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THE AGRICULTURAL EXPERIMENT STATION
INSTITUTE OF AGRICULTURE
AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA-LINCOLN 68583-0704



February 1982 Vol. 15 No. 7

Agricultural Experiment Station News

FROM THE DIRECTOR'S DESK

This special "quarterly" issue features new Agricultural Experiment Station faculty appointments and projects, in addition to regular features. This special issue concept was developed two years ago to improve internal communication within the Experiment Station. We welcome your suggestions concerning this format.

Dr. John Woodward is giving leadership to the Newsletter. Katie Bradshaw, secretary in the Experiment Station Office, is responsible for assembling the material and forwarding it to the Department of Agricultural Communications for printing and distribution. Direct your comments and suggestions concerning the Newsletter to Dr. Woodward or Miss Bradshaw.

Commodity Research Coordination Committees

Research coordinating committees related to the commodity check-off boards have operated within the Experiment Station for several years. These committees have several valuable functions, including definition of research opportunities and needs, review of research proposals, and advising scientists regarding proposal preparation.

I am asking the Experiment Station Advisory Council and the existing committees to help me review the guidelines for committee composition and functioning. Specific issues to be considered include implementation of a membership rotation system for these committees, relationship of the committees to the Experiment Station Director's Office and to the respective Boards, and appropriate organizational models for each committee.

Your comments and suggestions are invited.

Roy G. Arnold
Dean and Director

SAHS SEZ

The Hydraulics Laboratory, a project of the Omaha Corps of Engineers and the UNL Civil Engineering department, ceased operations at the Field Laboratory after 15 years of studying erosion and sedimentation problem areas of the Missouri River.

Operations of the Eppley Institute, College of Medicine, small animal breeding farm, also at the Field Laboratory, have been reduced to a holding action wherein the best genetic strains of test animals are being maintained. Species involved are hamsters, rats, mice and rabbits.

Warren W. Sahs
Assistant Director

PROFESSIONAL COURTESY

Extension Agents and District Specialists have both a need and a reasonable expectation to be made aware of IANR campus-based staff activities in their counties or districts. They are professional colleagues with specific program responsibilities and relationships to the organizations and people of their unit. It is important to them and to all in IANR that they not be caught "off-guard" and placed in awkward or embarrassing positions by others concerning activities in their area. Informing them of your activity is a basic professional courtesy to a colleague.

While their primary responsibility is for Extension, their clientele (and ours) appropriately regard them as representing all University agricultural and/or home economics programs. This, of course, includes research, testing, demonstrations, etc., conducted at off-station facilities by Experiment Station staff. If an Agent is to have any involvement in arrangements, conduct, or follow-up, he/she should be involved in the early planning. Whether or not his/her involvement is required, he/she should be informed, and may well provide "greater mileage" by relating it to his/her program. Terms like "extension" or "research" should not interfere with effective cooperation in serving agriculture.

R. W. Kleis
Associate Director

SANDHILLS TASK FORCE FORMED

A University of Nebraska task force will determine what research and extension programs are needed to answer questions associated with irrigation development in the Sandhills.

Thirteen scientists and extension specialists will begin by inventorying existing information about soil and water management in the Sandhills, said Dr. Howard W. Ottosen, Nebraska University interim vice-chancellor of Agriculture and Natural Resources.

Dr. William L. Powers, director of the Water Resources Center, has been appointed task force chairman. Water quality, wind erosion and revegetating sandy cropland taken out of production are problem areas that will be considered, he said.

The task force will submit its findings to the vice-chancellor in the fall, Powers said.

Other members include: Dr. Blaine L. Blad, associate professor, Center for Agriculture Climatology and Meteorology, Lincoln; Charles R. Fenster, extension crop specialist, Scottsbluff; Dr. Paul H. Gessaman, extension agricultural economist, Lincoln; James W. Goeke, assistant professor and research hydrologist,

Conservation and Survey Division, North Platte; Delynn S. Hay, assistant instructor of agricultural engineering, Lincoln; Dr. Gary L. Hergenrader, professor of forestry, fisheries and wildlife, Lincoln; Dr. Gary W. Hergert, associate professor of Agronomy, North Platte; Dr. William Miller, future department head of agricultural economics, Lincoln; Dr. James T. Nichols, extension range and forage management specialist, North Platte; Dr. M. L. Quinn, assistant professor, Water Resources Center, Lincoln; Dr. George W. Rehm, extension soils specialist, Concord; and Dr. Darrell G. Watts, professor of agricultural engineering, Lincoln.

