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June, 1982 Vol. 15 No. 11

FROM THE DIRECTOR'S DESK

Widaman Trust Awards to Twelve

The Agricultural Experiment Station, through resources provided by a Widaman family gift to the NU Foundation, is able to provide annually special supplementary stipends to outstanding Graduate Research Assistants. For the 1982-83 year the following individuals are recipients, nominated by their departments and screened by an AES staff committee consisting of Drs. Dale Anderson, Marvin Rhodes and Ralph Neild:

Mr. Azzedine Azzam, Agricultural Economics, Dr. M. Baker, Advisor

Mr. Douglas Buhler, Agronomy, Dr. O. Burnside, Advisor

Ms. Judy Matras Glover, Food Science and Technology, Dr. C. Walker, Advisor

Mr. David L. Harmon, Animal Science, Dr. R. Britton, Advisor

Ms. Anne E. Koehler, Forestry, Fisheries and Wildlife, Dr. Ron Johnson, Advisor

Mr. Thomas Perring, Entomology, Dr. T. Holtzer, Advisor

Ms. Linda M. Pollak, Agronomy, Dr. C. Gardner, Advisor

Ms. Geraldine Russo, Plant Pathology, Dr. J. Van Etten, Advisor

Mr. Allan P. Schinckel, Animal Science, Dr. R. K. Johnson, Advisor

Ms. Marilyn I. Schnepf, Food Science and Technology, Dr. L. Satterlee, Advisor

Ms. Na Sheng Lin, Plant Pathology, Dr. W. Langenberg, Advisor

Mr. Terence J. Siebenmorgen, Agricultural Engineering, Dr. D. Schulte, Advisor

New AES Project Outline Format

During the past year a new Agricultural Experiment Station Project Outline format has been developed by the faculty advisory committee with inputs from many other staff members. It has been reviewed, revised, refined and now is going into use effective July 1 (or optionally in the meantime). We believe that it represents a significant improvement in both form and process. We thank all who contributed to its development.

These new forms, together with related explanatory comments, are available at your departmental or district

offices for use in developing new or revised projects.

R. W. Kleis
Acting Dean and Director

SAHS SEZ

At the suggestion of Department Heads and District Directors, an IANR Task Force is being selected to develop a position statement concerning alternate cropping systems in general and organic farming in particular for the Institute of Agriculture and Natural Resources.

The position statement should include a brief assessment of the advantages and limitations of alternate cropping systems (organic farming) concepts for Nebraska agriculture.

The Task Force is asked to make recommendations relative to:

1. Additional extension educational materials and/or programming that might be needed in this area.

2. Areas where additional research is needed and where the Nebraska Agricultural Experiment Station should be involved with either additional resources or with resources currently available.

3. Changes in or additions to our current credit course work offerings needed to adequately address organic farming and other alternative cropping systems.

The suggested completion date is September 15, 1982. Members of the Task Force were selected by Dr. Robert Gast; Dean and Director Leo Lucas; and Dr. Warren W. Sahs.

Warren W. Sahs
Assistant Director

NEW AND REVISED PROJECTS

NEB 10-087 - Evaluating Financial Markets for Agriculture

This is a new Hatch project that contributes to regional project NC-161 with an approval date of October 1, 1981. P. H. Gessaman and G. A. Helmers (Agricultural Economics) are the project leaders. The objectives of this study are (1) to identify determinants and make projections of aggregate capital and credit demands in agriculture, and to evaluate the ability of financial markets to provide for those demands; and (2) to evaluate innovations in financial markets for agriculture.

NEB 10-088 - Structural Changes in Nebraska Agriculture: Number, Size and Organization in Farming Units

This is a new Hatch project with an effective date of February 1, 1982. A. R. Frederick (Ag Economics) is the project leader. The reviewers of this project were L. Lutgen (Ag Economics), D. Olsen (Ag Economics), W. Schutz (Biometrics and Information Systems)

Center) and S. Wallen (Food Science and Technology). The objectives of this project are (1) to determine the nature of structural changes in Nebraska agriculture since 1965, especially those having to do with the number, size, and organization of farming units; (2) compare changes underway in Nebraska with those occurring in other states and to make comparisons of changes occurring in different areas of the state; and (3) to form and test hypotheses about causes of structural changes in Nebraska.

NEB 11-066 - Harvesting, Processing, and Utilization of Sweet Sorghum and Oil Crops as Energy Sources for Power

This is a new Hatch project with an approval date of January 12, 1982. The project leader is L. L. Bashford (Ag Engineering). The reviewers were J. Maranville (Agronomy), C. Walker (Food Science and Technology), K. VonBargen (Ag Engineering), L. Leviticus (Ag Engineering), W. Schutz (Biometrics and Information Systems Center), and N. Sullivan (Ag Engineering). The objectives of this project are (1) develop a machine to harvest and extract juice from sweet sorghum; (2) define parameters for processing sweet sorghum juice into alcohol; (3) develop techniques to inject alcohol into a diesel engine and (4) evaluate other alternative energy fuels and their utilization for internal combustion engines.

NEB 11-067 - Irrigation Scheduling Methods for Efficient Water and Energy Use

This is a new Hatch project that contributes to NC-163 with an effective date of October 1, 1981. J. R. Gilley and D. G. Watts (Ag Engineering) are the project leaders. The objectives of this project are (1) improved water balance techniques for use in irrigation scheduling; (2) improved irrigation water and nutrient application timing criteria for the variable climatic conditions of the region; and (3) simulation models of the soil-water-plant irrigation system as tools for evaluating alternative irrigation management strategies.

