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



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Agricultural Experiment Station News

From the Director's Desk

Experiment Station Research and Graduate Education

Visits to Experiment Station research units reaffirm the significant role of graduate students in our research programs. Experiment Station research and graduate education are interdependent. Graduate students carry out research investigations which contribute directly to the achievement of Experiment Station research project objectives. Creativity and innovation in Station projects can frequently be traced to graduate students.

The reverse side of this interdependent relationship is the support provided for graduate assistant stipends by appropriated funds and grant funds associated with Experiment Station research programs. Station research projects provide thesis research opportunities, assistantship stipends and operating support which allow graduate students to pursue their educational goals and individual research projects.

Based upon projected manpower needs, Experiment Station support for graduate education opportunities will continue to be important. The linkages between the Land Grant Universities and Experiment Stations provide excellent graduate education opportunities, wherein funded, mission-oriented research may be carried out in the intellectually stimulating environment of a University setting, and graduate students may gain meaningful experiences in extension, research and teaching assignments in conjunction with their graduate programs.

I have observed a variety of styles of working with graduate students throughout the Experiment Station. In many cases, graduate students are given significant leadership and management responsibilities along with their research project. An appreciation of the importance of graduate students to our research programs and inclusion of significant professional experiences in their programs is in their, and our, long term best interest.

Glen Burton - The Scientist, The Man

This is the title of an article in the April, 1981, issue of *Agricultural Research*, published by the Science and Education Administration. Dr. Glen Burton is a native Nebraskan, and a University of Nebraska graduate and honorary doctorate recipient. Dr. Burton recently received the highest honor the federal government awards to civilian employees, The President's Medal of Honor.

Dr. Burton's work as a research geneticist at Tifton, Georgia, has resulted in the introduction of several new varieties of grasses and millets which have enjoyed worldwide adoption. His story is an impressive witness to the significance of agricultural research and the importance of the work of research scientists. I recommend your reading of this article.

Roy G. Arnold
Dean and Director

Sahs Sez:

Bids for the earthwork contract on the Energy Demonstration Farm, Field Laboratory, are due June 11, 1981. It involves the development of a 10-acre site, with construction of an animal waste lagoon, a compacted sill plateau for future swine building, general roads and site development.

Over 2,000 trees for a shelter belt were planted several weeks ago before the general rainfall.

Earlier bids for a still were rejected. A new bid has been accepted.

Projects Approved

NEB 11-064 - Soybean Production and Management Simulation Models

This is a new Hatch project contributing to Regional Project S-107 with an effective date of October 1, 1980.

G. E. Meyer of the Agricultural Engineering department is the principal investigator. The objectives of this project are (a) predict quantitatively the dynamic response of soybeans to the physical environment; (b) predict quantitatively the dynamic biological interaction of soybeans and pests in response to environment and management practices; and (c) evaluate alternative crop management decisions during the soybean crop year based upon predicted crop response.

NEB 11-065 - Study Rural Electric Demands and Provide Electrical Load Management Mechanisms for Management of Rural Power

This is a new State project with an effective date of May 1, 1981. The principal investigators are L. E. Stetson and H. Shull, SEA/AR scientists in the Agricultural Engineering department. The objectives of this project are (a) develop systems, procedures and models necessary to determine the electrical demand characteristics of various types and sizes of agricultural operations; (b)

study methods of controlling or managing electrical loads; (c) determine relationships between farmstead demands and irrigation demands; (d) establish design requirements for equipment or functions which must be modified to reduce electrical demands; and (e) determine effects of alternative energy systems on farmstead electrical demands.

NEB 12-084 - Evaluating Plant Nutrients Needs and Product Quality

This is a revised State project with an effective date of April 1, 1981. D. Knudsen of the Agronomy department is the principal investigator. The reviewers of the project were D. H. Sander (Agronomy); R. F. Mumm (Biometrics and Information Systems Center); G. W. Hergert (North Platte Station); G.W. Rehm (Northeast Station) and H.D. Wittmuss (Agricultural Engineering). The objectives of this project are (a) to make available with accuracy and efficiency chemical, physical and biological analyses of soil, plant and water samples for agricultural experiment station projects; (b) to improve correlations and calibrations of soil testing methods currently available with crop response to lime and fertilizer treatment of a range of Nebraska soils; (c) to investigate and determine appropriate soil sampling procedures that can be adapted to modern cultural practices and testing procedures; and (d) to investigate and adapt new sample preparation procedures and new analytical techniques for water, plant and soil analyses.