GRANTS AND CONTRACTS

Ball, E. M. (Plant Pathology) - University of Maine	160
Ball, E. M. (Plant Pathology) - State of Maine	540
Ball, E. M. (Plant Pathology) - Colorado Seed Growers Association	2,500
Ball, E. M. (Plant Pathology) - Mr. Carlos D. Arce	850
Ball, E. M. (Plant Pathology) - Agdia, Inc.	1,805
Eldridge, F. E. (Animal Science) - American Breeders Association	1,005
Flowerday, A. D. (Agronomy) - National Crop Insurance Association	4,000
Gosey, J. A. (Animal Science) - Donation/Gift - Schroeder Cattle Company	2,000
Grabouski, P. H. (North Platte Station) - Mobay Chemical Company	700
Hassler, J. B. (Ag Economics) - USDA/ESS	10,000
Hergert, G. W. (North Platte Station) - Eagle-Picher Industries, Inc.	1,000
Johnson, R. K. (Animal Science) - Burkey Farms	175
Mayo, Z. B. (Entomology) - Mobay Chemical Corporation	600
Roeth, F. W. (South Central Station) - Mobay Chemical Corporation	150
Rosenberg, N. J. (Ag Meteorology & Climatology) - National Science Foundation	87,500
Schmidt, J. W. (Agronomy) - Anna H. Elliott Fund	1,000
Schulte D. (Ag Engineering) - Donation/Gift - Nebraska Concrete Masonry Ass'n.	1,750
Smidt, M. (Plant Pathology) & Vidaver, A. K. (Plant Pathology) - Wallace Genetic Foundation, Inc.	128,863
Steadman, J. R. (Plant Pathology) - BASF Wyandotte Corporation	1,000
	<hr/>
	245,598

COMPETITIVE AND SPECIAL GRANTS

When preparing grant application kits, Dr. Roy G. Arnold is the authorized representative on approving these grants. The legal name of organization to whom the award should be made is the Nebraska Agricultural Experiment Station.

NEB 10-086 - Performance of the U. S. Grain Marketing System in a Changing Economic and Policy Environment

This is a new Hatch project that contributes to regional project NC-160 effective October 1, 1981. D. Linsenmeyer (Ag Economics) is the principal investigator. The objectives of this project are (a) to assist grain producers and marketing firms in their responses to changes in government policies; and, (b) to analyze alternative price discovery mechanisms and alternative pricing strategies under conditions of changing world and economic conditions.

NEB 11-063 - Energy and By-Products from Animal Manure

This is a new Hatch project that contributes to regional project NC-159 effective October 1, 1980. D. D. Schulte (Ag Engineering) is the project leader. The objectives of the project are (a) conversion of animal manure into usable energy; (b) purification, storage, and con-

version of energy forms and integration of energy projects into the overall farm energy needs; (c) recovery and conversion of energy process residues into nutritional and disease-free feed components and (d) recovery of plant nutrients from process residues emphasizing economics and labor requirements for storage and application.

NEB 12-072 - Introduction, Multiplication, Evaluation, Preservation, Cataloging and Utilization of Plant Germplasm

This is a revised Hatch project that contributes to regional project NC-7 effective October 1, 1981. W. R. Kehr and K. P. Vogel of the Agronomy department are the project leaders. The objectives of the project are to cooperate in a coordinated program of foreign and domestic plant exploration and introduction to obtain plant materials and to determine their potential value for agricultural, industrial, and other uses, such as site stabilization and improving general habitability of our region including esthetics.

