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

Agricultural Experiment Station News

August 1981 Vol. 15 No. 1

From the Director's Desk

Scholarly Activity by Experiment Station Scientists

Recent discussion of IANR Promotion and Tenure Guidelines has prompted a few questions and comments by Experiment Station scientists on the meaning of "scholarly activity."

For research organizations generally, and for the Agricultural Experiment Station specifically, refereed journal publications are the principal measure of scholarly activity. Publications are the traditional means whereby scientists present their work for scrutiny, criticism, and acceptance. This is likely to continue.

Scholarly activity includes much more than publications, however. Patents, new varieties and new techniques are specific examples of the products of scholarly activity. Perhaps the word "invention" best describes my concept of scholarly activity "making something new", or "the act of finding, or finding out; discovery" (World Book Dictionary, 1974).

Creating something new or something in a new form which other persons find useful and accept or adopt is scholarly activity, in my view. Publication of a paper for a refereed journal is one type of acceptance by others. Citation of the publication by others is even stronger evidence. Similar evidence can be developed for acceptance or adoption by others for scholarly activity which results in a product, a process, a technique, an instrument, a program, a practice, a variety, etc.

Returning for a moment to the issue of refereed publications, it is likely that this form of reporting of scientific work may change significantly over the next several years. Increased publication and mailing costs, and evolution of sophisticated computer-based information systems are causing serious consideration of alternative means of cataloging and reporting of scientific data. As new reporting systems evolve, we will need to be imaginative and creative in developing ways to recognize these as evidence of scholarly activity by scientists.

Instrument Repair Service

Beginning September 1, 1981, a three party agreement involving the Agricultural Experiment Station, Scientific Stores and Lab Research Products of Lincoln will

establish a scientific instrument repair service on East Campus. The service will be provided on a charge basis for repair and maintenance of scientific equipment. The agreement will provide an on-campus office and work area for this service, in Agricultural Biochemistry Hall. However, much of the repair work will occur "on location" in the Departments.

Repair service can be requested by calling 475-9020.

Scientific Stores will arrange for expedited ordering and procurement of parts, and will perform the billing function for the repair service.

This service should reduce "down time" of instruments through rapid response to equipment breakdowns. Routine maintenance on instruments should also be improved. It is expected that this service may eliminate the need for expensive service contracts on some equipment items.

Further information on this service will be presented in the September issue of Agricultural Experiment Station News, and in mailings to units.

Roy G. Arnold
Dean and Director

Sahs Sez

Energy Farm Progress

Construction of the alcohol building is underway; the grain handling units will be assembled promptly. The alcohol still is on hand and it is planned to produce alcohol in early September.

General

Irrigation well No. 8, replacing the 1942 municipal type No. 8 well, is on the pressurized main at 700 GPM. This increased capacity will bolster our irrigation research needs during drought periods.

Grants and Contracts

Ball, E. M. (Plant Pathology) -	
Loosli Stem Cut Potatoes	500
Burnside, O. C. (Agronomy) - ICI Americas, Inc.	500
Burnside, O. C. (Agronomy) - 3M Company	500
Burnside, O. C. (Agronomy) - Union Carbide	1,050
Compton, W. A. (Agronomy) - Cargill, Inc.	20

Compton, W. A. (Agronomy) - FFR Cooperative	20
Eldridge, F. (Animal Science) - American Breeders Service	330
Gold, R. E. (Environmental Programs) - Ralston Purina Company	500
Gustafson, W. A. (Southeast Extension & Research Center) - Donation/Gift - Plumfield Nurseries	40
Gustafson, W. A. (Southeast Extension & Research Center) - Donation/Gift - Union Carbide	35
Lindgren, D. T. (North Platte Station) - American Penstemon Society	150
Martin, A. R. (Agronomy) - Dow Chemical Company	500
Mayo, Z. B. (Entomology) - University of Missouri	20,767
Moomaw, R. (Northeast Station) - Eli Lilly and Company	1,000
Partridge, J. E. (Plant Pathology) - Rockefeller Foundation	30,000
Peo, E. R. (Animal Science) - Dow Chemical Company	14,520
Peters, L. L. (South Central Station) - FMC Corporation	1,000
Roeth, F. W. (South Central Station) - Union Carbide	500
Satterlee, L. D. (Food Science and Technology) - General Foods Corporation	5,000
Satterlee, L. D. (Food Science and Technology) - Anderson Clayton Foods	1,400
Shahani, K. M. (Food Science and Technology) - Miles Laboratories, Inc.	750
Steadman, J. R. (Plant Pathology) - Stoller Chemical Company, Inc.	700
Stetson, L. E. (Ag Engineering) - Nebraska Rural Electric Association	2,000
Torres-Medina, A., Frey, M. L., Amend, J. F. (Veterinary Science) - USDA/SEA	148,742
Waller, S. S. (Agronomy) - Tri-Basin Natural Resources District	1,250
Wilson, R. G. (Panhandle Station) - Dow Chemical Company	1,000
Wilson, R. G. (Panhandle Station) - ICI Americas, Inc.	1,000
Witkowski, J. F. (Northeast Station) - FMC Corporation	1,250