NEB 12-077 - Systems for Controlling Weeds with Emphasis on Velvetleaf, Shattercane and Leafy Spurge

This is a revised Hatch project with an effective date of February 18, 1982. The project leader is A. R. Martin (Agronomy). The reviewers were C. R. Fenster (Panhandle Station), D. Jose (Ag Economics), Z. B. Mayo (Entomology), R. F. Mumm (Biometrics and Information Systems Center) and P. Shea (Agronomy). The objectives of this project are (1) develop methods for the control of large seeded broadleaf weeds especially velvetleaf in row crops; (2) develop methods of minimizing the impact of accelerated herbicide breakdown in soils on weed control and (3) develop new approaches to leafy spurge control in grassland including the use of herbicide growth regulator combinations and selective herbicide applicators.

NEB 12-097 - Physiological Investigations of Nutritive Value and Its Improvement in Sorghum Millet

This is a revised Hatch project with an effective date of July 1, 1982. J. W. Maranville (Agronomy) is the project leader. The reviewers of the project were R. Elmore (South Central Station), C. A. Francis (Agronomy), R. Mumm (Biometrics and Information Systems Center), C. Sullivan (Agronomy) and C. Walker (Food Science and Technology). The objectives of this study are (1) identify sorghum and millet genotypes which possess varied quality characteristics and components related to nutritive value; (2) evaluate and investigate physiological processes such as photosynthesis, photosynthate partitioning, mineral uptake, and water use which may directly or indirectly influence nutritive value; (3) determine the influence of environmental variables such as moisture, light, and temperature on grain quality; (4) evaluate mineral elements which influence nutritive value, particularly N, S, and certain micronutrients from a physiological-biochemical viewpoint; and, (5) refine techniques and evaluate their usefulness as indicators of nutritive value for use in breeding for superior genotypes.

NEB 12-127 - Crop Physiological and Morphological Characteristics and Cultural Practices Affecting Crop Yield, Water Use and Metabolic Efficiency

This is a new Hatch project with an effective date of January 20,

1982. The project leaders are J. D. Eastin (Agronomy), M. Clegg (Agronomy), C. Fenster (Panhandle Station), C. A. Francis (Agronomy), L. Nelson (Panhandle Station). The reviewers of this project were R. Mumm (Biometrics and Information Systems Center), G. A. Wicks (North Platte Station), R. Moomaw (Northeast Station), L. C. Haderlie (Agronomy) and D. Linsenmeyer (Ag Economics). The objectives of this study are (1) compare yields and water use efficiencies of sorghum, corn, pearl millet and wheat over a range of water levels; (2) study temperature effects on setting seed number potential during inflorescence development; (3) study temperature effects on floret abortion and seed size during grain filling; (4) evaluate water x temperature interaction effects on yield components as specified in 2 and 3 above; (5) evaluate water and temperature effects on photosynthesis, respiration, transpiration, and growth (6) determine soil temperature effects on photosynthesis, respiration, transpiration, and growth; (6) determine soil temperature effects on root respiration and transpiration; (7) evaluate influence of minimum tillage and ecofallow versus conventional tillage on water use at several water levels.

NEB 13-062 - Beef Production Systems Based on Optimum Use of Crop Residues and Forages

This is a new Hatch project with an effective date of January 6, 1982. The project investigators are T. Klopfenstein, J. Ward, D. Brink, R. Britton and P. Guyer of the Animal Science Department. The reviewers were G. Pfeiffer (Ag Economics), W. Stroup (Biometrics and Information Systems Center) and S. Waller (Agronomy). The objectives of this project are (1) develop systems of finished beef production based on crop residues and forages which are more economical than conventional high grain systems; (2) increase efficiency of production in components of the beef production systems (a) improve the utilization of crop residues; (b) increase the efficiency of protein utilization; and, (c) optimize performance of calves on grass.

NEB 14-014 - Bovine Respiratory Diseases

This is a revised Hatch project that contributes to regional project NC-107. The project leaders are M. L. Frey, M. B. Rhodes, J. F. Amend and E. O. Dickinson of the Veterinary Science Department. The objectives of this study are (1) to develop and utilize improved techniques to detect and characterize the etiologic agents involved in bovine respiratory disease (BRD), and determine the relative importance, interrelationship, spread and maintenance of the etiologic agents in normal and diseased cattle populations; (2) to investigate the structure and function of the bovine immune system in health and in disease; (3) to define and characterize the physiology of the normal and diseased bovine respiratory system; (4) develop methods to enhance specific and non-specific resistance mechanisms to aid in the control and prevention of bovine respiratory disease, and (5) investigate cost/benefits of controlling BRD through changes in management practices.

NEB 16-037 - Proteins: Alteration During Processing and the Products Formed During Digestion

This is a new Hatch project with an effective date of January 1, 1982. The project leader is L. D. Satterlee of the Food Science and Technology Department. The reviewers were R. Dam (Ag Biochemistry), G. Froning (Animal Science), M. Hanna (Ag Engineering), A. Parkhurst (Biometrics and Information Systems Center) and J. Rupnow (Food Science and Technology). The objectives of this project are (1) identify what processes will alter proteins and enhance their use in foods; (2) describe the physico-chemical mechanism by which a protein is altered by a particular process; (3) determine the impact of *in vitro* and *in vivo* protein digestion products on protein nutritional quality and nutrient availability; and, (4) seek new or alternate processes which will eliminate harmful and/or nutritional digestion products.