NEB 12-095 - Effects of Environment and Fertilization Practices on Mineral Element Uptake, Distribution, and Use by Sorghum

This is a revised Hatch project with an effective date of January 1, 1982. The principal investigator is R. B. Clark (Agronomy). The reviewers of this project were P. T. Nordquist (North Platte Station); J. M. Norman (Agronomy); S. R. Lowry (Biometrics and Information Systems Center); and G. A. Peterson (Agronomy). The objectives of this project are (a) to determine and evaluate the effects of water, heat, and cold stresses (environmental factors) and time, rate and source of fertilizer and crop rotation (fertilization practices) on mineral element uptake, accumulation, distribution, use, and efficiency (mineral nutritional traits) in sorghum under field conditions; (b) to evaluate and better define the effect of environmental factors and fertilization practices on mineral nutritional traits of sorghum under controlled (greenhouse/growth chamber) conditions; (c) to identify sorghum genotypes with improved mineral nutritional trait when grown under various environmental stresses and with various fertilization practices; and (d) to describe some of the chemical and physiological properties associated with mineral nutrition in sorghum genotypes that respond differently to environmental factors and fertilization practices.

NEB 12-125 - Modeling the Water Use and Growth of Plants

This is a new Hatch project with an effective date of November 1, 1981. The principal investigator is J. M. Norman (Agronomy). The reviewers of the project were R. A. Olson (Agronomy); W. L. Powers (Water Resources); W. M. Schutz (Biometrics and Information Systems Center); R. C. Shearman (Horticulture) and D. G. Watts (Ag Engineering). The objectives of this project are (a) to develop a model that will predict carbon fixation and water use of individual leaves and whole canopies as a function of ambient environment and plant characteristics; (b) to test this comprehensive plant-environment model; (c) to apply this comprehensive plant-environment model to pest development, irrigation water requirements and indirect sensing.

NEB 12-126 - Potassium Release from Mixed Mineralogy Soils in Nebraska

This is a new Hatch project with an effective date of January 1, 1982. The principal investigator is D. McCallister (Agronomy). The reviewers of the project were G. Peterson (Agronomy); G. Hergert (North Platte Station); J. Skopp (Agronomy); W. Stroup (Biometrics and Information Systems Center); and M. Carlson (Conservation and Survey). The objectives of this study are (a) fractionate soil K from a number of Nebraska soils; (b) determine the magnitude of K release from these soils under simulated field conditions; (c) determine the rate of K release from these soils; and (d) relate K release to crop uptake.

NEB 13-029 - Genetic Improvement of Efficiency in the Production of Quality Pork

This is a revised Hatch project that contributes to regional project NC-103 with an effective date of October 1, 1981. The principal investigators are R. K. Johnson, D. R. Zimmerman, R. J. Kittok, E. R. Peo and R. W. Mandigo of the Animal Science department. The objectives of the project are (a) to study the genetic regulation of development and reproduction of the pig and (b) to evaluate selection criteria and associated physiological changes.

NEB 13-041 - Cytogenetics of Livestock (with special reference to fertility in dairy cattle)

This is a revised Hatch project with an effective date of October 1, 1981. Franklin Eldridge (Animal Science) is the project director. The reviewers of the project were F. Haskins (Agronomy); R. J. Johnson (Animal Science); J. Kinder (Animal Science) and W. Stroup (Biometrics and Information Systems Center). The objectives of this project are (a) determine the frequency of aneuploidy, heteroploidy and other chromosomal aberrations in oocytes obtained from presumably phenotypically normal cattle. Having established this base, then evaluate oocytes from females carrying known translocations; (b) examine the chromosomes of bulls being used in artificial insemination and relate the findings to fertility of these bulls; and (c) investigate the inheritance of physical and physiological abnormalities in livestock, the cytological basis of these abnormalities, and how these abnormalities may influence selection decisions.

NEB 13-061 - Energy Metabolism in Avian Brain

This is a new Hatch project with an effective date of January 1, 1982. The project leaders are M. M. Beck (Animal Science) and J. F. Amend (Veterinary Science). The project reviewers were W. Stroup (Biometrics and Information Systems Center); E. Clemens (Veterinary Science); E. Gleaves (Animal Science); and R. Kittok (Animal Science). The objectives of this project are (a) through use of an anorexic model, to determine whether, and to what extent, GABA is involved in regulating mechanisms of energy metabolism and food intake and (b) to extrapolate any pertinent knowledge gained in objective (a) to a study of brain energy-regulating mechanisms in commercial poultry which have been selected for differences in consumption and growth.