Projects Approved

The Nebraska Wheat Development, Utilization and Marketing Board approved the following projects for FY 81-82 funding:

1. Laboratory Evaluation and Selection of New Wheat Lines with Improved Processing Quality - \$21,000. Investigators: P. J. Mattern, J. W. Schmidt, V. A. Johnson.
2. Improving Wheat for Nebraska - \$16,000. Investigators: J. W. Schmidt, V. A. Johnson, P. J. Mattern.
3. Physiological Studies of Wheat - \$1,200. Investigator - M. D. Clegg.
4. Physiological and Genetic Improvement of Wheat for Irrigation - \$5,500. Investigators: M. D. Clegg, J. W. Schmidt, J. D. Eastin, L. A. Nelson.
5. Effect of Sprinkler Irrigation Timing and Amount on Yield of Different Winter Wheat Varieties - \$4,100. Investigators: G. W. Hergert, P. H. Grabouski, D. H. Sander.
6. Flavor Analysis of Wheat Germ - \$10,100. Investigator: C. A. Long.
7. The Properties of a New Virus Endemic to Nebraska - \$11,000. Investigators: L. C. Lane, M. K. Brakke.
8. Bacterial Mosaic of Wheat: Seed Infestation and Control - \$6,400. Investigator: A. K. Vidaver.
9. Influence of Mycorrhizae on Wheat Production - \$18,000. Investigators: M. F. Allen, M. G. Boosalis.

6561. Selective Control of Sunflower in Soybeans. S. M. Irons and O. C. Burnside. *Agronomy Journal*.
6562. The Chemistry and Biology of Pathotoxins Exhibiting Host-selectivity. J. M. Daly and H. W. Knoche. *Advances in Phytopathology*.
6563. Plant and Air Temperatures in Differentially Irrigated Corn. B. R. Gardner, B. L. Blad and D. G. Watts. *Agricultural Meteorology*.
6564. Germination Characteristics of Two Varieties of *Kochia prostrata* (L.) Schrad. S. S. Waller, C. M. Britton, D. K. Schmidt, J. Stubbendieck and F. A. Sneva. *Journal of Range Management*.
6565. Reproduction of *Spalangia cameroni* Perkins (Hymenoptera: Pteromalidae) on Stable Fly (Diptera: Muscidae) Under Laboratory Conditions. R. D. Moon, I. L. Berry and J. J. Petersen. *Journal of Kansas Entomological Society*.
6566. Columns of Movement of Phosphorus in Very Sandy Soils as Affected by Rates and Method of Application of Diammonium Phosphate and Leaching Rate. R. C. Sorensen and R. A. Wiese. *Soil Science*.
6567. Premarital Sexual Opinions of Undergraduate Students at a Mid-Western University. Nilufer P. Medora and John C. Woodward. *Adolescence*.
6568. Effects of 42- and 2450-MHZ Dielectric Heating on Nutrition-related Properties of Soybeans. S. O. Nelson, A. Pour-El, L. E. Stetson and E. E. Peck. *Journal of Microwave Power*.
6569. Influence of Vesicular-arbuscular Mycorrhizae on Water Movement Through *Bouteloua Gracilis* (H.B.K.) Griffiths. Michael F. Allen. *New Phytologist*.
6570. Studies on the Host-Specific Pathotoxins Produced by *Bipolaris* (*Helminthosporium maydis*, Race T, Characterization of the Minor C₃₅, C₄₇- and C₄₉- Components of the Toxin Complex and Evidence Bearing on the Stereochemistry of Hydroxyl Groups. Y. Kono, S. Takeuchi, A. Kawarada, J. M. Daly and H. W. Knoche. *Journal of Agricultural Biological Chemistry (Japan)*.
6571. Defoliation and Nitrogen Fertilization of Wheat Varieties Differing in Genetic Potential for Grain Protein and Lysine Content. I. Effect on Agronomic and Quality Traits. II. Effects on Plant Nitrogen and Dry Matter Accumulation. M. I. da Silva, V. A. Johnson, P. J. Mattern and S. L. Kuhr. *Crop Science*.
6572. Platte Valley Yellows of Nebraska Soybeans. Symptomology & Preliminary Chemical Analyses. John Porter, Michael Allen, Leslie Lane and M. G. Boosalis. *Phytopathology*.
6573. Principles and Techniques for Development Home Economics Curriculum. Shirley Kreutz. *Journal of Vocational Education Research*.
6574. Competitive and Allelopathic Effects of Sunflower (*Helianthus annuus*). S. M. Irons and O. C. Burnside. *Weed Science*.
6575. Germination and Seedling Development of Fringed Sagebrush (*Artemisia frigida*). R. G. Wilson, Jr. *Weed Science*.

