

2003



**2003
Director's
Report
of Research
in Kansas**

July 1, 2002 to June 30, 2003
Agricultural Experiment Station
Kansas State University

KSTATE
Kansas State University

Letter of Transmittal

Office of the Director

*To the Honorable Kathleen Sebelius,
Governor of Kansas*

It is my pleasure to transmit herewith the report of the Agricultural Experiment Station of the Kansas State University of Agriculture and Applied Science for the fiscal year ending June 30, 2003. This report contains the title, author, and publication information for manuscripts published by station scientists. It also contains a list of the research projects that were active during that period and a financial statement for the 2003 fiscal year. The report was published only in electronic format.

George E. Ham, Interim Director

A Message from the Director

We are pleased to provide this 2003 Director's Report of Research in Kansas. The report is intended to inform you about our research programs underway and some of our accomplishments for 2003. K-State Research and Extension is dedicated to a safe and sustainable food and fiber system and to strong, healthy communities, families, and youth through integrated research, analysis, and education.

This report is produced and distributed in electronic format only. An annual report distributed via the Internet provides information in a more timely fashion, eliminates printing costs, and makes the report accessible to a broader audience.

The 2003 Director's Report of Research in Kansas provides a list of departments, centers, and fields; station publications; active K-State Research and Extension projects; commercial grants and contracts; and financial information.

The Agricultural Experiment Station is the research component of K-State Research and Extension. Our research programs provide the latest information used by our extension programs to address issues facing Kansas citizens.



George E. Ham
Interim Director
Agricultural Experiment Station



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To minimize irrelevant items when searching for common names such as Smith or Martin, go to the page for the scientists’ department (or use the department bookmark) to start your search.

Research Components of the Kansas State University Agricultural Experiment Station and Cooperative Extension Service

K-State Research and Extension

Agricultural Economics

Agronomy

provides soil testing service

Animal Sciences and Industry

includes International Meat and Livestock Program

provides chemical analyses of feedstuffs

Communications

includes Weather Data Library

Entomology

provides scanning electron microscope service

Grain Science and Industry

includes International Grains Program and

Food and Feed Grains Institute

Horticulture, Forestry and Recreation Resources

Plant Pathology

includes Wheat Genetics Resource Center and the

Plant Biotechnology Center

College of Arts and Sciences

Biochemistry

Biology

provides plant identification service

Sociology, Anthropology and Social Work

Statistics

provides statistical consultation and assistance

College of Engineering

Biological and Agricultural Engineering

Chemical Engineering

Civil Engineering

College of Human Ecology

Apparel, Textiles and Interior Design

Hotel, Restaurant, Institution Management and Dietetics

Human Nutrition

includes Sensory Analysis Center

School of Family Studies and Human Services

College of Veterinary Medicine

Anatomy and Physiology

Diagnostic Medicine/Pathobiology

Food Animal Health and Management Center

Research Centers

Agricultural Research Center–Hays

Horticulture and Forestry Research-Extension Center

John C. Pair Horticultural Center

Northwest Research-Extension Center

Southeast Agricultural Research Center

Southwest Research-Extension Center

Experiment Fields (see map, pg. 49)

East Central●

Harvey County●

Irrigation●▼

Kansas River Valley●▼

Cornbelt●

North Central●

Pecan Field■

Sandyland●▼

South Central●

South Central Annex●

● Agronomy

▼ Biological and Agricultural Engineering

■ Horticulture

Station Publications

Reports of Progress

- SRP 896 2002 Kansas Performance Tests with Winter Wheat Varieties
- SRP 897 Swine Day 2002 (electronic only)
- SRP 898 Dairy Day 2002 (electronic only)
- SRP 899 2002 Kansas Performance Tests with Corn Hybrids
- SRP 900 2002 Kansas Performance Tests with Grain Sorghum Hybrids
- SRP 901 2002 Kansas Performance Tests with Soybean Varieties
- SRP 902 2003 Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland
- SRP 903 Kansas Fertilizer Research 2002 (electronic only)
- SRP 904 2002 Kansas Performance Tests with Alfalfa Varieties
- SRP 905 2002 Kansas Performance Tests with Sunflower Hybrids
- SRP 906 2002 Kansas Performance Tests with Summer Annual Forages
- SRP 908 2003 Cattlemen's Day (electronic only)
- SRP 909 2002 Agricultural Research Southeast Agricultural Research Center
- SRP 910 Field Day 2002: Southwest Research-Extension Center
- SRP 911 2002 Turfgrass Research (electronic only)

Keeping Up with Research

- SRL 136 A History of Wheat Improvement at Kansas State University
- SRL 137 Assessing the Effectiveness of Various Riparian Buffer Vegetation Types
- SRL 138 Weed Control with Imazaquin and Pendimethalin around Newly Planted Shrub and Tree Seedlings

Some Contributions of K-State Scientists

- UNN 2002 Report on Grains Research and Educational Programs Supported by Kansas Corn, Grain Sorghum, Soybean, and Wheat Commissions (electronic only)
- DRR 2 2002 Director's Report of Research in Kansas (electronic only)

Suffix Letters

for Contribution Numbers (pages 7-37)

- A** Proceedings of Meeting or Symposium
- B** Book or Chapter for Book
- C** Computer Program
- D** Department Report
- E** Extension Publication (co-authored by a KAES researcher but funded separately or published externally as education material) or research by an employee with an extension appointment to be published in a refereed journal.
- J** Journal
- S** Station Publication: Report of Progress, Keeping Up with Research, Special Publications, and Bulletins
- T** Trade Publication

Categories are based on information received before manuscripts are published. Place of publication sometimes changes later. Numbers are deleted if authors cannot supply publication data.

Station publications are available on the World Wide Web at <http://www.oznet.ksu.edu/library/>. Department Reports are available only from the appropriate department office. Copies of journal articles or other outside publications must be obtained from the authors.

Publications of Station Scientists (By Department and Station Contribution Number)

Agricultural Economics

- 02-144-J Producer Experience, Learning by Doing, and Yield Performance
B.K. Goodwin, A.M. Featherstone, K. Zeuli
American J. of Agricultural Economics 84:660-678, 2002
- 02-419-A Derived Carbon Credit Values for Carbon Sequestration: Do CO₂ Emissions from Production Inputs Matter?
J.R. Williams, R.G. Nelson, T.D. Aller, M.M. Claassen, C.W. Rice
American Agricultural Economics Association Meeting, July 28-31, 2002
- 02-463-J Entrepreneurial Risk-Taking versus Growth Management: The Case of Premier Technology Inc.
G.W. Brester, M.A. Boland
J. Food Distribution Research (Nov. 2003):21-30
- 03-82-D Employee Wage Rates and Compensation Packages on Kansas Farms
S.L. Fogleman, K. Dhuyvetter, T. Kastens, M. Albright
Ag. Econ. Dept. Research Report No. 35:1-24 (Oct. 2002)
(Available through department only)
- 03-138-D A Review of Economic Analyses of Water Policies and Irrigation Issues in the High Plains: 1980-2000
J.M. Peterson, D.J. Bernardo
Agricultural Economics Department Research Report No. 36:1-44 (June 2003)
(Available through department only)
- 03-150-J Nutritional and Economic Implications of Protein Variance and Application of Statistical Process Control in the Chinese Feed Industry
Z. Yan, T.J. Herrman, T. Loughin, A. Featherstone, D. Feng
Cereal Chemistry 80(5):623-626, 2003
- 03-159-J Yield Models Implied by Traditional Fertilizer Recommendations and a Framework for Including Nontraditional Information
T.L. Kastens, J.P. Schmidt, K.C. Dhuyvetter
Soil Science Society of America Journal 67:351-364, 2003
- 03-254-A Risk and Return to Landlords and Tenants from Alternative Leasing Arrangements
R.O. Burton Jr., K.C. Dhuyvetter, T.L. Kastens, J.R. Tajchman
Annual Meeting of the Southern Agricultural Economics Association, Mobile, AL, February 2003
- 03-294-J Determinants of U.S. Direct Foreign Investment in the Caribbean
P. Lall, D.W. Norman, A.M. Featherstone
Applied Economics (35):1485-1496, 2003

- 03-373-D Staff, Programs, and Publications in Agricultural Economics, Kansas State University 2002
D.L. Foster
Agricultural Economics Department Staff Paper No. 03-01:1-47 (May 2003)
(Available through department only)
- 03-408-A Analysis of FARMM and Counter-Cyclical Savings Accounts in Kansas
R.V. Llewelyn, J.R. Williams, B.W. Schurle, M.R. Langemeier
Farm Savings Accounts Workshop, USDA/ERS, Washington, DC, June 2003
- 03-420-D Kansas Farm Management SAS Data Bank
M.R. Langemeier
Agricultural Economics Department Staff Paper No. 03-02:1-112. (June 2003)
(Available through department only)
- 03-430-D KFMA Summary and Analysis
M.R. Langemeier
Agricultural Economics Department Staff Paper No. 03-03:1-20. (June 2003)
(Available through department only)