NEB 14-027 - Pathophysiology of the Porcine Stress Syndrome: Hormonal Response to Stress

This is a new Hatch project with an effective date of November 1, 1981. The project leaders are E. T. Clemens (Veterinary Science) and R. Mandigo (Animal Science). The project reviewers were D. Zimmerman (Animal Science); J. Amend (Veterinary Science); L. Satterlee (Food Science and Technology) and W. Stroup (Biometrics and Information Systems Center). The objectives of this project are (a) to determine plasma concentrations of stress-related hormones in normal and stress-susceptible swine, (b) to determine the interrelationship(s) between stress-related hormones and physiological parameters, and (c) to develop a model for evaluating the pathophysiology of hormonal-induced stress syndromes.

NEB 16-035 - The Effect of Enzymes and Heat on Food Quality

This is a new Hatch project with an effective date of September 1, 1981. C. A. Long (Food Science and Technology) is the project director. The reviewers of the project were R. Dam (Agricultural Biochemistry); A. Parkhurst (Biometrics and Information Systems Center); J. Rupnow (Food Science and Technology); N. Schneider (Veterinary Science) and K. Shahani (Food Science and Technology). The objectives of this project are (a) evaluate the chemical and sensory changes that occur in foods as a result of enzyme and heat processing methods used to create desirable food flavors and (b) assess the relative significance of enzymes responsible for off-flavor development in foods.

NEB 16-036 - Utilization of Nebraska Grown Grains for Human and Industrial Uses

This is a new Hatch project with an effective date of January 1, 1982. C. E. Walker (Food Science and Technology) is the principal investigator. C. A. Francis (Agronomy); D. A. Linsenmeyer (Ag Economics); P. J. Mattern (Agronomy); A. M. Parkhurst (Biometrics and Information Systems Center) and L. D. Satterlee (Food Science and Technology) were the project reviewers. The objectives of this project are (a) review cereal and related grains currently or potentially grown in Nebraska, including byproducts for human food uses; (b) develop quality evaluation techniques for those cereals not presently screened in Nebraska for food uses; (c) investigate the effects of blending of cereals and legumes upon nutritional and functional quality; and (d) evaluate Nebraska grown cereals for potential industrial uses.

NEB 42-006 - Influence of Housing and Management Regimes on Nursery Energy Utilization and Performance of Early Weaned Pigs

This is a new Hatch project with an effective date of January 1, 1982. M. C. Brumm and D. P. Shelton of the Northeast Station are

the principal investigators. W. W. Stroup (Biometrics and Information Systems Center); J. A. DeShazer (Agricultural Engineering) and D. R. Zimmerman (Animal Science) were the project reviewers. The objectives of this project are (1) Determine efficient systems of energy utilization in decked swine nurseries that are compatible with acceptable performance of pigs weaned at 3 to 4 weeks of age. (a) evaluate environmental parameters for their influence on system energy utilization and animal performance and behavior; (b) evaluate pen design parameters and materials for their influence on system energy utilization and animal performance and behavior; and (c) evaluate interactions of environmental and pen design parameters in relation to nursery energy utilization and animal performance and behavior. (2) Develop functional housing and management recommendations for the early weaned pig.

NEB 44-016 - Weed Control Systems for Western Irrigated Crops and Rangelands

This is a revised Hatch project with an effective date of January 12, 1982. R. G. Wilson, Jr. (Panhandle Station) is the principal investigator. F. Roeth (South Central Station); P. Shea (Agronomy) and W. Stroup (Biometrics and Information Systems Center) were the project reviewers. The objectives of this project are (a) develop weed control systems involving tillage, herbicides and hand labor for sugarbeets, fieldbeans, corn, alfalfa, potatoes, and rangeland; (b) monitor the persistence of commonly used herbicides on the life cycle, biology, competitiveness and weed dissemination of troublesome western Nebraska weeds; predict and observe weed populations which may develop in fieldbeans.