NEB 20-028 - Forest Tree Improvement - Selection, Breeding and Seed Production - Phase V

This is a revised McIntire-Stennis project with an effective date of October 1, 1981 and the project contributes to regional project NC-99. W. T. Bagley and D. Van Haverbeke (Forestry, Fisheries and

Wildlife) are the project leaders. The reviewers of this project were C. O. Gardner (Agronomy), R.C. Lommasson (Life Sciences) and W. Schutz (Biometrics and Information Systems Center). The objectives of this study are (1) to select and breed the second and succeeding generations of several tree species utilizing existing region-wide provenance tests as the base populations; (2) to investigate effects of geographic location and insects on flowering, seed production, and premature cone abscission, (3) evaluate existing NC-99 plantations to determine the effectiveness of early selection, (4) select and test additional species and selected strains to meet special needs; and, (5) implement the regional distribution to action agencies of important tree species developed in earlier phases of the program.

NEB 93-016 - Stress, Coping, and Adaptation in the Middle Years of the Family Life Cycle

This is a new Hatch project with an effective date of October 1, 1981 that contributes to NC-164. The project leader is J. D. DeFrain (Human Development and the Family). The objectives of this study are (1) to identify and examine the types of events perceived as chief stressors by various types of families in the middle years of the family life cycle; (2) to identify and examine the resources drawn upon by middle-years families to cope with stress; (3) to examine the impact of chief stressful events upon the functioning families in the middle years of the family life cycle; (4) to identify the major coping behaviors and family management patterns in the management of stressors; and, (5) to integrate research findings in advancing theories on family stress, coping, family development, and critical role transitions.

NEB 93-017 - Cognitive Development and Cognitive Style Within Cross Cultural Perspective

This is a new Hatch project with an effective date of January 1, 1982. V. Kalyan-Masih (Human Development and the Family) is the project leader. The reviewers were R. Dillon (Ag Education), A. Parkhurst (Biometrics and Information Systems Center), L. Schwab (Human Development and the Family) and K. King (Human Development and the Family). The objectives of this study are (1) to investigate differences or similarities in cognitive performance; (2) to investigate differences or similarities in cognitive style; (3) to investigate relationship between cognitive development and the cognitive style; (4) to analyze socio-cultural variables that might affect cognitive performance and cognitive style; and, (5) explore if cognitive style is related to some other personality variables such as adequately coping with loneliness.

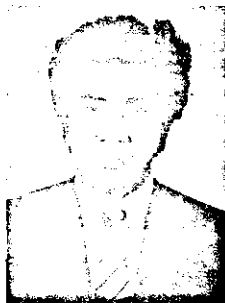
GRANTS AND CONTRACTS

Ball, E. M. (Plant Pathology) - State of Main	180
Ball, E. M. (Plant Pathology) - State of Montana	200
Brandle, J. R. (Forestry, Fisheries & Wildlife) - Nebraska Railroad Assn.	4,510
Burnside, O. C. (Agronomy) - E. I. DuPont DeNemours & Co., Inc.	1,800
Burnside, O. C. (Agronomy) - Shell Development Company	500
Burnside, O. C. (Agronomy) - Ciba-Geigy	1,000
Dickey, E. (Ag Engineering) - Nebraska Soybean Development, Utilization and Marketing Board	5,000
Fenster, C. R. (Panhandle Station) - Monsanto Company	1,000

Flowerday, A. D. (Agronomy) - National Crop Insurance Association	4,000
Gardner, C. O. (Agronomy) - Keith Heuermann Farms	2,000
Gardner, C. O. (Agronomy) - Garst & Thomas Hybrid Corn Company	3,000
Gustafson, W. A. (Southeast Extension & Research Center) - Alice L. & Lee B. Franks	400
Klopfenstein, T. (Animal Science) - Food & Agriculture Organization of the United Nations	8,296
Lindgren, D. T. (North Platte Station) - The O. M. Scott & Sons Company	1,250
Loveday, H. D. (Animal Science) - High School Contest Committee	122
Loveday, H. D. (Animal Science) - Roberts Cattle Company	100
Martin, A. R. (Agronomy) - DuPont Company	750
Moomaw, R. (Northeast Station) - E. I. DuPont DeNemours & Company	1,400
Moomaw, R. (Northeast Station) - Ciba-Geigy	500
Moomaw, R. (Northeast Station) - Shell Development Company	3,000
Moomaw, R. (Northeast Station) - Dow Chemical Company	2,500
Nielsen, M. K. (Animal Science) - Summitcrest Farms (Donation/Gift)	600
Olson, R. A. (Agronomy) - Farmland Industries	4,000
Penas, E. J. (Southeast Extension & Research Center) - Dow Chemical Company	2,000
Rosenberg, N. J. (Ag. Meteorology & Climatology) - Reuben G. Huffman Trust	11,640
Sander, D. H. (Agronomy) - Potash & Phosphate Institute	5,000
Schmidt, J. W. (Agronomy) - Mandops Incorporated	1,500
Splinter, W. E. (Ag Engineering) - UN Foundation	1,000
Steadman, J. R. (Plant Pathology) - E. I. DuPont DeNemours & Company	700
Sullivan, T. W. (Animal Science) - American Cyanamid Company (Donation/Gift)	3,875
Torres-Medina, A. (Veterinary Science) - Norden Laboratories	800
Van Etten, J. L. (Plant Pathology) - National Institute of Health	31,685
Vidaver, A. K. (Plant Pathology) - Prairie Valley, Inc.	150
Vidaver, A. K. (Plant Pathology) - Allied Chemical	46,188
Vidaver, A. K. (Plant Pathology) - Foundation for Agronomy Research	4,000
Wagner, F. W. (Ag Biochemistry) - Nebr. Soybean Development, Utilization and Marketing Board	10,600
Walker, C. E. (Food Science & Technology) - Nebraska Soybean Development, Utilization and Marketing Board	6,740
Wicks, G. A. (North Platte Station) - Ciba-Geigy	500
Wicks, G. A. (North Platte Station) - Monsanto Company	750
Wicks, G. A. (North Platte Station) - Chevron Chemical Company	2,000
Wicks, G. A. (North Platte Station) - Dow Chemical Company	500
Wicks, G. A. (North Platte Station) - BASF Wyandotte Corporation	300
Wilson, R. G. (Panhandle Station) - Monsanto Company	1,750
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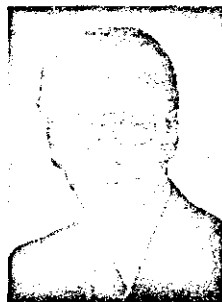
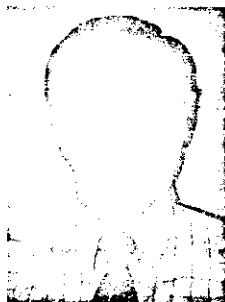
New Experiment Station Personnel