6576. Farm Real Estate Investment in the 1980s. Bruce Johnson and Duane Jewell. North Central Journal of Agricultural Economics.
6577. Post-Glacial Migration Pathways of *Quercus rubra* L., Northern Red Oak, as Indicated by Regional Genetic Variation Patterns. S. E. Schlarbaum, R. P. Adams, W. T. Bagley and W. J. Wayne. *Silvae Genetica*.
6578. Insecticide Resistance - A Practical Assessment. Harold J. Ball. Entomological Society of America.
6579. Flow of Water Suspensions in Sand and Sand-silt: I. Accumulation of Suspension Particles. R. L. Uebler and D. Swartzendruber. Soil Science Society of America Journal.
6580. A Simple Efficient Inoculation Procedure for Bean Rust. D. T. Lindgren, J. R. Steadman and J. V. Cordoba. *Plant Disease*.
6581. Survey of House Fly, *Musca domestica* (L.) Resistance to Dichlorvos in Nebraska Feedlots. David J. Boxler and John B. Campbell. *Journal of Economic Entomology*.
6582. Effect of Musk Thistle Weevil on Seed Production in Central Nebraska. M. K. McCarty and W. O. Lamp. *Weed Science*.
6583. Establishment of Warm Season Grasses with Atrazine. A. R. Martin, R. S. Moomaw and K. P. Vogel. *Agronomy Journal*.
6584. Acceptability of Reconstituted Nonfat Dry Milk by Preschool Children. A. Henneman and Constance Kies. *Journal of Food Science*.
6585. Fiber Effects on Iron Utilization by Human Adolescents. K. Wiemer, C. Kies and H. M. Fox. *Nutrition Reports International*.
6586. Protein Nutritional Status of Human Subjects Fed Wheat and Rice Bran Supplemented Diets. J. Jank, C. Kies and H. M. Fox. *Nutrition Reports International*.
6587. Bacterial Mosaic, A New Corynebacterial Disease of Wheat. Randall R. Carlson and Anne K. Vidaver. *Plant Disease*.
6588. Nitrogen Fertilization, Mineralization, and Leaching Under Irrigation in the Midwest. J. S. Schepers and L. N. Mielke. *Proceedings of the International Symposium on Nutrient Cycling in Agricultural Ecosystems, Athens, Georgia*.
6589. Insect Control on Seedling Alfalfa with Cultivars, Soil and Foliar Insecticides. W. R. Kehr, G. R. Manglitz and R. L. Ogden. *Agronomy Journal*.
6590. A New Tolerance Evaluation Procedure for Three Component Turfgrass Seed Mixtures. T. P. Riordan, A. H. Bruneau, V. D. Meier, R. C. Shearman, J. E. Watkins and E. J. Kinbacher. *Journal of Seed Technology*.
6591. Taxonomy of *Corynebacterium* Plant Pathogens, Including a New Pathogen of Wheat, Based on Polyacrylamide Gel Electrophoresis of Cellular Proteins. Randall R. Carlson and Anne K. Vidaver. *International Journal of Systematic Bacteriology*.