NEB 46-009 - Genetic Improvement of Efficiency in the Production of Quality Pork

This is a new Hatch project that contributes to NC-103 with an effective date of October 1, 1981. The principal investigators are L. D. Young, K. A. Leymaster, R. M. Koch, and G. E. Dickerson of the Roman L. Hruska U.S. Meat Animal Research Center/Animal Science. The objectives of this study are (a) to evaluate selection criteria and associated physiological changes and (b) to evaluate inter-population and intra-population performance of strains of swine.

NEB 46-010 - Increased Efficiency of Lamb Production

This is a new Hatch project that contributes to regional project NC-111. K. A. Leymaster, L. D. Young, R. M. Koch, and G. E. Dickerson of the Roman L. Hruska U.S. Meat Animal Research Center/Animal Science are the principal investigators. The objective of this study is to develop effective methods for efficiently utilizing existing gene pools to maximize lamb production under various systems of management in different geographical areas. Reducing seasonality of breeding will receive emphasis.

NEB 92-009 - Dimensions of Success in Consumer and Homemaking Programs

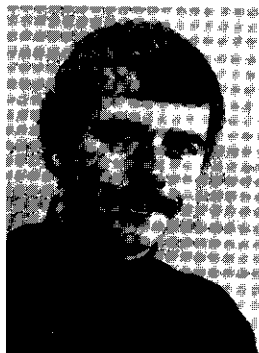
This is a new Hatch project with an effective date of June 1, 1981. C. J. Ley (Education and Family Resources) is the project director. The project reviewers were J. Horner (Ag Education); A. Parkhurst (Biometrics and Information Systems Center) and J. L. Adams (Ag Communications). The objectives of this project are (a) collect in-depth data from selected home economics programs in Nebraska; (b) develop case studies which will describe in depth the dimensions of each program; (c) analyze individual case studies to formulate generalization about program success which can be used to assist in overall improvement of home economics education and (d) adapt the model used for secondary home economics programs for use with other educational delivery and service programs, such as agriculture, education and cooperative extension.

NEB 92-010 - Housing Needs of Nebraska Residents

This is a new Hatch project with an effective date of June 11, 1981. K. R. Tremblay, Jr. (Education and Family Resources) is the project director. The reviewers of this project were R. Combs (Education and Family Resources); G. Meyer (Ag Engineering) and A. Parkhurst (Biometrics and Information Systems Center). The objectives of this project are (a) describe people's housing norms, preferences, satisfaction, problems, and energy shortages; (b) analyze interrelationships between the above dependent variables and the way in which they are influenced by residence, household composition, and current housing quality; and (c) develop suggestions for formulating housing policy, programming in cooperative extension, designing curriculum in housing, and developing future research based on research results.

New Experiment Station Personnel

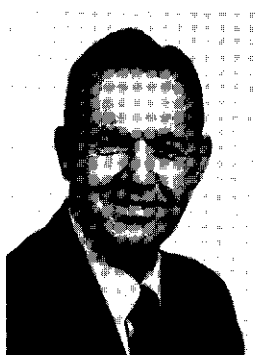
Steven J. Bartle, Post Doctoral Associate, Animal Science Department. Dr. Bartle earned his B.S. at North Dakota State in 1969; M.S. at Montana State, 1973; and Ph.D. at Washington State in 1981. He was an instructor in the Animal Science Department of Cal Poly, Pomona and Washington State. For three years he was a Research/Teaching assistant at Washington State. Dr. Bartle is a member of the American Society of Animal Science and the Society of Range Management. He began his position in the Animal Science department on November 1.



Beth A. Swisher, Assistant Professor, Department of Agronomy. Dr. Swisher earned her B.S. in 1977 and her M.S. in 1979 at Southern Illinois; and her Ph.D. in 1981 from North Carolina State. She is a member of the Weed Science Society of America. Her present responsibilities include research and teaching in weed science. She will be teaching two courses in weed science and her research responsibilities will focus in the area of weed physiology. She began her present position on January 4th.