Romeo A. Baccay, Post Doctoral Research Associate, Agricultural Engineering, Roman L. Hruska US Meat Animal Research Center. Dr. Baccay received his B.S. in 1970 at FEATI University, Manila, Philippines; M.S. in 1977 at Kobe University, Japan; and Ph.D. in 1982 at Osaka University, Osaka, Japan. Dr. Baccay was a University instructor teaching subjects in Chemical and Environmental Engineering at FEATI University. He is a member of the Philippine Institute of Chemical Engineers and American Chemical Philippine Institute of Chemical Engineers and American Chemical Society. He joined USMARC in April, 1982.



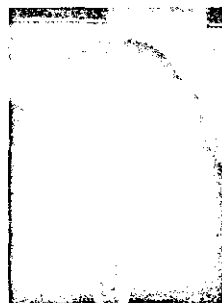
Jay B. Joshi, Post Doctoral Research Associate, Plant Pathology. Dr. Joshi received his B.S. from South Gujrath University in 1971; M.S. in 1974, and Ph./D. in 1980 from the University of Bombay. He has four years experience as a research fellow and two years experience as a Post Doctoral Research Associate in Tumor Biology Laboratory, University of Nebraska, Lincoln. His Ph.D. thesis was entitled "Molecular Biological studies on Human Breast Cancer." He joined Plant Pathology on April 5 to study the mechanism of mosaic induction by plant viruses.

Jerome F. Baker, Post Doctoral Research Associate, Animal Science. He will work with Dr. Gordon Dickerson in the area of modeling beef and sheep production systems. Dr. Baker earned his B.S. in 1968 from Morningside College and his M.S. and Ph.D. from Texas A&M University in 1979 and 1983, respectively. He has 4½ years experience as a graduate assistant, including the Tom Slick Research Fellowship from Texas A&M University. He is a member of the American Society of Animal Science, the American Dairy Science Association, the Biometrics Society and Gamma Sigma Delta. He joined the University in March, 1982.



William L. Miller, Professor and Head of the Department of Agricultural Economics. Dr. Miller came to Nebraska March 1, 1982, from Purdue University where he was a Professor of Agricultural Economics with responsibilities in research and teaching in water resources. Miller received his B.S. and M.S. degrees in Agricultural Economics from the University of Illinois in 1957 and 1960, respectively. He earned his Ph.D. in Agricultural Economics from Michigan State University in 1965. Miller is a member of the American Agricultural Economics Association and the Western Agricultural Economics Association. He has authored or co-authored 40 publications.

Barbara Ann Becker, Post Doctoral Research Associate, Agricultural Engineering, Roman L. Hruska, U.S. Meat Animal Research Center. Dr. Becker earned her B.A. in 1969; M.S. in 1974; and Ph.D. in 1981 from the University of Missouri-Columbia. Some of her past experience includes four years as Senior Research Technician at Missouri Climatic Laboratory, and two years as a teaching assistant in an Introductory Dairy Production course. Her Ph.D. research involved the comparative physiology during dehydration and feed restriction in Holstein, Hereford and Texas Longhorn steers. She has authored many publications. She joined the USMARC staff on January 11.



Regina Vasilatos, Post Doctoral Research Associate, Animal Science, Roman L. Hruska U.S. Meat Animal Research Center. She will work with Dr. Robert Britton and Dr. Ron Prior on insulin action and binding in ruminant muscle and adipose tissues. Dr. Vasilatos received her B.S. degree from the University of Maine at Orono in 1976 and recently completed her Ph.D. at Pennsylvania State University. She is a member of the American Society of Animal Science, the American Dairy Science Association and Gamma Sigma Delta. She joined the University of Nebraska in April, 1982.