Agronomy

- 00-207-J Measurement of Change in Soybean Plant Cross-Sectional Area under Wind Conditions via Image Processing
X. Chen, S.M. Welch, N. Zhang, D. Armbrust
Transactions of the American Society of Agricultural Engineers 44:1923-1929, 2001
- 00-246-J Nitrogen Competition in a Tallgrass Prairie Ecosystem Exposed to Elevated Carbon Dioxide
M.A. Williams, C.W. Rice, C.E. Owensby
Soil Science Society of America J. 65:340-346, 2001
- 00-211-J Use of Nontopographic Stereophotogrammetry to Measure Morphological Characteristics of Soybean Plants
X. Chen and S.M. Welch
Transactions of the American Society of Agricultural Engineers 45:407-15, 2002
- 00-499-J Association of Ethylene Dibromide (DB) with Mature Cranberry (*Vaccinium macropocarpus*) Fruit
K. Xia, C.W. Rice
J. Agric. Food Chem. 49:1246-1252, 2001
- 01-57-J Analysis of Resistance to Ergot in Sorghum and Potential Alternative Hosts
J.D. Reed, M.R. Tuinstra, B.A. Ramundo, L.E. Claflin
Crop Science 42:1135-1138, 2002

Publications of Station Scientists

- 01-70-J Changes in Ecosystems Structure and Function along a Chronosequence of Grasslands Restored Through the Conservation Reserve Program
S.G. Baer, D.J. Kitchen, J.M. Blair, C.W. Rice
Ecological Applications 12:1688-1701, 2002
- 01-77-J Relative Performance of Soybean in End-Trimmed and Plant-to-Length Plots
S.J. Meis, W.T. Schapaugh Jr., G.A. Milliken
Crop Science 42:700-704, 2002
- 01-196-J Sex Pheromone of the Noctuid Moth, *Tyta luctuosa* (Lepidoptera:Noctuidae), a Candidate Biological Control Agent of Field Bindweed
W.-H. Cao, R.E. Charlton, J.R. Nechols, M.J. Horak
Environmental Entomology 32:17-22, 2003
- 01-235-B Drought Resistance
M.B. Kirkham
In: *Encyclopedia of Water Science*, B.A. Stewart and T. Howell, (eds.), Marcel Dekker Inc., New York, pp.173-177, 2003
- 01-291-J Estimating Soybean Model Genetic Coefficients from Private Sector Variety Performance Trial Data
S.M. Welch, G. Wilkerson, K. Whiting, N. Sun, T. Vagts, G. Buol, T. Mavromatis
Transactions of the American Society of Agricultural Engineers 45:1163-1175, 2002
- 01-392-J Soil Quality of Two Kansas Soils as Influenced by Conservation Reserve Program(CRP)
X. Huang, E. Skidmore, G. Tibke
J. Soil and Water Conservation 57:344-350, 2002
- 01-466-J Optimization of Sorghum Transformation Parameters using Genes for Green Fluorescent Protein and B-Glucuronidase as Visual Markers
J.M. Jeoung, S.Krishnaveni, S. Muthukrishnan, H.N.Trick, G.H. Liang
Hereditas 137:20-28, 2002
- 02-20-J Composition and Quality of Wheat Grown under Different Shoot/Root Temperatures during Maturation
M. Guedira, P.J. McCluskey, F. MacRitchie, G.M. Paulsen
Cereal Chemistry 79:397-403, 2002
- 02-51-J Measured and Simulated Uniformity of Low Drift Nozzle Sprinklers
K. Srinivas, D.H. Rogers, R. Stratton, V.L. Martin
Transactions of the American Society of Agricultural Engineers 46(2):321-330, 2003
- 02-92-J Wind Erosion from Military Training Lands in Mojave Desert, California,USA
S.J. van Donk, X. Huang, E.L. Skidmore, A. Anderson, D. Gebhart, V. Prehoda, E. Kellogg
J. of Arid Environments 54:687-703, 2003
- 02-110-J Correcting Iron Deficiency in Corn with Seed-Row Applied Iron Sulfate
C.G. Godsey, J.P. Schmidt, A.J. Schlegel, R.K. Taylor, C.R. Thompson, R. Gehl
Agronomy J. 95:160-166, 2003
- 02-150-J Initial Crop Growth in Soil Collected from a Closed Animal Waste Lagoon
L. Zhu, M.B. Kirkham
Bioresource Technology 87:7-15, 2003
- 02-155-J Plant Remediation of Soil Beneath an Abandoned Animal Waste Lagoon.
L. Zhu, M.B. Kirkham
J. of Sustainable Agriculture 22:119-133, 2003
- 02-166-J Single Irrigations During Reproductive Growth to Improve Early Maturing Soybean Yield and Quality
D.W. Sweeney, J.H. Long, M.B. Kirkham
Soil Science Society of America J. 67:235-240, 2003
- 02-181-B Soil Erosion and Conservation
E.L. Skidmore, S.J. van Donk
In: *Handbook of Processes and Modeling in the Soil-Plant System*, D.K. Benbi, R.Neider (eds.) Haworth Press, Inc Binghamton, New York, 227-260, 2003
- 02-183-J Characterization and Functional Properties of Soy B-Conglycinin and Glycinin of Selected Genotypes Grown in Kansas
K.A.Khatib, T.J. Herald, F.M. Aramouni, F. MacRitchie, W.T. Schapaugh
J. of Food Science 67:2923-2929, 2002
- 02-203-J Atrazine, S-metolachlor, and RPA 201772 Loss in Surface Water Runoff as affected by Precipitation Tillage, and Placement Variables
R.J.Rector, D.L. Regehr, P.L.Barnes T.M.Loughin
Weed Science 51:810-816, 2003
- 02-213-A Can Long Grain-Fill Duration Improve Yield Potential and Grain Quality of Sorghum?
M.R. Tuinstra, T.D. Kriegshauser, R.L. Vanderlip, K.D. Kofoid, J.D. Hancock
Proc. of the 56th Corn & Sorghum Research Conference, 2001 pp.185-195. American Seed Trade Association. Chicago, Dec. 5-7, 2001 Alexandria, VA
- 02-223-J Analysis of Combining Ability for Ergot Resistance in Grain Sorghum
J.D. Reed, M.R. Tuinstra, N.W. Ochanda, L.E. Claflin, N.W. McLaren, K.D. Kofoid
Crop Science 42:1818-1823, 2002

Publications of Station Scientists

- 02-252-J Heavy Metal Displacement in Chelate-Irrigated Soil during Phytoremediation
F. Madrid, M.S. Liphadzi, M.B. Kirkham
J. of Hydrology, 272:107-119, 2003
- 02-261-J Application Timing Impact On Runoff Losses of Atrazine
R.J. Rector, D.L. Regehr, P.L. Barnes, T.M. Loughin, M.A. Hoobler
Weed Science 51:817-825, 2003
- 02-279-J Seeding and Nitrogen Rates Required to Optimize Winter Wheat Yields following Grain Sorghum and Soybean
S. Staggenborg, D. Whitney, D. Fjell, J. Shroyer
Agronomy J. 95:253-259, 2003
- 02-301-J Genetic Mapping of an *Aegilops tauschii* Gene Transferred to Common Wheat Conferring Resistance to all Strains of Wheat Curl Mite
R. Malik, G.L. Brown-Guedira, C.M. Smith, T.L. Harvey, B.S. Gill
Crop Science 43:644-650, 2003
- 02-319-A Heavy Metal Uptake by Barley and Sunflower Grown in Abandoned Animal Lagoon Soil
F. Madrid, M.B. Kirkham
Proceedings of the 17th World Congress of Soil Science Bangkok, Thailand, Paper #401, 14-21, August 2002, CD-ROM (pages 401-1 through 401-10)
- 02-327-J Grain Sorghum Response to Simulated Drift from Glufosinate, Glyphosate, Imazethapyr, and Sethoxydim
K. Al-Khatib, M.M. Claassen, P.W. Stahlman, P.W. Geier, D.L. Regehr, S.R. Duncan, W.F. Heer
Weed Technology 17:261-265, 2003
- 02-349-J Phosphorus Bioavailability Following Incorporation of Green Manure Crops
M.A. Cavigelli, S.J. Thien
Soil Science Society of America J. 67(4):1186-1194, 2003
- 02-387-J Absorption of Lead from a Contaminated Soil Treated with Phosphorus and Manganese Oxides by Sprague-Dawley Rats
G.M. Hettiarachchi, G.M. Pierzynski, F.W. Oehme, O. Sonmez, J.A. Ryan
J. Environmental Quality 32:1335-1345, 2003
- 02-419-A Derived Carbon Credit Values for Carbon Sequestration: Do CO₂ Emissions from Production Inputs Matter?
J.R. Williams, R.G. Nelson, T.D. Aller, M.M. Claassen, C.W. Rice
American Agricultural Economics Association Meeting, July 28-31, 2002
- 02-424-J Heterotic Effects of Wheat-Rye Chromosomal Translocations on Agronomic Traits of Hybrid Wheat (*Triticum aestivum* L.) Under Adequate Moisture Regime
J.O. Owuochi, R.G. Sears, G.L. Brown-Guedira, B.S. Gill, A.K. Fritz
Euphytica 132(1):67-77, 2003
- 02-437-J Common Waterhemp (*Amaranthus rudis*) Resistance to Protoporphyrinogen Oxidase (Pro-Tox)-Inhibiting Herbicides
D. Shoup, K. Al-Khatib, D. Peterson
Weed Science 51:145-150, 2003
- 02-441-J Growth and Gas Exchange of Sorghum Grown Under Low Light
Q. Xu, M.B. Kirkham
Photosynthetica 41:27-32, 2003
- 02-492-A How Wind Erosion Processes Affect Selection and Performance of Erosion Control Systems
L.J. Hagen
Proc of ICAR5/GCTE-SEN Joint Conference, International Center of Arid and Semiarid Lands, Texas Tech University, Lubbock, Texas, USA, Publication 02-2, p.317
- 03-3-A Validation of WEPS Erosion Predictions for Single Wind Events
L.J. Hagen
Proc of ICAR5/GCTE-SEN Joint Conference, International Center of Arid and Semiarid Lands Studies, Texas Tech University, Lubbock, Texas, USA, Publication 02-2, p.252
- 03-19-S 2002 Kansas Performance Tests with Winter Wheat Varieties
K. Roozeboom, W.W. Bockus, L. Brooks, M. Knapp, A. Fritz, P. Evans, J. Long, T.J. Martin, A. Schlegel, M. Witt, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, V. Martin
Kans. Agric. Exp. Stn. Report of Progress 896, July 2002, 28 pp.
- 03-24-S 2002 Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon, W. Heer, L. Maddux
Kans. Agric. Exp. Stn. Report of Progress 904, December 2002, 9pp.
- 03-40-J Using Cone Index Data to Explain in Field Yield Variation
N.E. Isaac, R.K. Taylor, S.A. Staggenborg, M.D. Schrock, D. Leikam
CIGR Ejournal <http://cigr-ejournal.tamu.edu/volume4.html>
- 03-43-J Developing Topographic Maps using an Agricultural Global Positioning Receiver
J.P. Schmidt, R.K. Taylor, R.J. Gehl
Applied Engineering in Agriculture 19(3):291-300, 2003