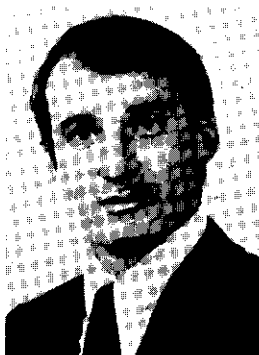
Donald B. Hudman, Associate Director, North Platte Station & Extension District II. Dr. Hudman received his B.S. in 1948 and his M.S. in 1954 from Texas A & M. He earned his Ph.D. in 1956 from Iowa State. For 10 years he specialized in teaching and research in swine nutrition and production in the Animal Science Department at UNL. He later served as extension specialist at Texas A & M, and in management positions with Wilson and Company and the Kerr Foundation. Just before his present position, he was Extension Swine Specialist at the Panhandle Station.



Burton A. Weichenthal, Professor of Animal Science & Associate District Director, Panhandle Station and District I. Dr. Weichenthal earned his B.S. in 1949 at the University of Nebraska; his M.S. in 1962 at South Dakota State; and his Ph.D. in 1967 at Colorado State. From 1967-1981 he served as an Extension beef cattle specialist with the University of Illinois. From 1976-1981 his responsibilities included a 25 percent research appointment, with responsibilities as manager of livestock research at the Dixon Springs Station. He joined IANR on January 4th.



Terry L. Mader, Assistant Professor, Animal Science, Northeast Station. Dr. Mader earned his B.S. in 1973 from Kansas State; his M.S. in 1979, and Ph.D. in 1981 from Oklahoma State. While at OSU he was a supervisor of the forage testing laboratory (2 years) and a graduate research assistant (3 years), and received the Oklahoma Feed Manufacturers outstanding graduate student award. He is a member of the American Society of Animal Science and American Forage and Grassland Council. He joined IANR in December.



NEBRASKA AGRICULTURAL EXPERIMENT STATION PUBLICATIONS - January 1982

Journal Articles - Submitted for Publication (contact authors for more information)

6755. In Situ Wetting of Soybeans to Reduce Dehiscence. James D. Summers and Milford Hanna. Transactions of the ASAE.
6756. Simulation of Heterosis Effects on Costs of Pork Production. G. L. Bennett, M. W. Tess, G. E. Dickerson and R. K. Johnson. Journal of Animal Science.
6757. Simulation of Breed and Crossbreeding Effects on Costs of Pork Production. G. L. Bennett, M. W. Tess, G. E. Dickerson and R. K. Johnson. Journal of Animal Science.
6758. Fertility Requirements and Placement in Reduced Tillage Systems. D. H. Sander. Tillage Conference.
6759. Influence of Placement on the Performance of Phosphorus Fertilizer. E. J. Penas and D. H. Sander. Conservation Tillage Conference.
6760. Physiology & Biochemistry of Fungal Sporulation. Kurt R. Dahlberg and James L. Van Etten. Annual Review of Phytopathology.
6761. Variations in the Wing Band of *Trimerotropis sparsa* (Thomas) (Orthoptera: Oedipodinae). Arthur F. Hagen. Journal of Kansas Entomological Society.
6762. The Effect of Sonic and Ultrasonic Sound Upon German Cockroaches. James B. Ballard and Roger E. Gold. Pest Control.
6763. Effect of Spray Components on Glyphosate Toxicity to Annual Grasses. D. D. Buhler and O. C. Burnside. Weed Science.
6764. Serum Progesterone and Pregnancy Rate After Gonadotropin in Ewes Following Induction of Estrus During Seasonal Anestrus. R. J. Kittok, J. N. Stellflug and S. R. Lowry. Theriogenology.
6765. Potential Purification of High Nitrate Groundwater Through Irrigation Management. D. L. Martin and D. G. Watts. Transactions of the ASAE.
6766. Home Warranty Protection: A Homebuyers' Perspective. Mary Madden, E. Raedene Combs and Charles S. Madden. Journal of Consumer Affairs.
6767. Corn Seed Spacing Uniformity in Various Tillage Systems. Paul J. Jasa and Elbert C. Dickey. Transactions of the ASAE.
6768. "Dried Fat" for Growing-Finishing Swine. K. E. Keaschall, B. D. Moser, E. R. Peo, Jr., A. J. Lewis and T. D. Crenshaw. Journal of Animal Science.
6769. Balance and Urinary Excretion of Calcium, Magnesium and Phosphorus in Response to High-Concentrate Feeding and Lactate Infusion in Lambs. D. L. Harmon and R. A. Britton. Journal of Animal Science.
6770. Pulsatile LH Secretion in the Castrate Male Bovine: Effects of Testosterone or Estradiol Replacement Therapy. B. D. Schanbacher, M. J. D'Occhio and T. W. Gettys. Journal of Animal Science.