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

6891. Grain Sorghum Root Responses to Water and Temperature During Reproductive Development. J. R. Rice and J. D. Eastin. Crop Science.
6892. Livestock Residue Management and Pollution Control. C. B. Gilbertson, L. R. Shuyler, J. A. Moore and J. R. Miner. American Society of Agricultural Engineers - Special Publication Journal.
6893. Effect of Canada Thistle (*Cirsium arvense*) and Musk Thistle (*Carduus nutans*) Control on Grass Production and Demise of Thistle Seed in Soil. Patrick E. Reece and Robert G. Wilson. Weed Science.
6894. Variability and Genetic Control of Aluminum Tolerance in Sorghum Genotypes. P. R. Furlani, R. B. Clark, W. M. Ross and J. W. Maranville. Proc. 1st Int. Symposium - Genetic Specificity of Mineral Nutrition of Plant, Belgrade, Yugoslavia.
6895. Measuring Drought Severity and Assessing Impact. Donald A. Wilhite. Proceedings, International Symposium on Hydrometeorology.
6896. Perceived Complexity and Trialability of Solar Home Heating Systems. E. Raedene Combs, Kenneth R. Tremblay, Jr. and Charles S. Madden. International Journal of Housing Science.
6897. Dry Matter Production in Tops and Roots of Winter Wheat as Affected by Phosphorus Availability During Various Growth Stages. P. J. Sutton, G. A. Peterson and D. H. Sander. Agronomy Journal.
6898. Characteristics of Air Flow Above and Within Soybean Canopies. D. D. Baldocchi, S. B. Verma and N. J. Rosenberg. Boundary Layer Meteorology.
6899. A Future-Looking Adult Leadership Program. James T. Horner. Journal of Extension.
6900. Effect of Slope on Water Balance Under Center-Pivot Irrigation. A. Y. Hanna, P. W. Harlan and D. T. Lewis. Soil Science.
6901. Rates of Nitrogen Accumulation in Irrigated Maize. M. P. Russelle, R. D. Hauck and R. A. Olson. Agronomy Journal.
6902. Seed Pathology and Transmission of Three Strains of *Corynebacterium flaccumfaciens* in Beans (*Phaseolus vulgaris* L.). M. L. Schuster and C. C. Smith. A. R. Phytopath.
6903. Sampling Stable Fly and House Fly Pupal Parasites on Beef Feedlots and Dairies in Eastern Nebraska. Jeff A. Meyer and James J. Petersen. Southwestern Entomologist.
6904. Effect of Beta-Carotene Supplementation on Reproductive Performance of Dairy Heifers. J. Y. Wang, L. L. Larson and F. G. Owen. Theriogenology.

6905. Is *p*-Hydroxybenzaldehyde A Major Constituent of Epicuticular Wax from *Sorghum bicolor* Seedlings? F. A. Haskins and H. J. Gorz. *Phytochemistry*.
6906. An Automated Weather Data Network in Support of Agricultural Operations. K. G. Hubbard, N. J. Rosenberg and D. C. Nielsen. *Journal of the Water Resources Planning & Management Division*.
6907. Role of Androgenic and Estrogenic Steroids in Feedback Control of Luteinizing Hormone Secretion in Male Sheep. M. J. D'Occhio, B. D. Schanbacher and J. E. Kinder. *Endocrinology*.
6908. Economic Value of Ground Water Recharge for Irrigation Use. Raymond J. Supalla and Dorothy A. Comer. *NAES Journal*.

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

- 82-1772. Copper Injections and Supplementation for Range Beef Cows and Calves. G. H. Deutscher, J. R. Johnson, R. J. Emerick, R. E. Moul and D. L. Whittington. *Journal of Animal Science*.
- 82-1773. Subsequent Performance of Pigs Fed a Starter Alfalfa Fortified Diet. M. A. Crenshaw, D. M. Danielson and D. B. Hudman. *Journal of Animal Science*.
- 82-1774. Growth Response of Bacteria Causing Spoilage of Milk at 0.5°C. R. B. Maxcy. *Journal of Dairy Science*.
- 82-1775. Alfalfa Establishment and Production with Continuous Alfalfa and Following Soybeans. W. R. Kehr and J. E. Watkins. *National Alfalfa Improvement Conference, Davis, CA, July 14, 1982*.
- 82-1776. In-Field Sweet Sorghum Juice Expression Machine. Mark E. Lamb, Leonard L. Bashford and Kenneth Von Bargen.
- 82-1777. Seed Yields from Breeder and Foundation Seed of Eight Alfalfa Cultivars. W. R. Kehr, D. K. Barnes, D. E. Brown, J. H. Elgin, Jr. and E. L. Sorensen. *Proc. 28th National Alfalfa Improvement Conf. 1982*.

BULLETINS PRINTED

- SB 548. The N, P, K Status of Sugarbeet Producing Soils in Western Nebraska and Its Relationship to Sugar Yield. F. N. Anderson and G. A. Peterson.

CALENDAR OF EVENTS - SUMMER, 1982

<u>DAY AND DATE</u>	<u>TIME</u>	<u>EVENT AND PLACE</u>	<u>SOURCE AND PHONE NUMBER</u>
Monday and Tuesday June 14-15	1½ days	U. S. Beef Symposium: Beef from young, in-tact males, - Kansas State University Manhattan, Kansas	Irvin Ontvedt - Animal Science 402-472-3571
Tuesday, June 15th <u>(POSTPONED TO AUGUST 17TH)</u>	all day	7th Annual Nebraska Turfgrass Field Day University Field Laboratory, Mead, NE	Horticulture Department 402-472-2854
Thursday, June 24th	morning only	High Plains Ag. Lab - Field Day, Small Grain Crops Research Tour, Sidney, NE	Panhandle Station 308-632-1230
Tuesday, July 13th	all day	Joint Kansas-Nebraska Section Society for Range Management Summer Tour Mankato, Kansas	Steve Waller - Agronomy 402-472-1541
Thursday, July 22nd	all day	Tractor Power and Safety Day University Field Laboratory, Mead, NE	Ag. Engineering Department 402-472-1413
Saturday, July 31st	all day	Sheep Unit and Ram Test - Open House University Field Laboratory, Mead, NE	Animal Science Department 402-472-3571
Wednesday, August 4th	afternoon only	Sandhills Ag. Lab - Field Day Tryon, Nebraska	North Platte Station 308-532-3611
Thursday, August 5th	all day	Panhandle Station - Field Day Scottsbluff, Nebraska	Panhandle Station 308-632-1230
Monday and Tuesday August 9-10	1½ days	George A. Young Conference and NE SPF (specific pathogen-free) Conference at Nebraska Center, UNL - East Campus	Alex Hogg at Extension Veterinary Science 402-472-1736
Thursday, August 19th "tentative"	morning only	High Plains Ag. Lab - Millet, Sorghum, Ecofallow Corn Research Tour, Sidney, NE	Panhandle Station 308-632-1230
Tuesday, August 24th	all day	Northeast Station 25th Anniversary Field Day - Concord, Nebraska	Northeast Station 402-584-2261
Wednesday, August 25th	all day	Alternate Cropping Systems (organic) Field Day & Farm Tour will tour the Northeast Station and area farms	Warren Saha - Ag. Exp. Station 402-472-2045
Thursday, September 9th	all day	Agronomy Field Day - University Field Laboratory - Mead, Nebraska	Agronomy Department 402-472-1555
Tuesday through Thursday September 14-16	all day	Husker Harvest Days - Grand Island, NE	Dick Wiese - Agronomy Department 402-472-1502
Saturday and Sunday September 25-26	all day	Forestry Field Days - Horning Farm 2 miles south of Plattsmouth, Nebraska	Forestry Department 402-472-2944