NEB 17-036 - Biology and Control of Corn Rootworms in Nebraska

This is a new Hatch project with an effective date of February 1, 1981. Z B Mayo and H. J. Ball of the Entomology department are the principal investigators. The reviewers of the project were R. G. Gast (Agronomy); W. A. Compton (Agronomy); R. F. Mumm (Biometrics and Information Systems Center) and L. L. Peters (South Central Station). The objectives of this project are to develop efficient, thoroughly integrated management procedures for corn rootworms. Studies will be conducted to evaluate the impact of various edaphic, climatic, and agronomic factors on the biology and control of corn rootworms.

NEB 21-015 - Epidemiology of Disease of Bean and Other Vegetables in Nebraska

This is a revised Hatch project with an effective date of March 12, 1981. J. R. Steadman of the Plant Pathology department is the principal investigator. The reviewers of the project were B. Blad (Center for Ag Meteorology and Climatology); R.F. Mumm (Biometrics and Information Systems Center); W. R. Kehr (Agronomy); R. Uhlinger (Horticulture) and J. E. Watkins (Plant Pathology). The objectives of the project are (a) document disease incidence on vegetable crops in Nebraska; (b) select important diseases and conduct appropriate research to enable the recommendation of adequate control measures. Emphasis will be on bean rust, bean white mold and cucurbit wilt; and (c) develop techniques for screening vegetables for disease resistance and methods for isolating and increasing inoculum of vegetable pathogens.

NEB 94-010 - Laundry Procedures for Removal of Pesticides from Contaminated Work-Weight Fabrics

This is a new Hatch project with an effective date of March 1, 1981. The principal investigators are J. Laughlin of the Textiles, Clothing and Design department and R. E. Gold of Environmental Programs. The reviewers of the project were A. M. Parkhurst (Biometrics and Information Systems Center); H.W. Knoche (Agricultural Biochemistry); H. J. Ball (Entomology) and A. Newton (Textiles, Clothing and Design). The objectives of the project are to determine the most appropriate laundry procedure for effective removal of pesticide from contaminated fabrics so that lower residues in clothing are achieved.

Grants and Contracts

Ball, E. M. (Plant Pathology) - Frito-Lay, Inc.	2,000
Brandle, J. R. (Forestry, Fisheries & Wildlife) - Nebraska Railroad Association	5,640
Brink, D. and Klopfenstein, T. (Animal Science) - Upjohn Company	5,000
Burnside, O. C. (Agronomy) - Monsanto	4,000
Burnside, O. C. (Agronomy) - BASF Wyandotte Corporation	700
Compton, W. A. (Agronomy) - Steward Hybrids, Inc.	40
Compton, W. A. (Agronomy) - Maisadour Coop de Cereales	20
Compton, W. A. (Agronomy) - Ferry-Morse Seed Company	60
Compton, W. A. (Agronomy) - Research Ventures, Inc.	100
Compton, W. A. (Agronomy) - Voris Seeds, Inc.	40
Compton, W. A. (Agronomy) - Jacques Seed Company	500
Fenster, C. R. (Panhandle Station) - Monsanto Company	1,000
Fenster, C. R. (Panhandle Station) - E. I. duPont deNemours & Company	2,000
Fenster, C. R. (Panhandle Station) - Chevron Chemical Company	1,250
Gold, R. E. (Environmental Programs) - USDA/SEA/CR	14,787
Gold, R. E. (Environmental Programs) - ICI Americas	1,000
Gustafson, W. A. (Southeast Extension & Research Center) - Totten Greenhouse and Nursery	25
Linsenmeyer, D. (Ag Economics) - Scoular-Bishop Grain Company	8,300
Moomaw, R. (Northeast Station) - Rohm and Haas Company	1,000
Moomaw, R. (Northeast Station) - BASF Wyandotte Corporation	600
Moomaw, R. (Northeast Station) - The Dow Chemical Company	500
Moser, L. E. (Agronomy) - UN-L Agronomy Club	204
Roeth, F. W. (South Central Station) - BASF Wyandotte Corporation	500
Roeth, F. W. (South Central Station) - Rohm and Haas Company	250
Roeth, F. W. (South Central Station) - Monsanto	2,000
Roeth, F. W. (South Central Station) - Velsicol Chemical Company	1,000
Satterlee, L. D. (Food Science & Technology) - Pfizer	600
Shearman, R. C. (Horticulture) - FBC Chemicals, Inc.	2,250
Shearman, R. C. (Horticulture) - Monsanto Company	3,500
Shearman, R. C. (Horticulture) - Anonymous Donor	1,000
Steadman, J. R. (Plant Pathology) - E. I. duPont deNemours & Company	700