NEBRASKA AGRICULTURAL EXPERIMENT STATION PUBLICATIONS - July 1981

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

6532. Methods for the Detection of Non-Heme Iron Proteins in Polyacrylamide Gels. John R. Porter and Leslie C. Lane. *Analytical Biochemistry*.
6533. A Collaborative Study of the *In Vitro* C-PER Assay for Predicting PER as Measured by Rat Bioassay. L. D. Satterlee, J. G. Kendrick, H. F. Marshall and D. K. Jewell, R. A. Ali, M. M. Heckman and H. F. Steinke, P. Larson, R. D. Phillips, G. Sarwar, P. Slump. Presented at 94th Annual Meeting of the Association of Official Analytical Chemists, Oct. 22, 1980, Twin Bridge, MD.
6534. Anatomical, Ultrastructural and Enzymic Studies of Leaves of *Moricandia arvensis*, a C_3-C_4 Intermediate Species. A. S. Holaday, Y. J. Shieh, K. W. Lee and R. Chollét. *Biochimica Et Biophysica Acta*.
6535. Potential Groundwater Recharge from Flood Retarding Reservoirs in the Upper Blue River Basin Area, Nebraska. Dean E. Eisenhauer, Deane M. Manbeck, and Terry H. Stork. *Journal of Soil and Water Conservation*.
6536. Chromosome Number and Meiotic Behavior of Released Cultivars of Switchgrass, Indiangrass, and Big and Sand Bluestem. R. D. Riley and K. P. Vogel. *Crop Science*.
6537. Registration of NC(FS) LFW-8 and NB(FS) LFW-8 Maize Germplasms. C. O. Gradner, M. L. Schuster and D. D. Hall. *Crop Science*.
6538. Inheritance of Resistance to Trifluralin Toxicity in *Cucurbita moschata* Poir. A. A. Adeniji and D. P. Coyne. *HortScience*.
6539. Sensitivity of Efficient Farm Plans to Alternative Measures of Risk. Glenn Helmers and Boris Bravo-Ureta. *North Central Journal of Ag. Economics*.
6540. Profiles of Ureides and Amino Acids in Exudates from Senescing Soybean Nodules. Linda L. Shearman and R. V. Klucas. *Proceedings, Biological Nitrogen Fixation Technology for Tropical Agriculture*.
6541. Plant and Air Temperature Patterns in Alfalfa, Corn, Grass, Sorghum and Soybeans as Measured with Thermocouples and Infrared Thermometers. B. L. Blad, B. R. Gardner, S. Steinmetz and N. J. Rosenberg. *Agronomy Journal*.
6542. Recessive Alleles Found at R and C Loci in Maize Stocks Showing Aberrant Ratio at the A Locus. Myron K. Brakke, R. G. Samson and W. A. Compton. *Genetics*.
6543. Testing Methods, Variation, Morphological, and Genetic Studies of Seed-Coat Cracking in Dry Beans (*Phaseolus vulgaris* L.). S. S. Korban, D. P. Coyne, J. L. Weihing and M. A. Hanna. *Journal American Society of Horticultural Science*.
6544. Relationship of the Testa to Agronomic and Nutritional Traits in Sorghum. K. D. Kofoid, J. W. Maranville and W. M. Ross. *Crop Science*.
6545. Tallow, Choline and Thyroprotein Additions to the Gestation and Lactation Diets of Swine. W. R. Cast, B. D. Moser, E. R. Peo, Jr. and A. J. Lewis. *Journal of Animal Science*.