Publications of Station Scientists

- 03-159-J Developing Appropriate Yield Models and Fertilizer Recommendations Using Site-Specific Information
J.P. Schmidt, T.L. Kastens, K.C. Dhuyvetter
Soil Science Society of America J. 67:351-364, 2003
- 03-160-S 2002 Kansas Performance Tests with Corn Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, V. Martin, P. Evans, L. Maddux, K. Kofoid, J. Long, A. Schlegel, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 899, November 2002, 49 pp.
- 03-172-J The Teaching Learning Trinity
S.J. Thien
J. of Natural Resources and Life Sciences Education 32:87-92, 2003
- 03-181-J Effects of Seed Treatment Fungicides on Stand and Yield of Grain Sorghum, 2002
D.J. Jardine, M. Claassen, B. Gordon, J.H. Long
Fungicide and Nematicide Tests 58:ST006
- 03-182-J Effects of Seed Treatment Fungicides on Stand and Yield of Grain Soybean, 2002
D.J. Jardine, B. Gordon, K. Janssen, J.H. Long
Fungicide and Nematicide Tests 58: ST005
- 03-193-S 2003 Chemical Weed Control for Field Crops, Pastures, Rangeland and Noncropland
D.L. Regehr, D.E. Peterson, P.D. Ohlenbusch, W.H. Fick, P.W. Stahlman, R.E. Wolf
Kans. Agric. Exp. Stn. Report of Progress 902, December 2002, 96 pp.
- 03-198-S Kansas Fertilizer Research 2002
H.D. Bond, M.M. Claassen, S.R. Duncan, D.L. Fjell, R.J. Gehl, H.C. George, C.B. Godsey, W. B. Gordon, J. Heitman, K. A. Janssen, K.W. Kelley, G. L. Kilgore, G.J. Kluitenberg, R. E. Lamond, D.F. Leikam, L. D. Maddux, C.W. Marr, V. L. Martin, T.M. Maxwell, K.A. McVay, M.M. Mikha, J. L. Moyer, G. M. Pierzynski, K. Rector, C.W. Rice, A. J. Schlegel, J.P. Schmidt, J.P. Shroyer, S.A. Staggenborg, D. W. Sweeney, C. A. Thompson, C.R. Thompson, D. A. Whitney, B.D. Wood
Kans. Agric. Exp. Stn. Report of Progress 903, December 2002, 71 pp. (CD-ROM only)
<http://www.oznet.ksu.edu/library/crpsl2/SRP903.pdf>
- 03-201-S 2002 Kansas Performance Tests with Grain Sorghum Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, V. Martin, L. Maddux, P. Evans, K. Kofoid, J. Long, A. Schlegel, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 900, December 2002, 46 pp.
- 03-202-S 2002 Kansas Performance Tests with Soybean Varieties
W. Schapaugh, K. Roozeboom, P. Evans, J. Long, A. Schlegel, C. Thompson, M. Witt, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, L. Maddux, V. Martin
Kans. Agric. Exp. Stn. Report of Progress 901, December 2002, 33 pp.
- 03-204-J Laboratory Evaluation of the Dual-Probe Heat-Pulse Method for Measuring Soil Water Content
J.M. Basinger, G.J. Kluitenberg, J.M. Ham, J.M. Frank, P.L. Barnes, M.B. Kirkham
Vadose Zone J. 2:389-399, 2003
- 03-211-S Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon, W. Heer, L. Maddux
Kans. Agric. Exp. Stn. Report of Progress 904, December 2002, 9pp.
- 03-211-S Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon, W. Heer, L. Maddux
Kans. Agric. Exp. Stn. Report of Progress 904, December 2002, 9pp.
- 03-214-D 2002 National Winter Canola Variety Trial
C. Rife, K. Janssen, R. Aiken, J. Long, W. Heer, M. Witt, R. Auld, R. Bacon, D. Baltensperger, U. Bishnoi, H. Bhardwaj, D. Bordovsky, E. Christmas, S. Conley, J. Fisher, R. Freed, Jerry Johnson, Joe Johnson, J. Kelly, J. Klein, R. Kochenower, J. Krall, K. Kusel, K. Larson, L. Nelson, P. Raymer, M. Schmidt, F. Schweissing, R. Smoot, D. Starner
Agronomy Department Report, January 2003, 58 pp. (Available through department only)
- 03-244-S 2002 Kansas Performance Tests with Sunflower Hybrids
P. Evans, K. Roozeboom, M. Claassen, W.B. Gordon, W. Heer, A. Schlegel
Kans. Agric. Exp. Stn. Report of Progress 905, January 2003, 25 pp.
- 03-251-S 2002 Kansas Performance Tests with Summer Annual Forages
K. Roozeboom, W. Heer, P. Evans, K. Kofoid
Kans. Agric. Exp. Stn. Report of Progress 906, February 2003, 9 pp.
- 03-263-S Kansas Performance Tests with Spring Small Grains
K. Roozeboom, P. Evans, W.B. Gordon, K. Janssen
Kans. Agric. Exp. Stn. Report of Progress 907, February 2003, 4 pp.
- 03-301-S A History of Wheat Improvement at Kansas State University
G.M. Paulsen
Kans. Agric. Exp. Stn. Keeping Up with Research 136, March 2003

Publications of Station Scientists

- 03-305-S Assessing the Effectiveness of Various Riparian Buffer Vegetation Types
C.J. Barden, K.R. Mankin, D. Ngandu, W.A. Geyer, D.L. Devlin, K. McVay
Kans. Agric. Exp. Stn. Keeping up with Research 137, March 2003
- 03-307-S Weed Control with Imazaquin and Pendimethalin Around Newly Planted Shrub and Tree Seedlings
W.A. Geyer, W.H. Fick, E. Rhodenbaugh
Kans. Agric. Exp. Stn. Keeping Up with Research 138, March 2003
- 03-322-S 2003 Agricultural Research Southeast Agricultural Research Center
L.W. Lomas, J.L. Moyer, D.W. Sweeney, K.W. Kelley, J.H. Long, F.K. Brazle, G.L. Kilgore, S. Staggenborg, S. Duncan, K. Janssen, M.B. Kirkham, M. Knapp, C.M. Taliaferro
Kans. Agric. Exp. Stn. Report of Progress 909, April 2003, 55 pp.
- 03-323-S Field Day 2003 Southwest Research-Extension Center, J. Elliott, D. Bond, D. Nolan, A. Schlegel, L. Stone, N. Klocke, C. Thompson, R. Currie, R. Massinga, L. Buschman, P. Sloderbeck, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 910, June 2003, 42 pp.