C. E. Walker	Increasing the Nutritional Quality of Corn Gluten Meal	15,150
J. F. Witkowski	Study the Biology and Control of Second Generation European Corn Borer	5,785
C. O. Gardner M. Thomas- Compton	Identification of Corn Genetic Types Having Tolerance to Environmental and Biological Stresses by Using a Relatively Simple and Inexpensive Procedure	7,500
C. A. Long	Flavor Modification of Corn Germ	10,810
C. E. Walker	Multiple Disciplinary Corn Utilization Research	64,000

Grants and Contracts

Ball, E. M. (Plant Pathology) - Cornell University	280
Ball, E. M. (Plant Pathology) - Oregon State Board of Higher Education	100
Ball, H. J. (Entomology) - FMC Corporation	1,000
Burnside, O. C. (Agronomy) - Chevron Chemical Company	1,500
Burnside, O. C. (Agronomy) - Rhone-Poulenc Inc.	3,500
Burnside, O. C. (Agronomy) - Shell Development Company	3,000
Burnside, O. C. (Agronomy) - Dow Chemical Company	2,000
Burnside, O. C. (Agronomy) - Monsanto Company	5,000
Chollet, R. (Ag Biochemistry) - U.S. Department of Energy	48,051
Dickason, E. A. (Entomology) - Chevron Chemical Company	1,000
Fenster, C. R. (Panhandle Station) - Chevron Chemical Company	2,000
Fenster, C. R. (Panhandle Station) - Ciba-Geigy	500
Fenster, C. R. (Panhandle Station) - Shell Development Company	1,000
Fenster, C. R. (Panhandle Station) - Velsicol Chemical Corporation	750
Frank, K. D. (South Central Station) - Dow Chemical Company	3,000
Gardner, C. O. (Agronomy) - Stauffer Chemical Company	2,000
Gustafson, W. A. (Southeast Extension & Research Center) - Northern Nut Growers Association	2,070
Hergert, G. W. (North Platte Station) - Duval Sales Corporation	1,250
Hergert, G. W. (North Platte Station) - Dow Chemical Company	1,000
Hogg, A. (Veterinary Science) - Merck & Company, Inc.	500
Kinbacher, E. J. (Horticulture) - Nebraska Turfgrass Foundation	4,000
Loveday, H. D. (Animal Science) - Ralph W. Robinson	25
Loveday, H. D. (Animal Science) - Rodney A. Beranek	25
Mayo, Z. B. (Entomology) - Dow Chemical	2,000
Mayo, Z. B. (Entomology) - Rhone-Poulenc Inc.	1,500
Mayo, Z. B. (Entomology) - FMC Corporation	1,000
Moomaw, R. (Northeast Station) - Rhone Poulenc Inc.	1,500
Moomaw, R. (Northeast Station) - Chevron Chemical Company	800
Moomaw, R. (Northeast Station) - ICI Americas	750
Moomaw, R. (Northeast Station) - Shell Development Company	2,500
Moomaw, R. (Northeast Station) - BASF Wyandotte Corporation	600
Moomaw, R. (Northeast Station) - Monsanto Company	1,000
Moomaw, R. (Northeast Station) - Eli Lilly & Company	750
Peo, E. R. (Animal Science) - SmithKline Animal Health Products	5,280
Peo, E. R. (Animal Science) - Fats and Protein Research Foundation	12,000
Rehm, G. (Northeast Station) - The Potash & Phosphate Institute	1,000