Wicks, G. A. (North Platte Station) - Shell Development Company	3,000	Wilson, R. G. (Panhandle Station) - BASF Wyandotte Corporation	600
Wicks, G. A. (North Platte Station) - Ciba-Geigy Corporation	500	Witkowski, J. F. (Northeast Station) - Midwest Companies	500
Wilson, R. G. (Panhandle Station) - Eli Lilly and Company	1,000	Witkowski, J. F. (Northeast Station) - Mobay Chemical Corporation	575
Wilson, R. G. (Panhandle Station) - Shell Development Company	1,500	Witkowski, J. F. (Northeast Station) - Insect Control & Research, Inc.	1,050

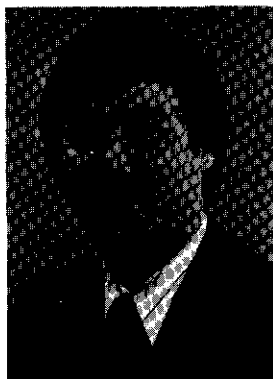
Six proposals were submitted to the USDA/SEA Energy and Alcohol Fuels Research Grants Program. The program areas were:
 Solar and Wind Energy
 Methane Generation and Utilization
 Vegetable Oil as Diesel Substitute
 Alcohol and Industrial Hydrocarbons Research
 Biomass Production

Diane Mohrhoff



GARY LEE HERGENRADER, Department Head, Department of Forestry, Fisheries and Wildlife and State Forester

In 1961 Dr. Hergenrader received his B.S. in General Agriculture from UNL. In 1963 he earned his M.S. and in 1967 his Ph.D. in Zoology from the University of Wisconsin. In 1967-71 he was an Assistant Professor of Zoology, UNL; in 1971 he was an Associate Professor of Zoology, UNL; and in 1976 a Professor, Department of Life Science, UNL. Among his many honors, he is listed in American Men of Science and Who's Who in Nebraska. He started his new position in June, 1981.



ERNEST J. HEWETT III, Assistant Professor, Department of Agricultural Engineering

Dr. Hewett received his B.Sc. in 1974 and his M.A. in 1976 from the University of Florida. From September, 1976 to January, 1979 he was a Graduate Research Assistant at the University of Florida. He is a member of the American Society of Agricultural Engineering. He has had broad experience in teaching a variety of courses and has been responsible for direction and coordination of a two-year program at Michigan State University, where he earned his Ph.D. in the Spring of 1981. He joined the staff in March, 1981.



JOHN A. SMITH, Machinery Systems Engineer, University of Nebraska, Panhandle Station

Mr. Smith is a native of Ashland, Ohio. He received his Bachelors degree in 1970 from Tri-State University in Indiana. In 1978 he earned his Masters of Science degree in Agricultural Engineering from the University of Wyoming. Mr. Smith was a Product Engineer with Agri-Lines Corporation at Parma, Idaho. He has research experience with dryland and irrigated crop machinery. He started his new position at the Panhandle Station in March, 1981.