Publications without contribution numbers

- Host suitability of Rapeseed for *Heterodera schachtii*
C.L. Rife, E.L. Nielson, D.D. Baltensperger
J. Nematology 35(1):35-38, 2003
- Variability in Vernalization Requirement of Oilseed Rape
C.L. Rife, C.L. LaBarge
Annual Meeting Abstracts American Society of Agronomy
St. Louis, MO, 2002
- Evaluation of Winter Hardiness in Oilseed Rape in the United States
C.L. Rife
Proceedings of the 11th International Rapeseed Congress.
Groupe Consultatif International de Recherche sur le Colza, Copenhagen, Denmark, pp. 11,3 2003
- The Effect of Agronomic and Climatic Factors on Protein Content in Spring Oilseed Rape (*Brassica Napus* L.)
Proceedings of the 11th International Rapeseed Congress.
Groupe Consultatif International de Recherche sur le Colza, Copenhagen, Denmark pp. 23, 2003
- Remote Sensing for Nitrogen Management
P.C. Scharf, J.P. Schmidt, N.R. Kitchen, K.A. Suddath, S.Y. Hong, J.A. Lory, J.G. Davis
J. Soil Water Conservation 57(6):518-524, 2002

Effects of Long-Term Fungicide Applications on Microbial Processes in Tallgrass Prairie Soil
M.D. Smith, D.C. Hartnett, C.W. Rice,
Soil Biol. Biochem. 32:935-946, 2000

Assessment of Surface Soil Quality in Fields Planted to Native Grasses with Short- and Long-Term Enrollment in the CRP
S.G. Baer, C.W. Rice, J.M. Blair
J. Soil Water Conservation 55:142-146, 2000

Carbon and Nitrogen Dynamics and Microbial Activity in Tallgrass Prairie Exposed to Elevated CO₂ for Eight Years
M.A. Williams, C.W. Rice, C.E. Owensby
Plant and Soil 227:127-137, 2000

High-Frequency Pressure Variations in the Vicinity of a Surface CO₂ Flux Chamber.
E.S. Takle, J.R. Brandle, R.A. Schmidt, R. Garcia, I.V. Litvina, W.J. Massman, X. Zhou, G. Doyle, C.W. Rice
Agric. for Meteorology 113:21-37, 2002

Agriculture's Response to the Climate Change Challenge
K. Paustian, B. Babcock, J. Hatfield, R. Lal, B. McCarl, S. McLaughlin, W.M. Post, A. Mosier, C. Rice, G.P. Robertson, N. Rosenberg, C. Rosenzweig, W.H. Schlesinger, D. Ziberman
CAST Report, Ames, IA, 2002

Anatomy and Physiology

- 00-499-J Association of Ethylene Dibromide (DB) with Mature Cranberry (*Vaccinium macropocarpus*) Fruit
K. Xia, C.W. Rice
J. Agric. Food Chem. 49:1246-1252, 2001
- 02-245-J Unique Epitope of Bovine Immunodeficiency Virus Gag Protein Spans the Cleavage Site between p16ma and p2L
M. Lu, L. Zheng, K. Mitchell, S. Kapil, H.C. Minocha
Clin. Diagnostic. Lab. Immun. 9(6):1277-81, 2002
- 02-334-J Incorporation of Bovine Bone Marrow Stromal Cells into Porcine Fetal Tissues after Xenotransplantation
D. Troyer, M. Weiss, K. Mitchell, P. Martin, D. Davis
Anatomia Histologia Embryologia 32(2):98-101, 2003
- 02-451-J Wharton's Jelly Mesenchymal Cells form Neurons and Glia
K.E. Mitchell, B. Mitchell, P. Martin, B. Helwig, M. Weiss, D.L. Davis, M. Beerentrauch, K. Abou-Easa, D. Troyer
Stem Cells 21(1):61-70, 2003
- 02-472-J LEDGF Activation of PKC Gamma and GAP Junction Disassembly in Lens Epithelial Cells
T.A. Nguyen, D. Boyle, L. Wagner, T. Shinohara, D.J. Takemoto
Experimental Eye Research 76:565-572, 2003

Publications of Station Scientists

- 02-502-J Adenosine Stimulates Anion Secretion Across Cultured and Native Adult Human Vas Defrens Epithelia
R.W. Carlin, J.H. Lee, D.C. Marcus, B.D. Schultz
Biol. Repro. 68(3):1027-34, 2003
- 03-89-J Altered Frequency Responses to Sympathetic Nerve Discharge Bursts after Interleukin-1 β and Mild Hypothermia
M.J. Kenney, F. Blecha, R. Fels, D.A. Morgan
J. Applied Physiology 93(1):280-8, 2002
- 03-91-J Characterization of an Upstream Open Reading Frame in the 5' Untranslated Region of PR-39, a Cathelicidin Antimicrobial Peptide
H. Wu, C.R. Ross, F. Blecha
Molecular Immunology 39(1-2):9-18, 2002
- 03-92-J Increases in Cytokine And Antimicrobial Peptide Gene Expression in Horses by Immunomodulation with Propionibacterium Acnes
E.G. Davis, B.R. Rush, F. Blecha
Vet Ther. 4(1):5-11, 2003
- 03-375-J Transplantation of Porcine Umbilical Cord Matrix Cells into the Rat Brain
M. Weiss, K. Mitchell, J. Hix, S. Medicetty, S.Z. El-Zarkouny, D. Grieger, D. Troyer
Experimental Neurology 182:288-299, 2003
- 00-97-J Effects of Dietary Electrolyte Balance on Sow and Litter Performance and Chemistry of Blood and Urine in Lactating Sows
J.M. DeRouchey, J.D. Hancock, R.H. Hines, K.R. Cummings, D.J. Lee, C.A. Maloney, D.W. Dean, J.S. Park, H. Cao
J. Animal Science 81:3067-3074, 2003
- 00-98-J Effects of Expander Processing and Enzyme Supplementation of Wheat-Based Diets for Finishing Pigs
J.S. Park, I.H. Kim, J.D. Hancock, C.L. Wyatt, K.C. Behnke, G.A. Kennedy
Asian-Australian J. Animal Science 16:248-256, 2003
- 00-344-J Effects of Dietary Additions of Modified Tall Oil, Chromium Nicotinate, and L-Carnitine on Growth Performance, Carcass Characteristics, and Bacon Characteristics of Growing-Finishing Pigs.
A.T. Waylan, P.R. O'Quinn, R.D. Goodband, J.A. Unruh, J.L. Nelssen, J.C. Woodworth, M.D. Tokach
Canadian J. Animal Science 83:459-467, 2003
- 00-434-J Effects of Providing a Water-Soluble Globulin in Drinking Water on the Growth Performance of Weanling Pigs
M.U. Steidinger, R.D. Goodband, M.D. Tokach, J.L. Nelssen, S.S. Dritz
J. Animal Science 80:3065, 2002

Animal Sciences and Industry

- 99-190-J Simulation of Cooking Cylindrical Beef Roasts
E. Obuz, T.H. Powell, M.E. Dikeman
Lebensmittel-Wissenschaft und Technologie 35:637-644, 2002
- 99-477-J Replacing Lactose with Sucrose or Molasses in Simple and Complex Diets for Nursery Pigs
I. Mavromichalis, J.D. Hancock, B.W. Senne, S.P. Sorrell, H. Cao, R.H. Hines
Animal Feed Science and Technology 93:127-135, 2001
- 00-63-J Effects of Amylase and Cellulase Supplementation in Sorghum-Based Diets for Finishing Pigs
J.S. Park, J.D. Hancock, R.H. Hines, H. Cao, D.J. Lee
Asian-Australian J. Animal Science 16:70-76, 2003
- 00-89-J Enzyme Supplementation and Particle Size of Wheat in Diets for Nursery and Finishing Pigs
J. Mavromichalis, J.D. Hancock, T.L. Gugle, G.A. Kennedy, C.L. Wyatt, B.W. Senne
J. Animal Science 78:3086-3095, 2000
- 01-148-J Effect of a Wide Range in the Ratio of Supplemental Degradable Intake Protein to Starch on Utilization of Low-Quality Prairie Hay
E.A. Klevesahl, R.C. Cochran, E.C. Titgemeyer, T.A. Wickersham, C.G. Farmer, J.I. Arroquy, D.E. Johnson
Animal Feed Science and Technology 105:5-20, 2003
- 01-213-J Soybean Genotype by Environment Interaction for Soymilk and Tofu Quality Characteristics
M. Aziadekey, W.T. Schapaugh, T.J. Herald
J. Food Quality 25:243-259, 2002
- 01-410-J Evaluation of the Uterine Environment and Embryos of Prepubertal Gilts
H.J. Henning, D.L. Davis
J. Animal Science 81:2575-2582, 2003
- 02-29-J Vascular Infusion as a Means to Improve the Antioxidant-Prooxidant Ratio of Beef
E. Katsanidis, D.C. Meyer, P.B. Addis, E.J. Yancey, M.E. Dikeman, P. Tsiamyrtzis, M. Pullen
Food Science 68(4):1149-1154, 2003
- 02-65-J Mechanical Measures of Uncooked Beef Longissimus Muscle to Predict Sensory Panel Tenderness and Warner-Bratzler Shear Force
R.R. Timm, J.A. Unruh, M.E. Dikeman, M.C. Hunt, T.E. Lawrence, J.E. Boyer Jr.
J. Animal Science 81:1721-1727, 2003