Roeth, F. W. (South Central Station) - E. I. duPont deNemours & Company	1,400
Roeth, F. W. (South Central Station) - Monsanto Company	2,000
Roeth, F. W. (South Central Station) - Chevron Chemical Company	1,000
Roeth, F. W. (South Central Station) - BASF Wyandotte Corporation	300
Roeth, F. W. (South Central Station) - Ciba-Geigy	500
Roeth, F. W. (South Central Station) - Dow Chemical Company	1,000
Roeth, F. W. (South Central Station) - 3M Company	1,000
Roeth, F. W. (South Central Station) - Shell Development Company	1,500
Roeth, F. W. (South Central Station) - Eli Lilly and Company	500
Sander, D. (Agronomy), Rehm, G. (Northeast Station) - Potash & Phosphate Inst.	6,840
Shahani, K. M. (Food Science and Technology) - National Dairy Council	4,500
Shahani, K. M. (Food Science and Technology) - Casey Products Inc.	250
Shahani, K. M. (Food Science and Technology) - Roberts Dairy Company	50
Shearman, R. C. (Horticulture) - Monsanto Company	4,000
Shearman, R. C. (Horticulture) - E. I. duPont DeNemours & Company	800
Shearman, R. C. (Horticulture) - Rhone-Poulenc Inc.	1,200
Shearman, R. C. (Horticulture) - The Andersons	800
Shearman, R. C. (Horticulture) - Diamond Shamrock	1,500
Shearman, R. C. (Horticulture) - Michigan State University	1,000
Shearman, R. C. (Horticulture) - Eli Lilly and Company	1,250
Swisher, B. A. (Agronomy) - Monsanto	500
Walker, C. E. (Food Science & Technology) - Enerterx, Inc.	1,815
Walker, C. E. (Food Science & Technology) - Nebraska Department of Economic Development	30,670
Watkins, J. E. (Plant Pathology) - Diamond Shamrock	500
Watkins, J. E. (Plant Pathology) - Rhone-Poulenc Chemical Company	750
Watkins, J. D. (Plant Pathology) - Ciba-Geigy	500
Weihing, J. (Panhandle Station) - Emily Kristl Trust Fund (UN Foundation)	3,000
Wicks, G. A. (North Platte Station) - E. I. duPont deNemours & Company	1,100
Wilson, R. G. (Panhandle Station) - Ciba-Geigy	750
Wilson, R. G. (Panhandle Station) - Shell Development Company	1,000
Wilson, R. G. (Panhandle Station) - Velsicol Chemical Corporation	750
Wilson, R. G. (Panhandle Station) - BASF Wyandotte Corporation	1,000
Wilson, R. G. (Panhandle Station) - ICI Americas	4,000
Wilson, R. G. (Panhandle Station) - Jirdon Foundation, Inc.	2,500
Wilson, R. G. (Panhandle Station) - American Hoechst Corporation	2,000
Wilson, R. G. (Panhandle Station) - E. I. DuPont	4,100
Wilson, R. G. (Panhandle Station) - Eli Lilly & Company	1,000
Witkowski, J. F. (Northeast Station) - Shell Development Company	500
Witkowski, J. F. (Northeast Station) - Dow Chemical Company	12,000

214,056

The Agricultural Experiment Station has been receiving industry checks that are dated two to three months earlier. Please send the industry forms and checks as soon as possible as some checks are void if not cashed within 60 days.

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

6909. Alfalfa Establishment and Production with Continuous Alfalfa and Following Soybeans. W. R. Kehr, J. E. Watkins and R. L. Ogden. *Agronomy Journal*.
6910. Increased Rates of Genetic Change in Dairy Cattle by Embryo Transfer and Splitting. F. W. Nicholas and C. Smith. *Animal Production*.
6911. Soybean Root Nodule Recovery Following Dark Induced Senescence. N. E. Pfeiffer, Nasir S. A. Malik and Fred W. Wagner. *Plant Physiology*.
6912. Degradation of Flame Retardant Cotton and Polyester Fabrics Exposed to Ultraviolet Light and Ozone. Anne Fehringer and Joan Laughlin. *Consumer Product Flammability*.
6913. Seed Yields from Breeder and Foundation Seed of Eight Alfalfa Cultivars. W. R. Kehr, D. K. Barnes, D. E. Brown, J. H. Elgin, Jr. and E. L. Sorensen. *Crop Science*.
6914. Teaching the Characteristics of Yield Response with the Mitscherlich Equation Using Computers. R. C. Sorensen. *Agronomic Education*.
6915. Use of Repeated Matings to Estimate Environmental and Genetic Trends and Effects of Relaxing Selection in a Selected Strain of Leghorn Chickens. G. E. Dickerson, T. S. Kashyap, G. L. Bennett, K. Goodwin and J.A.B. Emsley. *Journal of Poultry Science*.
6916. Non-crop Grasses as Hosts for the Chinch Bug, *Blissus leucopterus leucopterus* (Say). Tarik R. Ahmad, K. P. Pruess and S. D. Kindler. *Journal of Environmental Entomology*.
6917. Organic Sources of Nutrients. J. F. Power and R. I. Papendick. Chapter in Third Edition, *Fertilizer Technology and Use*.
6918. Host Preference and Seasonal Distribution of Pteromalid Parasites of Stable Flies and House Flies Associated with Confined Livestock in Eastern Nebraska. J. J. Petersen and J. A. Meyer. *Journal of Environmental Entomology*.
6919. The Plant Pathogenic Corynebacteria. Anne K. Vidaver. *Annual Review of Microbiology*.
6920. Effects of Tillage on Soil Erosion in a Wheat-Fallow Rotation. E. C. Dickey, C. R. Fenster, J. M. Laflen and R. H. Mickelson. *Transactions - ASAE*.
6921. Effect of Energy Intake on Serum LH and Reproductive Performance in Yearling Beef Heifers. L. E. Jones, D. C. Clanton and E. F. Ellington. *Journal of Animal Science*.
6922. Further Host Range Studies on the Bluegrass Billbug *Spheonophorus parvulus* Gyllenhal. S. D. Kindler, S. M. Spomer and E. J. Kinbacher. *Journal of Environmental Entomology*.

6923. Antitumor Activity of Yogurt Components. B. A. Friend, G. V. Reddy, K. M. Shahani and R. E. Farmer. Journal of Food Protection.
6924. Yield Stability in Relation to Maturity in Grain Sorghum. M. Saeed and C. A. Francis. Crop Science.
6925. Biological Significance and Fate of Atrazine Under Aquifer Conditions. Glenn R. Wehtje, Roy F. Spalding, Orvin C. Burnside, Stephen R. Lowry and J. Robert C. Leavitt. Weed Science.
6926. Testicular Growth in Boars of Different Genetic Lines and Its Relationship to Reproductive Performance. Allan Schinckel, R. K. Johnson, R. A. Pumfrey and Dwane R. Zimmerman. Journal of Animal Science.
6927. Individual and Maternal Genetic Effects for Beef Carcass Traits of Breeds Representing Diverse Biological Types (Cycle I). R. M. Koch, M. E. Dikeman, Henryk Grodzki, J. D. Crouse and L. V. Cundiff. Journal of Animal Science.
6928. The Effect of Estradiol, Dehydrotestosterone and Trenbolone Acetate on Luteinizing Hormone Secretion in the Acutely Castrated Bull. Tom W. Gettys, Michael J. D'Occhio, Don M. Henricks and Bruce D. Schanbacher. Endocrinology.
6929. Pituitary Androgen Receptors and the Resistance of Long-Term Castrated Rams to the Androgenic Control of Luteinizing Hormone (LH) Secretion. Bruce D. Schanbacher, Stephen J. Winters, Theresa Rehm and Michael J. D'Occhio. Biology of Reproduction.