6771. Energy Efficient Cooking Systems for Muscle Foods. R. W. Mandigo and T. J. Janssen. *Journal of Food Science*.
6772. Corn Particle Size Mixture, Starch Utilization and Acid Insoluble Ash as an Internal Marker in Steers Fed High Grain Diets *Ad Libitum*. O. A. Turgeon, Jr., D. R. Brink and R. A. Britton. *Journal of Animal Science*.
6773. A Statistician's View of the Requirements of a Host Database to Support a Central Query Language. Anne M. Parkhurst. *Proceedings of Workshop on Statistical Database Management*.
6774. The USDA Agricultural Research Service Tillage Program. Lloyd N. Mielke and James F. Power. *Tillage Conference Proceedings*.
6775. The Effect of Atrazine or Glyphosate on Overgrazed, Native Eastern Nebraska Tallgrass Pastures. S. S. Waller and D. K. Schmidt. *Journal of Range Management*.
6776. Extent of Marketplace Problems as Perceived by Solar Homeowners and Solar Experts. E. Raedene Combs. *Journal of Consumer Affairs Proceedings*.
6777. Greenhouse Pots Designed for Subirrigation. O. C. Burnside. *Weed Science*.
6778. Use of Corn Rootworm Larval Counts to Estimate Larval Populations and Make Control Decisions. Michael J. Weiss and Z B Mayo. *Journal of Economic Entomology*.
6779. Influence of Water Stress on the Diurnal Exchange of Mass and Energy Between the Atmosphere and a Soybean (*Glycine max* L. Merrill) Canopy. D. D. Baldocchi, S. B. Verma, N. J. Rosenberg, B. L. Blad, A. Garay and J. E. Specht. *Agronomy Journal*.
6780. Nozzling Considerations for Center Pivots with End Guns. Robert D. von Bernuth. *ASAE*.
6781. Sorghum Genotype Differences in Phosphorus Uptake Rate, Distribution, and Phosphatase Activity. A.M.C. Furlani, R. B. Clark, J. W. Maranville and W. M. Ross. *Agronomy Journal*.
6782. Sod-Seeding Perennial Grasses Into Eastern Nebraska Pastures. John F. Samson and Lowell E. Moser. *Agronomy Journal*.
6783. Variability for Silage Quality Traits in Forage Sorghum Hybrids. J. F. Pedersen, F. A. Haskins, H. J. Gorz and R. Britton. *Crop Science*.

Journal Abstracts - Submitted for Publication (contact authors for more information)

- 82-1682. Sustained Transfer of Methyl Parathion in Laundered Fabrics. J. Laughlin, C. Easley and R. Gold. *Proceeding, Association of College Professors of Textiles and Clothing*.

- 82-1683. Laundry Detergency and Water Temperature as Factors in Decontamination of Denim Fabrics. E. Easley, J. Laughlin, Roger Gold, Duane Tupy and K. Schmidt. Proceeding, Association of College of Professors of Textiles and Clothing.
- 82-1684. Yield Stability of Grain Sorghum Across Environments. G. M. Heinrich, C. A. Francis and J. D. Eastin. Sorghum Newsletter.
- 82-1685. Environmental Effects on Grain Sorghum in Western Nebraska. C. J. Jimenez, C. A. Francis and L. A. Nelson. Sorghum Newsletter.

BULLETINS PRINTED

95th Annual Report of the Nebraska Agricultural Experiment Station.