Publications of Station Scientists

- 02-116-A Rapid Methods and Automation: An Update
D.Y.C. Fung
Proceedings of the 4th World Fish Inspection and Quality Control Congress. Oct. 23-26, 2001
- 02-119-J Effect of Cinnamon on *Salmonella typhimurium*, *Yersinia enterocolitica* and *Staphylococcus aureus* in Apple Juice
J. Yuste, D.Y.C. Fung
Food Microbiology 20(3):365-369, 2002
- 02-140-J Food Protein Functionality in a Liquid System
M. Webb, K. Schmidt
J. Food Science 67(8):2896-2902, 2002
- 02-167-J Production of Beauvericin, Maniliformin, Fusaproliferin, and Fumonisin B₁, B₂, and B₃ by Fifteen *Fusarium* Species
J. Fotso, J.F. Leslie, J.S. Smith
Applied and Environmental Microbiology 68:5195-5197, 2002
- 02-180-J Preparation of a Fusaproliferin Standard from the Culture of *Fusarium subglutinans* E-1583 by High Performance Liquid Chromatography
X. Wu, J.F. Leslie, R.A. Thakut, J.S. Smith
J. of Food and Agricultural Chemistry 51:383-388, 2003
- 02-183-J Characterization and Functional Properties of Soy B-Conglycinin and Glycinin of Selected Genotypes Grown in Kansas
K.A.Khatib, T.J. Herald, F.M. Aramouni, F. MacRitchie, W.T. Schapaugh
J. Food Science 67:2923-2929, 2002
- 02-191-J Effects of Chilling Rate on Outgrowth of *Clostridium perfringens* Spores in Vacuum Packaged Cooked Beef and Pork
R.J. Danler, E.E. Boyle, C.L. Kastner, H. Thippareddi, D.Y.C. Fung, R.K. Phebus
J. Food Protection 66(3):501-503, 2003
- 02-197-J Consumer Discrimination of Rancidity in Pork Loin Chops and Pork Sausages
E.A. Bryhni, M.C. Hunt
J. Food Science 67(9):3469-3475, 2002
- 02-213-A Can Long Grain-Fill Duration Improve Yield Potential and Grain Quality of Sorghum?
M.R. Tuinstra, T.D. Kriegshauser, R.L. Vanderlip, K.D. Kofoid, J.D. Hancock
Proc. of the 56th Corn & Sorghum Research Conference, 2001 pp.185-195. American Seed Trade Association. Chicago, Dec. 5-7, 2001 Alexandria, VA
- 02-214-J Reflectance at 610 Nanometers Estimates Oxymyoglobin Content on the Surface of Ground Beef
R.A. Mancini, M.C. Hunt, D.H. Kropf
Meat Science 64(2):157-162, 2003
- 02-218-J Effects of Blood Meal pH and Irradiation on Nursery Pig Performance
J.M. DeRouchey, M.D. Tokach, J.L. Nelssen, R.D. Goodband, S.S. Dritz, J.C. Woodworth, M.J. Webster, B.W. James
J. Animal Science 81:113-122, 2002
- 02-220-J Development and Evaluation of a Pelleted Feedstuff Containing Condensed Corn Steep Liquor and Raw Soybean Hulls for Dairy Cattle Diets
J.M. DeFrain, J.E. Shirley, K.C. Behnke, E.C. Titgemeyer, R.T. Ethington
Animal Feed Science and Technology 107:75-86, 2003
- 02-225-B Amino Acid Utilization by Growing and Finishing Ruminants
E.C. Titgemeyer
In: *Amino Acids in Animal Nutrition*, 2nd Ed., J.P.F. D'Mello, ed., pp. 329-346, 2003
- 02-229-J Effects of Postexsanguination Vascular Infusion of Carcasses with Calcium Chloride or a Solution of Saccharides, Sodium Chloride, and Phosphates on Meat Display-Color Stability
M.C. Hunt, J.J. Schoenbeck, E.J. Yancey, M.E. Dikeman, T.M. Loughin, P.B. Addis
J. Animal Science 81:669-675, 2002
- 02-282-J Conception Rates of Dairy Cows Following Early Not-pregnant Diagnosis by Ultrasonography and Subsequent Treatments with Shortened Ovsynch Protocol
J.S. Stevenson, J.A. Carnill, B.A. Hensley, S.Z. El-Zarkouny
Theriogenology 60:475-483, 2003
- 02-334-J Incorporation of Bovine Bone Marrow Stromal Cells into Porcine Fetal Tissues after Xenotransplantation
D. Troyer, M. Weiss, K. Mitchell, P. Martin, D. Davis
Anatomia Histologia Embryologia 32:98-101, 2003
- 02-357-J Evaluating Processing Temperature and the Feeding Value of Extruded-Expelled Soybean Meal on Nursery and Finishing Pig Growth Performance
M.J. Webster, R.D. Goodband, M.D. Tokach, J.L. Nelssen, S.S. Dritz, J.C. Woodworth, M. De la Llatta, N.W. Said
J. Animal Science 81:1473-1481, 2003
- 02-362-J Effects of Processing Factors on In Vitro Ammonia Release from Cooked Molasses Blocks Containing Urea
A.M. Trater, E.C. Titgemeyer, J.S. Drouillard, J.N. Pike
Animal Feed Science and Technology 107:173-190, 2003
- 02-394-J Technical Note: Effect of Removal of Microbial Cells by Centrifugation on Peptide and μ -amino Nitrogen Concentrations in Ruminal Fluid
S.E. Ives, E.C. Titgemeyer, T.G. Nagaraja
J. Dairy Science 85:3059-3061, 2002

Publications of Station Scientists

- 02-405-J Lactic Acid Production using Extrusion Cooked Grain Sorghum
Y. Zhang, D. Wang, X.S. Sun, S. Kim, D.Y.C. Fung
Transactions of the American Society of Agricultural Engineers 46(2):589-593, 2003
- 02-406-J Supplemental Norgestomet, Progesterone, or Melengestrol Acetate Increases Pregnancy Rates in Suckled Beef Cows after Timed Inseminations
J.S. Stevenson, G.C. Lamb, S.K. Johnson, M.A. Medina-Britos, D.M. Grieger, K.R. Harmony, J.A. Cartmill, S.Z. El-Zarkouny, C.R. Dahlen, T.J. Marple
J. Animal Science 81:571-586, 2003
- 02-409-J Irradiation of Individual Feed Ingredients and Complete Diet on Nursery Pig Performance
J.M. DeRouchey, M.D. Tokach, J.L. Nelssen, R.D. Goodband, S.S. Dritz, J.C. Woodworth, B.W. James, D.E. Real
J. Animal Science 81:1799-1805, 2002
- 02-422-J Effects of Calcium Salts on Beef Longissimus Quality
T.E. Lawrence, M.E. Dikeman, M.C. Hunt, C.L. Kastner, D.E. Johnson
Meat Science 64:299-308, 2003
- 02-426-E Composition and Feeding Value of Cottonseed Feed Products for Beef Cattle
D. Blasi, J. Drouillard
K-State Research and Extension Publication MF2538, May 2002, 19 pp.
- 02-451-J Wharton's Jelly Mesenchymal Cells Form Neurons and Glia
K.E. Mitchell, B. Mitchell, P. Martin, B. Helwig, M. Weiss, D.L. Davis, M. Beerensrauch, K. Abou-Easa, D. Troyer
Stem Cells 21:50-60, 2003
- 02-458-J Effect of Abrupt versus Gradual Weaning on Cortisol and Immune Function Responses of Foals
J.L. Turner, M.J. Arns, J.E. Minton, J.A. Pruitt
The Professional Animal Scientist 19:55-61, 2003
- 02-459-J Optical Density of Pre-Foaling Mammary Secretions Is a Reliable Predictor of Foaling Time in Mares
J.L. Turner, L.P. Todd, M.J. Arns, J.J. Higgins, J.E. Minton
The Professional Animal Scientist 18:312-315, 2002
- 02-460-J Effect of Non-Specific Immunostimulation of Prepartum Mares on Colostral Quality and Foal Immune Function
J.L. Turner, M.J. Arns, J.E. Minton
The Professional Animal Scientist 19:62-67, 2003
- 02-470-J Effects of Modified Tall Oil on Body Composition and Serum and Tissue Levels of Cholesterol, Phospholipids, and Alpha-tocopherol in Adult Ovariectomized Rats
P.R. O'Quinn, S.I. Koo, S.K. Noh, J.L. Nelssen, R.D. Goodband, M.D. Tokach
Nutrition Research 23:549, 2003
- 02-334-J Incorporation of Bovine Bone Marrow Stromal Cells into Porcine Fetal Tissues after Xenotransplantation
D. Troyer, M. Weiss, K. Mitchell, P. Martin, D. Davis
Anatomia Histologia Embryologia 32(2):98-101, 2003
- 02-477-A Guidelines for Pork Color Evaluation
M.C. Hunt, R.A. Mancini
Proc. Pork Quality Symposium at the Reciprocal Meat Conference, Lansing, MI, 3:1-6, 2002
- 03-11-J Incidence of Postpartum Anestrus in Suckled Beef Cattle: Treatments to Induce Estrus, Ovulation and Conception
J.S. Stevenson, S.K. Johnson, G.A. Milliken
Professional Animal Scientist 19:124-134, 2003
- 03-15-J Effects of Cooking Method, Reheating, Holding Time, and Holding Temperature on Beef Tenderness
E. Obuz, M.E. Dikeman
Meat Science 65:841-851, 2003
- 03-29-J Simultaneous Recovery of Four Heat-injured Foodborne Pathogens in the Four-compartment Thin Agar Layer Plate
V.C.H. Wu, D.Y.C. Fung
J. Food Science 68(2):646-648, 2003
- 03-33-J Staged Injection Marination with Calcium Lactate, Phosphate and Salt may Improve Beef Water Binding Ability and Palatability Traits
T.E. Lawrence, M.E. Dikeman, M.C. Hunt, C.L. Kastner, D.E. Johnson
Meat Science 65:967-972, 2003
- 03-35-J Effects of Cooking Beef Muscles from Frozen or Thawed States on Cooking Traits and Palatability
E. Obuz, M.E. Dikeman
Meat Science 65:993-997, 2003
- 03-49-J The Effect of Dietary Energy Source on Serum Concentration of Insulin-like Growth Factor-1, Growth Hormone, Insulin, Glucose, and Fat Metabolites in Weanling Horses
J.K. Ropp, R.H. Raub, J.E. Minton
J. Animal Science 81:1581-1589, 2003
- 03-104-J Resynchronization of Estrus in Cattle of Unknown Pregnancy Status using Estrogen, Progesterone, or Both
J.S. Stevenson, S.K. Johnson, M.A. Medina-Britos, A.M. Richardson, G.C. Lamb
J. Animal Science 81:1681-1692, 2003