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

- 82-1778. Effect of Dietary Vitamin E, Egg Storage and Age of the Bird on Yolk Membrane Strength. G. W. Froning, Bridget Sackett, F. John Struwe and Steve Lowry. Poultry Science.
- 82-1779. The Water Activity Lowering Property of Selected Food Humectants in Egg Systems. Yun-Chan Lo and G. W. Froning. Poultry Science.
- 82-1780. Soybean Oil as an Alternate Fuel in a Small Diesel Engine. Randy W. Pryor, Milford A. Hanna, Jack L. Schinstock and Leonard L. Bashford. Transactions of the American Society of Agricultural Engineers.

CALENDAR OF EVENTS - SUMMER, 1982

<u>DAY AND DATE</u>	<u>TIME</u>	<u>EVENT AND PLACE</u>	<u>SOURCE AND PHONE NUMBER</u>
Tuesday, July 13th	all day	Joint Kansas-Nebraska Section Society for Range Management Summer Tour Mankato, Kansas	Steve Waller - Agronomy 402-472-1541
Monday, July 19th	all day	Cornhill Workshop, University of Nebraska Plant Science Building - East Campus	Dale Flowerday - Agronomy 402-472-1523
Wednesday, July 21st	2:00 pm	Energy Farm Dedication at University Field Laboratory at Mead, Nebraska	Dennis Schulte - Ag. Eng. 402-472-3930
Thursday, July 22nd	all day	Tractor Power and Safety Day, University Field Laboratory at Mead, Nebraska	Ag. Engineering Department 402-472-1413
Saturday, July 31st	all day	Sheep Unit and Ram Test - Open House University Field Laboratory, Mead, NE	Animal Science Department 402-472-3571
Wednesday, August 4th	afternoon only	Sandhills Ag. Lab - Field Day Tryon, Nebraska	North Platte Station 308-532-3611
Thursday, August 5th	all day	Panhandle Station - Field Day Scottsbluff, Nebraska	Panhandle Station 308-632-1230
Monday and Tuesday August 9-10	1½ days	George A. Young Conference and NE SPF (specific pathogen-free) Conference at Nebraska Center, UNL - East Campus	Alex Hogg at Extension Veterinary Science 402-472-1736
Wednesday - Friday August 11-13	all day	Nebraska Water Conference Irrigation Tour - Leaving Lincoln for South Dakota	Les Sheffield - Ag. Econ. 402-472-1772
Wednesday - Friday August 11-13	all day	Computer Application in Ag. Engineering Present & Future - UNL - L. W. Chase Hall	Thomas Thompson - Ag. Eng. 402-472-1642
Monday - Friday August 16-20	all day	Irrigation Workshop at the University of Nebraska - Nebraska Center	Paul Fischbach - Ag. Eng. 402-472-1626
Tuesday, August 17th	all day	7th Annual Nebraska Turfgrass Field Day and Equipment Show, University Field Laboratory at Mead, Nebraska	Horticulture Department 402-472-2854

<u>DAY AND DATE</u>	<u>TIME</u>	<u>EVENT AND PLACE</u>	<u>SOURCE AND PHONE NUMBER</u>
Wednesday - Friday August 18-20	all day	Computer Application in Ag. Engineering Present and Future - Purdue University	Thomas Thompson - Ag. Eng. 402-472-1642
Thursday, August 19th "tentative"	morning only	High Plains Ag. Lab - Millet, Sorghum Ecofallow Corn Research Tour, Sidney, NE	Panhandle Station 308-632-1230
Tuesday, August 24th	all day	Northeast Station 25th Anniversary Field Day - Concord, Nebraska	Northeast Station 402-584-2261
Wednesday, August 25th	all day	Alternate Cropping Systems (organic) Field Day & Farm Tour, will tour the Northeast Station and area farms	Warren Sahs Ag. Experiment Station 402-472-2045
Thursday, September 9th	all day	Agronomy Field Day - University Field Laboratory - Mead, Nebraska	Agronomy Department 402-472-1555
Tuesday - Thursday September 14-16	all day	Husker Harvest Days - Grand Island, NE	Dick Wiese - Agronomy Depart. 402-472-1502
Friday, September 17th	Unknown	Beef Research Field Day at University Field Laboratory at Mead, Nebraska	Terry Klopfenstein - Animal Sc. 402-472-6443
Saturday and Sunday September 25-26	all day	Forestry Field Days - Horning Farm 2 miles south of Plattsmouth, Nebrask	Forestry Department 402-472-2944
Monday - Friday October 25-29	all day	Nebraska Arborist School at Douglas County Extension Office - Omaha, NE	David Mooter, Douglas County Extension Agent; 402-444-7804 or Bruce Webster, UNL; 402-472-3674
Wednesday and Thursday October 27-28	all day	Regional Soil Fertility in St. Louis, Missouri	Richard Wiese - Agronomy 402-472-1502
Monday, November 1st	Beginning Date	Clark McNary Trees Sale - Please contact your local County Agent	Bill Lovett - Forestry Dept. 402-472-6640