NEBRASKA AGRICULTURAL EXPERIMENT STATION PUBLICATIONS - May 1981

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

6043. Biology and Ecology of the Platte Thistle *Cirsium canescens* Nutt. W. O. Lamp and M. K. McCarty. Weed Science Journal.
6044. Physiological Age of Bacteria as a Factor in Radiation Resistance. Lewis C. Keller and R. Burt Maxcy. Applied and Environmental Microbiology.
6045. Effects of Blade Tenderization, Vacuum Mixing, Salt Addition and Mixing Time on Binding of Meat Pieces into Sectioned and Formed Beef Steaks. A. Borren, K. W. Jones, R. W. Mandigo and D. G. Olson. Journal of Food Science.
6046. Biology of Predispersal Seed Predators of the Platte Thistle *Cirsium canescens* W. O. Lamp and M. K. McCarty. Annals of the Entomological Society of America.
6047. Predispersal Seed Predation of the Platte Thistle *Cirsium canescens*. W. O. Lamp and M. K. McCarty. Environmental Entomology Journal.
6048. Characterization of Biological Types of Cattle-Cycle II. IV. Postweaning Growth and Feed Efficiency of Steers. Larry V. Cundiff, Robert M. Koch, Keith E. Gregory and Gerald M. Smith. Journal of Animal Science.
6049. Food Habits of the Red Fox in Nebraska. Douglas G. Powell and Ronald M. Case. Nebraska Academy of Sciences.
6050. Role of Dietary Lactobacilli in Gastrointestinal Microecology. Khem M. Shahani and Amadu D. Ayebo. The American Journal of Clinical Nutrition.
6051. Effect of Carbadox on Protein Utilization in the Baby Pig. Bobby D. Moser, Ernest R. Peo, Jr. and Austin J. Lewis. Nutrition Reports International. v22 (6):949-956, December, 1980.
6052. Effect of Maternal Dietary Energy Source on Glucose Homeostasis Liver Glycogen and Carcass Lipid in the Neonatal Pig. R. D. Boyd, B. D. Moser, A. J. Lewis, E. R. Peo, Jr., R. K. Johnson and R. D. Nimmo. Journal of Animal Science.
6053. Nucleic Acids. J. L. Van Etten, K. R. Dahlberg and G. M. Russo. Chapter in a book entitled "The Fundal Spore: Morphogenetic Controls."
6054. Response of Kentucky Bluegrass Cultivars and Blends to a Natural Stem Rust Population. John Watkins, Robert Shearman, Jane Houfek and Terry Riordan. Plant Disease.
6055. Nitrogen Equivalent Response of Grain Sorghum (*Sorghum bicolor* (L.) Moench) Following Soybeans (*Glycine max* (L.) Merr.) in Rotation. Max D. Clegg. Agronomy Journal.
6056. Atrazine Contamination of Groundwater from a Non-Point Source. Glenn Wehtje, J.R.C. Leavitt, Lloyd N. Mielke and James S. Schepers. Science.
6057. Isolation Requirements for Foundation Alfalfa Seed Fields. D. E. Brown, W. R. Kehr and G. R. Manglitz. Journal of Crop Science.

6058. The Efficacy of the Sticky Trap in the Control of German Cockroach Populations. James B. Ballard and Roger E. Gold. Journal of the Kansas Entomological Society.
6059. Effects of Water and N Management on Yield and ¹⁵N-depleted Fertilizer Use Efficiency of Irrigated Corn. M. P. Russelle, E. J. Deibert, R. D. Hauck, R. W. Wesely and R. A. Olson. Soil Science Society of America Journal.
6060. Anthracnose Resistance Means Increased Alfalfa Yields. J. H. Elgin, Jr., D. K. Barnes, T. H. Busbice, G. R. Buss, N. A. Clark, R. W. Cleveland, R. L. Ditterline, D. W. Evans, S. C. Fransen, R. D. Horrocks, O. J. Hunt, W. R. Kehr, C. C. Lowe, D. A. Miller, M. S. Offutt, R. C. Pickett, E. L. Sorensen, C. M. Taliaferro, M. B. Tesar and R. W. Van Keuren. Crop Science.
6061. Studies on the Host-Specific Pathotoxins Produced by *Helminthosporium maydis*, Race T. Y. Kono, S. Takeuchi, A. Kawarada, J. M. Daly and H. W. Knoche. Agricultural Biological Chemistry (Japan).
6062. Mechanism of Action. J. M. Daly. Invited Chapter in a book edited by R. D. Durbin "Toxins in Plant Disease."
6063. Structure of Host-Specific Toxins. Yoshiki Kono, Herman W. Knoche and J. M. Daly. Invited Chapter in a book edited by R. D. Durbin "Toxins in Plant Disease."
6064. Studies on the Host-Specific Pathotoxins Produced in Minor Amounts by *Helminthosporium maydis*, Race T. Y. Kono, S. Takeuchi, A. Kawarada, J. M. Daly and H. W. Knoche. Bioorganic Chemistry.
6065. Mandatory Versus Voluntary Upholstered Furniture Flammability Standards: Implication for Designers. Stephanie Gill and Joan Laughlin. Journal for Interior Design Education and Research.
6066. Bioavailability: A Factor in Protein Quality. Dr. Constance Kies. Journal of Agricultural and Food Chemistry.
6067. Mechanical Deboning of Poultry and Fish. G. W. Froning. Advances in Food Research.
6068. Influence of Windbreak-shelter on Soybean Production Under Rainfed Conditions. S. N. Ogbuehi and J. R. Brandle. Agronomy Journal.
6069. Role of Cultured Dairy Products in the Diet. Amadu D. Ayebo and Kehm M. Shahani. Cultured Dairy Products Journal.
6070. An Electronic Continuous Mass Fuel Measuring System for PTO and Engine Tests. Louis I. Leviticus. ASAE, SAE.
6071. Nebraska Ground Water Law and Administration. J. David Aiken. Law Review.
6072. Genetic Variation for Cold Tolerance for Related Traits in Selected and Unselected Maize Populations. K. R. Keim and C. O. Gardner.
6073. Water Pollution Abatement Problems Around Livestock. Conrad B. Gilbertson. Agricultural Engineering. v61 (8):24-25, August, 1980.