Publications of Station Scientists

- 03-120-S Swine Day 2002
R.G. Main, J.L. Nelssen, S.S. Dritz, M.D. Tokach, R.D. Goodband, M.G. Young, J.C. Woodworth, S.I. Koo, J.E. Minton, K.Q. Owen, B.J. Johnson, J.P. Kayser, J.D. Dunn, A.T. Waylan, J.C. Nietfeld, T.E. Burkey, J. Hancock, T. Yearly, B.W. James, C.W. Hastad, K.R. Lawrence, J.L. Usry, G.L. Lynch, T.P. Keegan, J.M. DeRouchey, S.M. Hanni, M.R. Barker, M.J. Webster, C.N. Groesbeck, J.A. Unruh, M.G. Young, B.Z. Predicala, R.G. Maghirang
Kansas Agricultural Experiment Station Report of Progress 897, November 2002, CD-ROM;
<http://www.oznet.ksu.edu/library/lvstk2/srp897.pdf>
- 03-121-S Dairy Day 2002
M.J. Brouk, J.F. Smith, J.P. Harner, R.T. Dingwell, K.E. Leslie, J.M. Sargeant, Y.H. Schukken, L.L. Timms, J.E. Shirley, A.F. Parker, E.C. Titgemeyer, R.C. Cochran, J.M. DeFrain, T.G. Nagaraja, E.E. Ferdinand, N. Wallace, R.T. Ethington, V. Burgos, W.F. Miller, M.V. Scheffel, A. Hammond, J.S. Stevenson, C.A. Blevins, J.J. Aberle, B.A. Hensley, S.M. Tiffany
Kans. Agric. Exp. Stn. Report of Progress 898, November 2002, CD-ROM
<http://www.oznet.ksu.edu/library/lvstk2/srp898.pdf>
- 03-203-J Effects of Soybean Meal Particle Size on Growth Performance of Nursery Pigs
K.R. Lawrence, R.D. Goodband, M.D. Tokach, S.S. Dritz, J.L. Nelssen, J.M. DeRouchey, C.W. Hastad, M.J. Webster
J. Animal Science 81:2118, 2003
- 03-272-S Cattlemen's Day 2003
J.J. Sindt, J. S. Drouillard, B. Dicke, T.J. Klopfenstein, L. Borck, E. Ceylan, J.L. Marsden, S.K. Johnson, S.L. Fogleman, R. Jones, E.R. Loe, J.S. Drouillard, T.J. Kessen, S.P. Montgomery, J.N. Pike, M.J. Sulpizio, T.T. Marston, D.A. Llewellyn, L.C. Hollis, J.W. Himm, M. Singh, H. Thippareddi, R.K. Phebus, J.L. Marsden, C.L. Kastner, T. Schroeder, C. Ward, J. Lawrence, D. Feuz, S.C. Clark, D.W. Moser, R.E. Williams, M.T. Ortega, T. Feldkamp, J. Lusk, E.R. Loe, T.J. Kessen, S.P. Montgomery, J.N. Pike, M.J. Sulpizio, L.K. Thompson, D.Y.C. Fung, S.P. Montgomery, D.A. Blasi, R.L. Packard, J.C. Forcherio, R.R. Scott, J.W. Stephens, J.A. Unruh, M.E. Dikeman, M.C. Hunt, T.E. Lawrence, T.M. Loughin, D.A. Llewellyn, R.C. Cochran, C.G. Farmer, T.A. Wickersham, E. J. Yancey, K.A. Hachmeister, E. Chambers IV, G.A. Milliken, E. Westcott, J.D. Dunn, J. P. Kayser, A.T. Waylan, E.K. Sissom, B.J. Johnson, M.A. Greenquist, B.E. Depenbusch, E.J. Good, E.R. Loe, D.R. Eborn, M. Irsik, M. Langemeier, J.A. Minick, E.J. Pollak, D.E. Wilson, E.W. Dressler, A.B. Broce, C.M. Gordon, M.F. Spire, J.J. Higgins, J.A. Fox, M.A. Boland, W. Grady, L.W. Lomas, J.L. Moyer, F.K. Brazle, G.L. Kilgore, E. Ceylan, M. Hajmeer, L.D. Keenan, D.R. Eborn, E.J. Yancey, G.A. Milliken, E. Dressler, P. Gadgil, S. Grunewald, C. Ward, J.W. Stephens, J.P. Kayser, E. Obuz, T.J. Herald, S. Hinojosa Verdin, E.G. Towne, G.L. Bishop, J.R. Brethour, C.M. Trater, K.C. Candler, M.S.

Awawdeh, D.P. Gnad, E.A. Klevesahl, J.I. Arroquy, E.J. Pollak, J. Taylor, S. Davis, T. Holm, S. Koontz, C. Gill, A.L. Reicks
Kans. Agric. Exp. Stn. Report of Progress 908, March 2003, CD-ROM
<http://www.oznet.ksu.edu/library/lvstk2/srp908.pdf>

Publications without contribution numbers

Processing Procedures and Feeding Systems for Sorghum-Based Diets Given to Lactating Sows
I.H. Kim, J.D. Hancock, J.H. Kim, G.A. Kennedy, R.H. Hines, K.C. Behnke, D.A. Nichols
Asian-Australasian J. Animal Science 15:1186-1190, 2002

Corn Particle Size Affects Nutritional Value of Simple and Complex Idts for Nursery Pigs and Broiler Chicks
I.H. Kim, J.D. Hancock, J.W. Hong, M.R. Cabrera, R.H. Hines, K.C. Behnke
Asian-Australasian J. Animal Science 15:872-877, 2002

Biochemistry

00-188-J Polygalacturonase from *Sitophilus oryzae*: Possible Horizontal Transfer of a Pectinase from Fungi to Weevils
Z. Shen, M. Denton, N. Mutti, K. Pappan, M.R. Kanost, J.C. Reese, G.R. Reeck
J. Insect Science 3:24, 2003 <http://insectscience.org/3.24>

01-110-B Modeling and Design of Phytoremediation Processes
L.C. Davis, L.E. Erickson, M. Narayanan, Q. Zhang
In: *Phytoremediation: Transformation and Control of Contaminants*, S.C. McCutcheon and J.L. Schnoor, eds., John Wiley & Sons, New York, Oct. 2003

01-297-J ADAM12 Inhibits Cell Cycle Progression in C2C12 Myoblasts
Introcellular processing of Metalloprotease Disintegrin ADAM 12
Y. Cao, Q. Kang, Z. Zhao, A. Zolkiewska
J. Biological Chemistry 277:26403-26411, 2002

