0	8	8	8	0	10	1	43	38
Total	42.5	15	106.5	152	56	6	150	70	560	598
College of Human Resources and Family Sciences										
Family and Consumer Sciences	3	10AA	0	12	—	—	—	—	31	25
Nutritional Science and Dietetics	6	9	4	23	—	—	—	—	53	42
Textiles, Clothing and Design	5	0	0	1	—	—	—	—	5	6
	MA	0	1	0	1	—	—	—	4	2
Interdepartmental Nutrition	0	3	1	1	2	1	2	1	9	11
Interdepartmental Human Resources and Family Sciences	0	0	0	53	4	5AA	4	12	65	78
Total	14	23	5	91	6	6	6	13	167	164
Grand Total	56.5	38	111.5	243	62	12	156	83	727	762

(1) = Other — grant support, international agency or foreign country support, fellowships.

(2) = Ph.D. students obtain degrees in Teachers College

(3) = Graduate degrees are obtained from other departments

(4) = Engineering degrees are offered through the College of Engineering and Technology.

(5) = The Ph.D. program is in the Horticulture and Forestry major.

(6) = Degrees obtained through the School of Biological Sciences

(7) = Ph.D. degrees are offered through UNMC.

AVERAGE UNIT OUTPUTS EXCEED ARD GOALS AGAIN IN FY 1996

We are pleased to report that during FY 1996 the average outputs of ARD units exceeded the performance goals established by the ARD Advisory Council. This represents a tremendous record of accomplishment and all faculty should be very proud of their role in achieving the goals. The ARD goals and the unit averages for FY 1996 in several categories are given below:

ARD Indicator	ARD Average	Goal	No. Units Exceeding % Goal	Goal
Appr. \$/FTE	166,925	150,000	111	14
Grant \$/FTE	167,960	100,000	168	12
Grant \$/Appr. \$	0.985	0.667	148	11
Tot. Resources, \$	334,884	250,000	134	14
Ref. Pubs./FTE	3.85	3.00	128	13
Theses/FTE	1.17	1.00	117	9

The average outputs for ARD units has increased significantly during the past five years. Relative increases since FY 1992 are: appropriated \$/FTE, 16 percent; grant \$/FTE, 194 percent; refereed publications/FTE, 50 percent; theses and dissertations/FTE, 52 percent; and total grant proposals/FTE, 2 percent. Average outputs during the last five years are given below:

Indicator	ARD Average for 20 units				
	FY 92	FY 93	FY 94	FY 95	FY 96
Appr. \$/FTE	144,339	154,165	156,120	158,572	166,925
Grant \$/FTE	57,060	71,693	108,884	104,152	167,960
Grant \$/Appr.\$	0.394	0.523	0.728	0.664	0.985
Tot. Resources, \$	201,399	224,972	265,002	262,723	334,884
Ref. Pubs./FTE	2.56	2.66	3.37	3.47	3.85
Theses/FTE	0.77	1.02	0.97	1.43	1.17
Grant Prop./FTE	7.35	8.08	7.55	7.54	7.48

It is now our challenge to remain at or near the FY 1996 levels of accomplishment. Continuation of these output and grant funding levels will ensure that ARD programs are widely recognized and highly respected. We also should keep in mind that achieving quantitative outputs goals does not ensure that our programs are having impact among Nebraskans. Each of us must work to have the knowledge generated in our programs used to solve real problems.

FEDERAL RESEARCH AND DEVELOPMENT BUDGET

Agriculture continues to receive a very small proportion of the U.S. research and development budget. Although the President's proposed budget for FY 1998 indicates an overall increase in spending of 2 percent from the current level, research and development spending in agriculture is projected to decrease 4 percent. Most of the decrease is projected to occur in the CSREES budget since the ARS is proposed for level funding. Given below is information about the FY 1997 federal research and development budget and the changes proposed in the President's Budget for FY 1998.

Agency	Fy 1997 Budget	% of Total	Change for FY 98
\$ in millions			
Defense	37,461	50.7	- 2%
Health and Human Serv	12,933	17.5	+ 4%
NASA	9,314	12.6	+ 3%
Energy	6,187	8.4	+18%
National Science Found	2,458	3.3	+ 4%
Agriculture	1,545	2.2	- 4%
Commerce	1,050	1.3	+ 6%
Interior	581	0.8	+ 4%
Transportation	639	0.9	+18%
Environ Prot Agency	504	0.7	+10%
Other	1,150	1.6	+ 7%
Total	73,821	100.0	+ 2%

Adapted from the March 17th 1997 issue of *The Scientist*.

CURRENT RESEARCH INFORMATION SYSTEM ON THE WORLD WIDE WEB

CRIS project information is now available on the WWW at:

<http://cristel.nal.usda.gov:8080>

Sites providing links to the CRIS database include:

<http://ctr.uvm.edu/cris/intro.htm>
(CRISFRMS Home Page)

<http://www.nal.usda.gov>
(National Agricultural Library Home Page)