6074. Special Patterns of Seed Production and Predispersal Seed Predation in *Cirsium canescens* Nutt. W. O. Lamp and M. K. McCarty. *Oecologia*.
6075. Equine Monensin Toxicosis: Some Experimental Clinicopathologic Observations. J. F. Amend, F. M. Mallon, W. B. Wren and A. S. Ramos. *Compendium on Continuing Education*. VII (10), October, 1980.
6076. Influence of Windbreak-Shelter on Dry Matter Accumulation and Partitioning in Soybeans. S. N. Ogbuehi and J. R. Brandle. *Crop Science*.
6077. Influence of Windbreak-Shelter on Soybean Growth, Canopy Structure and Light Relations. S. N. Ogbuehi and J. R. Brandle. *Crop Science*.
6078. Evaluation of the Application of P, K, and Zn for Corn Production Under Continuous Corn Grain and Silage Systems: Early Growth and Yields. G. W. Rehm, R. C. Shearman and R. A. Wiese. *Soil Science Society of America Journal*.
6079. The Bioavailability of Phosphorus from Defluorinated Rock Phosphate for Growing-Finishing Swine. D. L. Hagemeyer, E. R. Peo, Jr., T. D. Crenshaw, A. J. Lewis and B. D. Moser. *Nutrition Report International*. v23 (2):180-195, February, 1981.
6080. Effect of Grain Source and Dietary Level of Oat Hulls on Phosphorus and Calcium Utilization in the Growing Pig. R. L. Moser, E. R. Peo, Jr., B. D. Moser and A. J. Lewis. *Journal of Animal Science*.
6081. Effect of Level of Dietary Calcium-Phosphorus During Growth and Gestation on Calcium-Phosphorus Balance and Reproductive Performance of First-Litter Sows. R. D. Nimmo, E. R. Peo, Jr., J. D. Crenshaw, B. D. Moser and A. J. Lewis. *Journal of Animal Science*.
6082. Effect of Level of Dietary Calcium-Phosphorus During Growth and Gestation on Performance, Blood and Bone Parameters of Swine. R. D. Nimmo, E. R. Peo, Jr., B. D. Moser and A. J. Lewis. *Journal of Animal Science*.
6083. Effect of Grain Source, Level of Solka Floc and Caloric Content of the Diet on Performance, Blood and Bone Parameters in Growing-Finishing Swine. R. L. Moser, E. R. Peo, Jr., B. D. Moser and A. J. Lewis. *Journal of Animal Science*.
6084. Relationship Between Crop Temperature and the Physiological and Phenological Development of Differentially Irrigated Corn. B. R. Gardner, B. L. Blad, R. E. Maurer and D. G. Watts. *Agronomy Journal*.
6085. Protein Utilization by Beef Cows in Late Lactation and Mid-Gestation. David Rock, John Ward and Terry Klopfenstein.
6086. Characterization of Alfalfa as a Protein Source for Ruminants: Laboratory Analysis. David Rock, Terry Klopfenstein, John Ward and Robert Britton.
6087. Continued Studies of the Procine Lungworm *Metastrongylus apri* (Ebel, 1777) Vostokov, 1905 (Metastrongylidae: Nematoda). Gunther O. W. Kruse and Donald L. Ferguson. *Veterinary Review*.
6088. Utilization of Woody Ornamental Germplasm. Roger D. Uhlinger. *American Society of Horticultural Science*.