01-466-J Optimization of Sorghum Transformation Parameters using Green Fluorescent Protein and β -glucuronidase as Visual Markers
J.M. Jeoung, S. Krishnaveni, S. Muthukrishnan, H.N. Trick, G.H. Liang
Hereditas 137:20-28, 2002

02-42-J Structure and Dynamics of Chymotrypsin Inhibitor 2 by Computer Simulation
H. Lei, P.E. Smith
J. Physical Chemistry 6(107):1396-1402, 2003

02-85-J Pattern Recognition Proteins in *Manduca sexta* Plasma
X.-Q. Yu, Y. Zhu, C. Ma, M.R. Kanost, J. Fabrick
Insect Biochemistry and Molecular Biology 32:1287-1293, 2002

Publications of Station Scientists

- 02-126-J Structural Implications of Placing Cationic Residues at either the NH₂- or COOH- terminus in a Pore forming Synthetic Peptide.
J.R. Broughman, L.P. Shank, T. Iwamoto, O. Prakash, B.D. Schultz, J.M. Tomich, and K.E. Mitchell
J. Membrane Biology 190:93-103, 2002
- 02-172-J Conserved Amino-Acid Residues within the Amino-Terminal Domain of ClpB are Essential for the Chaperone Activity
Z. Liu, V. Tek, M. Zolkiewski
J. Molecular Biology 321:111-120, 2002
- 02-217-J Stability and Interactions of the Amino-Terminal Domain of ClpB from *Escherichia coli*
V. Tek, M. Zolkiewski
Protein Science 11:1192-1198, 2002
- 02-284-J Effects of Proteinase Inhibitors on Growth and Digestive Proteolysis of the Red Flour Beetle, *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae)
B. Oppert, T.D. Morgan, K. Hartzer, B. Lenarcic, K. Galesa, J. Brzin, V. Turk, K. Yoza, K. Ohtsubo, K.J. Kramer
Comparative Biochemistry and Physiology C134, 481-490 2003
- 02-330-J Modulation of Bovine Lymphocyte Response by Salivary Gland Extracts of the Stable Fly, *Stomoxys calcitrans* (Diptera: Muscidae)
M.J. Wilkerson, C.R. Wyatt, A.B. Broce and M.R. Kanost
J. Medical Entomology 39:900-907, 2002
- 02-398-J Purification and Characterization of an Antifungal Thaumatin-like Protein from Sorghum (*Sorghum bicolor*) Leaves
R. Velazhahan, J. Jayaraj, G.H. Liang, S. Muthukrishnan
J. Plant Disease and Protection 109:452-461 YEAR
- 02-440-J Site-Directed Mutagenesis of Conserved Charged Amino-Acid Residues in ClpB from *Escherichia coli*
M.E. Barnett, M. Zolkiewski
Biochemistry 41:11277-11283, 2002
- 02-442-J Identification by Subtractive Suppression Hybridization of Bacteria-Induced Genes Expressed in *Manduca sexta* Fat Body
Y. Zhu, T. Johnson, M.R. Kanost
Insect Biochemistry and Molecular Biology 33:541-559, 2003
- 02-443-J Characterization and cDNA Cloning of Three Major Proteins from Pharate Pupal Cuticle of *Manduca sexta*
R. Suderman, S.O. Andersen, T.L. Hopkins, M.R. Kanost, K.J. Kramer
Insect Biochemistry and Molecular Biology 33:331-343, 2003
- 02-447-J Nonproteolytic Serine Proteinase Homologs Involved in Phenoloxidase Activation in the Tobacco Hornworm, *Manduca sexta*
X-Q. Yu, H. Jiang, Y. Wang, M.R. Kanost
Insect Biochemistry and Molecular Biology 33:197-208, 2003
- 02-448-J Propheonoloxidase-Activating Proteinase-2 (PAP-2) from Hemolymph of *Manduca sexta*: A Bacteria Inducible Serine Proteinase Containing Two clip Domains
H. Jiang, Y. Wang, X-Q. Yu, M.R. Kanost
J. Biological Chemistry 278:3552-3561, 2003
- 02-472-J LEDGF Activation of PKC Gamma and GAP Junction Disassembly in Lens Epithelial Cells
T.A. Nguyen, D. Boyle, L. Wagner, T. Shinohara, D.J. Takemoto
Experimental Eye Research 76:565-572, 2003
- 03-38-J *Manduca sexta* Lipopolysaccharide-Specific Immuelectin-2 Protects Larvae from Bacterial Infection
X.-Q. Yu, M.R. Kanost
Developmental and Comparative Immunology 27:189-196, 2003
- 03-45-J Properties of a β -1,3-glucan Recognition Protein from an Insect, *Plodia interpunctella*
J.A. Fabrick, J.E. Baker, M.R. Kanost
Insect Biochemistry and Molecular Biology 33:579-594, 2003
- 03-85-J Electrospray Ionization Tandem Mass Spectrometry Scan Modes for Plant Chloroplast Lipids
R. Welti, X. Wang, T.D. Williams
Analytical Biochemistry 314:149-152, 2003
- 03-105-J Benefits of Vegetation for Soils with Organic Contaminants
L.C. Davis, S. Castro-Diaz, Q. Zhang, L.E. Erickson
Critical Reviews in Plant Sciences 21(5): 457-491, 2002
- 03-106-J Greenhouse and Field Testing of Transgenic Wheat against *Fusarium graminearum*
A. Anand, H.N. Trick, B.S. Gill, W.W. Bockus, S. Muthukrishnan
J. Experimental Botany 54:1101-1111, 2003
- 03-115-J IGF-1-Induced Phosphorylation of Comexin 43 by pkc d: Regulation of Gap Junctions in Rabbit Lens Epithelial Cells
D. Lin, D.L. Boyle, D.J. Takemoto
Investigative Ophthalmology and Visual Science 44:1160-1168, 2003
- 03-125-J Kinetic Analysis of Arabidopsis Phospholipase Dd: Substrate Preference and Mechanism of Activation by Ca²⁺ and Phosphatidylinositol 4,5-bisphosphate
C. Qin, C. Wang, X. Wang
J. Biological Chemistry 277:49685-49690, 2002

Publications of Station Scientists

- 03-180-J Stable Transgene Expression and Random Gene Silencing in Wheat
A. Anand, H.N. Trick, B.S. Gill, S. Muthukrishnan
Plant Biotechnology J. 1:241-251, 2003
- 03-210-J Prophenoloxidase-Activating Proteinase-3 (PAP-3) from *Manduca sexta* Hemolymph: A Clip-Domain Serine Proteinase Regulated by Serpin-1J and Serine Proteinase Homologs
H. Jiang, Y. Wang, X-Q. Yu, Y. Zhu, M. Kanost
Insect Biochemistry and Molecular Biology 33:1049-1060, 2003
- 03-218-J Structural Characterization of Peptide Fragments from hGC81-LEV
M. Dhanasekaran, P.W. Baures, S. Van Compernelle, S. Todd, O. Prakash
J. Peptide Research 61:80-89, 2003
- 03-242-J Cavity Formation and Preferential Interactions in Urea Solutions: Dependence on Urea Aggregation
S. Weerasinghe, P.E. Smith
J. Chemical Physics 118:5901-5910, 2003
- 03-260-J The Role of Metalloprotease Disintegrin ADAM12 in Determination of Skeletal Muscle Reserve Cells
Y. Cao, Z. Zhao, J. Gruszczynska-Biegala, A. Zolkiewska
Molecular and Cellular Biology 23:6725-6738, 2003
- 03-261-J Properties of Catalytic, Linker, and Chitin-Binding Domains of an Insect Chitinase
Y. Arakane, Q. Zhu, M. Matsumiya, S. Muthukrishnan, K.J. Kramer
Insect Biochemistry and Molecular Biology 33:631-648, 2003
- 03-267-J A Kirkwood-Buff Derived Force Field for Mixtures of Urea and Water
S. Weerasinghe, P.E. Smith
J. Physical Chemistry B 107:3891-3898, 2003
- 03-268-J A Kirkwood-Buff Derived Force Field for Mixtures of Acetone and Water
S. Weerasinghe, P.E. Smith
J. Chemical Physics 118:10663-10670, 2003
- 03-284-J Characterization of Human TorsinA and its Dystonia-Associated Mutant Form
Z. Liu, A. Zolkiewska, M. Zolkiewski
Biochemical J. 374:117-122, 2003
- 03-305-S Assessing the Effectiveness of Various Riparian Buffer Vegetation Types
C.J. Barden, K.R. Mankin, D. Ngandu, W.A. Geyer, D.L. Devlin, K. McVay
Kans. Agric. Expt. Stn. Keeping Up with Research 137, March 2003
- 03-316-J Development of a Lesion-Mimic Phenotype in a Transgenic Wheat Line Over-Expressing Pathogenesis-Related (PR-) Protein Genes is Dependent on Salicylic Acid Concentration
A. Anand, E.A. Schmelzm S. Muthukrishnan
Molecular Plant Microbe Interactions 16: 916-925, 2003
- Publications without contribution numbers
- 4-hydroxynonenal Induces Glutamate Cysteine Ligase through JNK in HBE1 Cells
D.A. Dickinson, K.E. Iles, N. Watanabe, T. Iwamoto, H. Zhang, D.M. Kryzwanski, H.J. Forman
Free Radic. Biol. Med. 33:974, 2002
- Activation of the Mitochondrial Caspase Cascade in the Absence of Protein Syntheses Does Not Require c-Jun N-terminal kinase
N. Watanabe, T. Iwamoto, C.A. Dickinson, K.E. Iles, H.J. Forman
Arch. Biochem. Biophys. 405(2):231-40, 2002
- AP-1 Activation through Endogenous H₂O₂ Generation by Alveolar Macrophages
K.E. Iles, D.A. Dickinson, N. Watanabe, T. Iwamoto, H.J. Forman
Free Radic. Biol. Med. 32(12):1304-13
Erratum in: Free Radic. Biol. Med. 33(5):725 (2002)
- Alterations in Ion Transport Induced by an Artificial C1 Channel in Micro-Perfused Renal Proximal Tubules
N. Matsumoto, S. Tsuruoka, T. Iwamoto, J.M. Tomich, K. Ito, M. Imai, M. Suzuki
J. Membr. Biol. 193:195-200, 2003
- Bio-Effectiveness of Tat-catalase Conjugate: A Potential Toll for the Identification of H₂O₂-dependent Cellular Signal Transduction Pathways
T. Iwamoto, N. Watanabe, K.D. Bowen, D.A. Dickinson, M. Torres, H.J. Forman
Biochem. Biophys. Res. Commun. 303(1): 287-293, 2003
- ### Biological and Agricultural Engineering
- 00-207-J Use of Image Processing to Measure Changes in Cross-Sectional Areas of Soybean Plants under Wind Conditions
X. Chen, S.M. Welch, N. Zhang, D. Armbrust
Transactions of American Society of Agricultural Engineers 44:1923-1929, 2001
- 01-47-J Performance Variations of COD and Nitrogen Removal by Vegetated Submerged-bed Wetlands
Q. He and K.R. Mankin
J. American Water Resources Association 38(6):1679-1689, 2002