6546. Remote Sensing of Crop Moisture Status. B. L. Blad, B. R. Gardner, D. G. Watts and N. J. Rosenberg. Remote Sensing Quarterly.
6547. An Assessment of the Levels of Knowledge of Faculty Representatives in Nebraska Concerning Preparation of the Local Plan for Vocational Education. Roy D. Dillon. Journal of the American Assn. of Teacher Educators in Agriculture.
6548. Observations of *Corythucha distincta* (Hemiptera: Tingidae) on Platte Thistle in Nebraska. William O. Lamp and M. K. McCarty. Kansas Entomology Society.
6549. Infrared Thermometry for Scheduling Irrigation of Corn. Kirk L. Clawson and Blaine L. Blad. Agronomy Journal.
6550. The Effects of Tillage on the Nitrogen Cycle in Corn and Wheat Production. J. W. Doran and J. F. Power. Proc. International Symposium for Nutrient Cycling in Agricultural Ecosystems, Athens, GA.
6551. Relationships Between Crop Temperature, Grain Yield, Evapotranspiration and Phenological Development in Two Hybrids of Moisture Stressed Sorghum. B. R. Gardner, B. L. Blad, D. P. Garrity and D. G. Watts. Irrigation Science.
6552. Determining Drought Frequency and Intensity on the Basis of Plant Response: Wild Hay in the Sand Hills of Nebraska, U.S.A. Donald A. Wilhite and Ralph E. Neild. Agricultural Meteorology.
6553. Research in Agricultural Ecosystems -- North Central United States. J. F. Power. Proc. International Symposium on Nutrient Cycling in Agricultural Ecosystems, Athens, GA, Sept. 21-26, 1980.
6554. Effect of Row Spacings and Seeding Rates of Winter Wheat on Weed Control in a Winter Wheat-Corn-Ecofarming Rotation. P. B. Vander Vorst, G. A. Wicks and O. C. Burnside. Agronomy Journal.
6555. Ultraviolet Light-Induced Survival Response in a Highly Radiation-Resistant Isolate of the Moraxella-Acinetobacter Group. Lewis C. Keller, Thomas L. Thompson and R. Burt Maxcy. Applied and Environmental Microbiology.
6556. Effect of Tallow and Choline Chloride Addition to the Diet of Sows on Milk Composition, Milk Yield and Prewaning Pig Performance. R. D. Boyd, B. D. Moser, E. R. Peo, Jr., A. J. Lewis and R. K. Johnson. Journal of Animal Science.
6557. Simulation Model of Poultry Egg Production. T. J. Greninger, J. A. DeShazer and E. W. Gleaves. Transactions of the ASAE.
6558. Legislation. Joan Laughlin. Textiles & Clothing AHEA Newsletter.
6559. Emphasis on Responsibility: Daily Living of Persons with Disabilities. Lois O. Schwab. Journal of Home Economics.
6560. Nutrition Orientations of Working Mothers in the North Central Region. Jaime Swanson-Ruud, Hazel Fox, Wilma Crumley, Margaret Doyle, Nancy Johnson and Kathleen Newell. Journal of Nutrition Education.

6592. Problems in Mineral N Determination by Steam Distillation Due to Carbonates. C. R. Clausen, M. P. Russelle and R. A. Olson. Soil Science Society Agronomy Journal.
6593. A Comparison of Insecticide Treatment Strategies and Their Effects Upon German Cockroach Populations. James B. Ballard and Roger E. Gold. Economics Entomology.
6594. Open Silage as an Overwintering Site for Immature Stable Flies in Eastern Nebraska. P. J. Scholl, J. J. Petersen, D. A. Stage and J. A. Meyer. Southwest Entomologists.
6595. The Effect of Short-Term Tumbling and Salting on the Quality of Turkey Breast Muscle. A. S. Babji, G. W. Froning and D. A. Ngoka. Poultry Science.
6596. Farmstead and Irrigation Demands - An Integrated Demand Study. L. E. Stetson, K. L. Farrell and H. Shull. Trans. American Society of Agricultural Engineers.
6597. Preventing Growth of Potentially Toxic Molds Using Antifungal Agents. Lisa L. Ray and Lloyd B. Bullerman. Food Technology.
6598. Oxidation Rates of Major Fatty Acids in Fasting Neonatal Pigs. R. D. Boyd, R. A. Britton, H. Knoche, B. D. Moser, E. R. Peo, Jr. and R. K. Johnson. Journal of Animal Science.
6599. Chemical Composition, Protein Components and Amino Acid Profile of Exudates Extracted by Tumbling Turkey Breast Muscle. A. S. Babji, G. W. Froning and L. D. Satterlee. Journal of Food Science.
6600. Methyl Parathion Transfer from Contaminated Fabrics to Subsequent Laundry and to Laundry Equipment. Joan Laughlin, Carol Easley, Roger Gold and Dwayne Tupy. Bulletin of Environmental Contamination and Toxicology.
6601. Absorption, Translocation, and Metabolism of Bentazone in Sunflower (*Helianthus annuus*). S. M. Irons and O. C. Burnside. Crop Science.
6602. Implications for Motor Carrier Deregulation for a Case-Study Rural Community. Dale G. Anderson and Elmo Falcon.
6603. 'Smokey' *Dianthus*. Dale T. Lindgren and Roger D. Uhlinger. Hort Science.
6604. Isolation of a Stable Enzyme $^{14}\text{CO}_2\text{Mg}^{2+}$ CABP Complex with RuBP Carboxylase from *Chromatium vinosum*. H. M. Brown and R. Chollet. Journal of Bacteriology.
6605. Micronutrient and Acidity Factors Reducing Sorghum Yields and Breeding Plants to Tolerate These Stresses. Ralph B. Clark. "Sorghum in the 80's Book or Proceedings."
6606. Electrofocusing Variants of RuBP Carboxylase from *Rhodospirillum rubrum*. S. Johal, L. H. Bowman and R. Chollet. The Journal of Biological Chemistry.
6607. Harvesting and Processing Effects of Alfalfa Protein Utilization by Ruminants. R. Britton, D. Rock, T. Klopfenstein, J. Ward and J. Merrill.