6089. Peptidohydrolases of Soybean Root Nodules. Nasir S. Malik, N. E. Pfeiffer, R. D. Williams and Fred W. Wagner. *Plant Physiology*.
6090. The Word in Time Management is "Organization." Roy D. Dillon. *Agricultural Education*.
6091. The Cross-Subsidization of Rural Areas by ICC-Regulated Firms. John Richard Felton. *Nebraska Journal of Economics & Business*. v19 (4):17-27, Autumn, 1980.
6092. Longevity of Weed Seed in Soil Across Nebraska. O. C. Burnside, C. R. Fenster, L. L. Evetts and R. F. Mumm. *Weed Science*.
6093. The Influence of Age on the Distribution of Intravenously-Injected Stable Strontium in Various Bones of Pigs. T. D. Crenshaw, E. R. Peo, Jr., A. J. Lewis, B. D. Moser and D. Knudsen. *Journal of Animal Science*.
6094. Influence of Age, Sex and Calcium and Phosphorus Levels on the Mechanical Properties of Various Bones in Swine. T. D. Crenshaw, E. R. Peo, Jr., A. J. Lewis, B. D. Moser and D. Olson. *Journal of Animal Science*.
6095. Comparisons of Eastern and Western Alfalfa Weevil in Nebraska. George Manglitz, Lyle Klostermeyer and David Keith. *Journal of Economic Entomology*.
6096. Evaluation of Kentucky Bluegrass Cultivars for Resistance to the Bluegrass Billbug, *Sphenophorus parvulus* Gyllenhal. S. D. Kindler, E. J. Kinbacher and R. Staples.
6097. Chemical Water Quality of Runoff from Grazing Lands: II. Prediction and Contributing Factors. J. S. Schepers, B. L. Hackes and D. D. Francis. *Journal of Environmental Quality*.
6098. Resistance of Bluegrass Cultivars to the Biotype C Greenbug *Schizaphis graminum*. O. Adeniji, S. D. Kindler and R. Staples. *Journal of Economic Entomology*, Section C.
6099. The Effect of Spray and Paint-on Applications of a Slow Release Formulation of Chlorpyrifos on German Cockroach Control and Human Exposure. R. E. Gold, J.R.C. Leavitt and J. Ballard. *Journal of Economic Entomology*.
6100. Effect of Ingesting *Lactobacillus Acidophilus* Milk Upon Fecal Flora and Enzyme Activity in Humans. A. D. Ayebo, I. A. Angelo and K. M. Shahani. *Milchwissenschaft*.
6101. Glucose and Lactate Absorption and Metabolic Interrelationships in Steers Switched from Low to High Concentrate Diets. Gerald B. Huntington, Ronald L. Prior and Robert A. Britton. *Journal of Dairy Science*.
6102. Ammonia Treatment of Corn Plant Residues: Digestibilities and Growth Rates. J. A. Paterson, T. J. Klopfenstein and R. A. Britton. *Journal of Animal Science*.
6103. The Digestibility of Sodium Hydroxide Treated Crop Residues Fed with Alfalfa Hay. J. A. Paterson, T. J. Klopfenstein and R. A. Britton. *Journal of Animal Science*.

6104. Agroclimatic Normals for Maize. Ralph E. Neild and N. H. Richman. Agriculture Meteorology.
6105. Inverted Trickle Solar Collector. D. G. Overhults, J. A. DeShazer, K. L. Vacha and E. J. Veburg. Proceedings of the ASAE National Energy Symposium.
6106. Solar Space Heating a Growing-Finishing Swine Building Without Added Thermal Storage. J. A. DeShazer, D. D. Schulte, B. D. Moser and G. R. Bodman. Proceedings of the ASAE National Energy Symposium.
6107. Effect of Fiber on Calcium and Phosphorus Utilization in Baby Pigs. A. C. Okonkwo, T. D. Crenshaw, E. R. Peo, Jr., B. D. Moser and P. J. Cunningham. Journal of Animal Science.
6108. Construction and System Economics of a Solar-Heated Swine Growing-Finishing Unit. Dennis D. Schulte, Eugene Veburg, Robert Aratania, Maurice Baker, James A. DeShazer and Gerald R. Bodman. Proceedings of the ASAE Symposium on Energy Use in Agriculture.
6109. Factors Influencing Specific Fuel Use in Nebraska. David P. Shelton and Kenneth Von Bargaen. ASAE National Energy Symposium Proceedings.
6110. Bone Strength as a Parameter for Assessing Mineralization in Swine: A Critical Review of Techniques Involved. T. D. Crenshaw, E. R. Peo, Jr., A. J. Lewis and B. D. Moser. Journal of Animal Science.
6111. Velvetleaf (*Abutilon theophrasti*) Seed Populations in Six Corn (*Zea mays*) Fields. K. D. Khedir and F. W. Roeth. Weed Science.
6112. Investigations of Power Line and Irrigation Systems Compatibility. Keith Ewy, Douglas R. Kalleesen, LaVerne Stetson and Richard Hanson. IEEE Trans. Power Apparatus and Systems.
6113. Research Procedures to Evaluate Protein Sources for Ruminants. Rick Stock, Terry Klopfenstein, Dennis Brink, Steve Lowry, Dave Rock and Steve Abrams. Journal of Animal Science.
6114. Feeding Value of Slowly Degraded Proteins. Rick Stock, Neal Merchen, Terry Klopfenstein and Mary Poos. Journal of Animal Science.
6115. Effect of Monensin on Efficiency of Production in Beef Cows. D. C. Clanton, M. E. England and J. C. Parrott. Journal of Animal Science.
6116. Effects of Ariboflavinosis on Populations of *Polyplax spinulosa* (Burmeister) in Artificially Infested Albino Rats. Vincent J. Gibney and J. B. Campbell. Journal of the Kansas Entomological Society.
6117. A Note on the Performance of Pyrgeometers with Silicon Domes. A. Weiss. Journal of Applied Meteorology.
6118. Characteristics of Bone-Particles and Measurement of Bone-Particle Size from Mechanically Deboned Poultry. G. W. Froning, F. E. Cunningham, D. R. Suderman and Bridget M. Sackett. Poultry Science Journal.
6119. Control of Common Milkweed. G. L. Cramer and O. C. Burnside. Weed Science.

6120. Cultivar Synthesis, Value and Use. Dermot P. Coyne. Proceedings, National Council for Therapy and Rehabilitation Through Horticulture.
6121. Surface Microenvironment and Penetration of Bacteria into Meat. R. B. Maxcy. Journal of Food Protection.
6122. An Improved Purification Protocol for Ribulose 1,5-Bisphosphate Carboxylase from *Chromatium vinosum*. Hugh M. Brown, Llewellyn H. Bowman and Raymond Chollet. Journal of Bacteriology.
6123. The Increasing CO₂ Concentration in the Atmosphere and Its Implication on Agricultural Productivity, I. Effects on Photosynthesis, Transpiration and Water Use Efficiency. Norman J. Rosenberg. Climatic Change.
6124. Comparison of Methods for Measuring Conductance Heat Losses from Livestock Buildings. J. A. DeShazer, J.J.R. Feddes and J. B. McQuitty. Canadian Agricultural Engineering.
6125. Laboratory Transmission of Maize Chlorotic Mottle Virus by Corn Rootworms. Stanley G. Jensen. Plant Disease.
6126. Field Evaluation of Calibration Accuracy for Pesticide Application Equipment. Allen R. Rider and Elbert C. Dickey. Transactions of the ASAE.
6127. Annual Noise Exposure Patterns of Agricultural Employees. Neil W. Sullivan, R. D. Schnieder and K. D. Von Bargen. 1980 ASAE Safety Proceedings.
6128. Fecal Fiber Composition of Humans as Affected by Wheat, Corn and Rice Bran Supplements. M. E. Westring, C. Kies and H. M. Fox. Cereal Chemistry.
6129. Response of Pheasant Chicks to Adult Lady Beetles. R. W. Whitmore and K. P. Pruess. Journal of Wildlife Management.
6130. Pantothenic Acid Content of Human Milk. L. Schroeder, L. Vaughan and H. M. Fox. American Journal of Clinical Nutrition.
6131. Mass and Energy Exchanges of a Soybean Canopy Under Various Environmental Regimes. Dennis D. Baldocchi, Shashi B. Verma and Norman J. Rosenberg. Agronomy Journal.
6132. Intercrop Density Interactions Between Maize (*Zea mays* L.) and Climbing Beans (*Phaseolus vulgaris* L.) in a Tropical Environment. C. A. Francis, M. Prager and G. Tejada. Field Crops Research.
6133. Infant Feeding Practices of Rural Nebraska Mothers. E. Douglass, L. Vaughan and H. M. Fox. Journal of the American Dietetic Association.
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