6608. Use of the Roller Applicator to Control Shattercane (*Sorghum bicolor*) in Row Crops. G. L. Schneider, C. B. Koehler, J. S. Schepers and O. C. Burnside. Weed Science.
6609. Validation of a Direct Radioimmunoassay for Testosterone in Unextracted Serum from Five Species: Application to Study of the Hypothalamic-Pituitary-Gonadal Axis in Males. B. D. Schanbacher and M. J. D'Occhio. Journal of Andrology.
6610. Evaluation of Food Potential and Some Toxicological Aspects of Amaranth (Pigweed) and Preparation of a Protein Isolate. Robert M. Hill and Prabhu D. Rawate. Journal of Agricultural and Food Chemistry.
6611. Fate of Microbial Contaminants in Lettuce Juice. R. B. Maxcy. Journal of Food Protection.
6612. Machinery Costs and Inflation. Myles Watts and Glenn Helmers.
6613. The Long-Term Effect of *Bordetella Bronchiseptica* Infection in Neonatal Pigs. Norman R. Underdahl, Thomas E. Socha and Alan R. Doster. American Journal of Veterinary Research.
6614. Effect of Dietary Fiber Constituents on the *in vitro* Digestibility of Casein. J. C. Acton, L. Breyer and L. D. Satterlee. Nutrition Reports International.
6615. A Study of Air Quality and Respiratory Infections for Pigs Raised in Confinement. N. R. Underdahl, M. B. Rhodes, D. D. Shulte and T. E. Socha. Livestock Production Science.
6616. The Effect of Preslaughter Dietary Electrolyte Treatment on Carcass Yield and Turkey Meat Quality Characteristics. A. S. Babji, G. W. Froning and D. A. Ngoka. Poultry Science.
6617. The Spectral Response of the Adult Western Corn Rootworm, *Diabrotica virgifera virgifera* LeConte to Selected Wavelengths. Harold J. Ball. Journal of Economic Entomology.

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

- 81-1528. Efficacy and Efficiency of Producing Kentucky Bluegrass Hybrids Using Various Hybridization Method. T. P. Riordan, J. P. Behling, R. C. Shearman and E. J. Kinbacher.
- 81-1529. Kentucky Bluegrass Cultivar Response to Bluegrass Billbug, *Sphenophorus parvulus* Gyllenhal. A. H. Bruneau, R. C. Shearman, D. T. Lindgren and D. Schaaf.
- 81-1530. The Effects of Simulated Acid Rain on Leaves of *Phaseolus vulgaris* CV. Red Kidney. Ellen T. Paprozzi and H. B. Tukey, Jr. HortScience.
- 81-1531. The Effects of Simulated Acid Precipitation on Leaves of *Betula alleghaniensis* Britt. and *Phaseolus vulgaris* cv. Red Kidney. Ellen T. Paparozzi and H. B. Tukey, Jr. Transactions of the Nebraska Academy of Sciences.

- 81-1532. Computer-Assisted Programmed Instruction in Textiles. Rita Kean and Joan Laughlin. Journal of Computer - Based Instruction.
- 81-1533. Xenon Arc Irradiation of Cotton and Cotton Polyester Flame Retardant Fabrics. Joan Laughlin. Proceedings AHEA Annual Meeting.
- 81-1534. Atrazine Contamination of Groundwater in the Platte Valley of Nebraska: Non-point Sources. J.R.C. Leavitt, G. Wehtje, R. F. Spalding, L. N. Mielke and J. S. Schepers. International Conference, Ground Water, Amsterdam in March.
- 81-1535. Development of *Phaseolus vulgaris* with Resistance and/or Avoidance to White Mold Disease (*Sclerotinia sclerotiorum*). D. P. Coyne, J. R. Steadman, Cheryl Campbell and Peter Fuller. Bean Improvement Cooperative.
- 81-1536. Reaction of Bean Germplasm and Lines to a Virulent Isolate of *Xanthomonas phaseoli* Nebraska EK-11. D. P. Coyne, M. L. Schuster and Cheryl Campbell. Bean Improvement Cooperative.
- 81-1537. Mineral Nutritional Factors Reducing Sorghum Yields: Micronutrients and Acidity. Ralph B. Clark. Proc. Symp. Sorghum in the 80's IGRISAT, India.
- 81-1538. Cost Analysis: A Valuable Part of Horticulture Club Projects. Renee Hurlbut, Jay Fitzgerald and E. J. Kinbacher. A.S.H.S.
- 81-1539. The Effect of Photoperiod and Gibberellic Acid on the Growth and Development of *Liatris pycnostachya* Michx. Andrew G. Koziol, S. S. Salac and J. B. Fitzgerald. A.S.H.S.
- 81-1540. Influence of Boar Exposure on Estradiol and LH and the Response of Prepubertal Gilts to Exogenous Estrogen. G. L. Faltys, M. E. Wise and Dwane R. Zimmerman. Journal of Animal Science.
- 81-1541. Lutenizing Hormone Secretion from Birth to Puberty in the Gilt. M. E. Wise, G. L. Faltys and Dwane R. Zimmerman. Journal of Animal Science.
- 81-1542. Influence of Energy Levels During Lactation on the Interval from Weaning to First Estrus in Swine. D. E. Reese, B. D. Moser, E. R. Peo, Jr., A. J. Lewis, Dwane R. Zimmerman, J. E. Kinder and R. K. Johnson. Journal of Animal Science.
- 81-1544. Changes Effected by an In-depth Mastitis Educational Meeting. D. J. Kubik and F. G. Owen. Journal of Dairy Science.
- 81-1545. Maternal Performance in Three Parities of Rats Selected for Rate or Efficiency of Postweaning Lean Gain. Sara Melin, M. K. Nielsen and G. E. Dickerson. Journal of Animal Science.
- 81-1546. Correlated Responses in Carcass and Reproductive Traits from Selection for Lean Growth in Swine. E. R. Cleveland, R. K. Johnson and P. J. Cunningham. Journal of Animal Science.
- 81-1547. Selection for Postweaning Gain in the Rat: Correlated Response in Reproductive Performance. J. G. Rios, M. K. Nielsen, G. E. Dickerson, A. B. Chapman and J. J. Rutledge. Journal of Animal Science.

- 81-1548. Effect of Feed Intake and Lean Growth Selection on Composition and Energy Utilization in Swine. E. R. Cleveland, R. K. Johnson, R. W. Mandigo and E. R. Peo, Jr. *Journal of Animal Science*.
- 81-1549. Breed and Heterosis Effects on Age of Puberty and Ovulation Rate of Ewes. N. M. Fogarty, L. D. Young and G. E. Dickerson. *Journal of Animal Science*.
- 81-1550. Direct and Correlated Responses from Selection and Relaxing Selection for Rate and Efficiency of Lean Growth in Rats. C. T. Wang and G. E. Dickerson. *Journal of Animal Science*.
- 81-1551. Simulation of Heterosis and Its Effects on Efficiency of Pork Production. G. L. Bennett, M. W. Tess and G. E. Dickerson. *Journal of Animal Science*.
- 81-1552. Simulation of Crossbreeding System Efficiency. G. L. Bennett, M. W. Tess and G. E. Dickerson. *Journal of Animal Science*.
- 81-1553. Effects of Body Composition of Fasting Heat Production in Growing Pigs. M. W. Tess, J. A. Nienaber, G. E. Dickerson and C. L. Ferrell. *Journal of Animal Science*.
- 81-1554. The Energy Costs of Protein and Fat Deposition in Pigs Fed *ad libitum*. M. W. Tess, G. E. Dickerson, J. A. Nienaber, C. L. Ferrell and J. T. Yen. *Journal of Animal Science*.
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