Publications of Station Scientists

- 01-168-J A Method of Presenting Ground Wheat Samples to a Near-Infrared Reflectance Spectroscope for Particle Size Analysis
M.C. Pasikatan, G.M. Milliken, J.L. Steele, C.K. Spillman, E. Haque
Cereal Chemistry 78(6):730-736, 2001
- 01-173-J Development of Standard Procedures for a Simple, Rapid Test to Determine Wheat Color Class
M.S. Ram, F.E. Dowell, L. Seita, G. Lookhart
Cereal Chemistry 79(2):230-237, 2002
- 01-249-J Granulation Sensing of First-Break Ground Wheat Using a Near-Infrared Reflectance Spectrometer: Studies with Soft Red Winter Wheats
M.C. Pasikatan, E. Haque, C.K. Spillman, J.L. Steele, G. Milliken
J. Science of Food and Agriculture 83(3):151-157, 2003
- 01-355-J Subsurface Drip Irrigation for Alfalfa? An Extension Approach to Answer Farmers of Kansas
M. Alam, T.P. Trooien, D.H. Rogers, T.J. Dumler
J. of Extension (electronic) 40(3), 2002
<http://www.joe.org/joe/2002june/rb5.html>
- 01-396-J Composites from Ag-based Resins and Fibers
D. Wang, X.S. Sun
Agric-Tech. July/August 14-16, 2001
- 02-13-J Assessing Removal Kinetics of Organic Matter in Rock-Plant Filters
Q. He, K.R. Mankin
Transactions of the American Society of Agricultural Engineers 45(6):1773-1778, 2002
- 02-51-J Measured and Simulated Uniformity of Low Drift Nozzle Sprinklers
K. Srinivas, D.H. Rogers, R. Stratton, V.L. Martin
Transactions of the American Society of Agricultural Engineers 46(2):321-330, 2003
- 02-73-J Assessment of a GIS-AGNPS Interface Model
K.R. Mankin, R.D. DeAussen, P.L. Barnes
Transactions of American Society of Agricultural Engineers 45(5):1375-1383, 2002
- 02-74-J Remediation of Ammonium-Nitrogen Contaminated Abandoned Animal Waste Lagoon Soil
M.S. Liphadzi, M.B. Kirkham, L.R. Stone, K.R. Mankin
J. Soil Contamination 11(6):789-807, 2002
- 02-110-J Correcting Iron Deficiency in Corn with Seed-row Applied Iron Sulfate
C.B. Godsey, J.P. Schmidt, A.J. Schlegel, R.K. Taylor, C.R. Thompson, R. Gehl
Agronomy J. 95:160-166, 2003
- 02-203-J Atrazine, S-metolachlor, and RPA 201772 Loss in Surface Water Runoff as Affected by Precipitation, Tillage, and Placement Variables
R.J. Rector, D.L. Regehr, P.L. Barnes, T.M. Loughin
Weed Science 51:810-816, 2003
- 02-227-J Land Cover Classification of a Watershed from Multiple Landsat Scenes
S.J. Bhuyan, K.R. Mankin, J.M.S. Hutchinson, D.G. Goodin, J.K. Koelliker
J. Environmental Hydrology, Paper 6, 20 September, 2002
- 02-261-J Field Plot and Model Comparisons of Atrazine Runoff Losses from Fall, Early Spring, and Preemergence Applications
R.J. Rector, D.L. Regehr, P.L. Barnes, T.M. Loughin, M.A. Hoobler
Weed Science 51:817-825, 2003
- 02-405-J Lactic Acid Production using Extrusion Cooked Grain Sorghum
X. Zhang, D. Wang, X.S. Sun, S. Kim, D.Y.C. Fung
Transactions of the American Society of Agricultural Engineers 46(2):589-593, 2003
- 03-40-J Using Cone Index Data to Explain in Field Yield Variation
N.E. Isaac, R.K. Taylor, S.A. Staggenborg, M.D. Schrock, D. Leikam
International Commission of Agricultural Engineering Ejournal 2002
CIGAR <http://cigr-ejournal.tamu.edu/volume4.html>
- 03-43-J Developing Topographic Maps using an Agricultural Global Positioning Receiver
J.P. Schmidt, R.K. Taylor, R.J. Gehl
Applied Engineering in Agriculture 19(3):291-300, 2003
- 03-94-A A Mobile Irrigation Lab for Water Conservation: I. Physical and Electronic Tools
G.A. Clark, D.H. Rogers, M. Alam, D. Fjell, S. Briggeman
2002. The Irrigation Association Technical Conference Proceedings. (Published on a CD)
- 03-99-J Effectiveness of Local Supply Ventilation for Livestock Confinement Buildings - A Pilot Study
S.B. Jerez, R.G. Maghirang
American Society of Heating, Refrigerating and Air-Conditioning Engineering Transactions 109(2), 2003
- 03-110-J Using Subsurface Drip Irrigation for Alfalfa
M. Alam, T.P. Trooien, T.J. Dumler, D.H. Rogers
J. American Water Resources Association 38:1715-1721, 2002

Publications of Station Scientists

- 03-120-S Swine Day 2002
R.G. Main, J.L. Nelssen, S.S. Dritz, M.D. Tokach, R.D. Goodband, M.G. Young, J.C. Woodworth, S.I. Koo, J.E. Minton, K.Q. Owen, B.J. Johnson, J.P. Kayser, J.D. Dunn, A.T. Waylan, J.C. Nietfeld, T.E. Burkey, J. Hancock, T. Yearly, B.W. James, C.W. Hastad, K.R. Lawrence, J.L. Usry, G.L. Lynch, T.P. Keegan, J.M. DeRouchey, S.M. Hanni, M.R. Barker, M.J. Webster, C.N. Groesbeck, J.A. Unruh, M.G. Young, B.Z. Predicala, R.G. Maghirang
Kans. Agric. Exp. Stn. Report of Progress 897, November 2002, CD-ROM;
<http://www.oznet.ksu.edu/library/lvstk2/srp897.pdf>
- 03-171-J Field Comparison of Inhalable and Total Dust Samplers for Assessing Airborne Dust in Swine Confinement Barns
B.Z. Predicala, R.G. Maghirang
Applied Occupational and Environmental Hygiene J. 18(9), 2003
- 03-137-J Physical Properties of Medium-Density Straw Particleboard
X. Mo, E. Cheng, D. Wang, X. Sun
Industrial Crops and Products 18(1):47-53, 2003
- 03-193-S 2003 Chemical Weed Control for Field Crops, Pastures, Rangeland and Noncropland
D.L. Regehr, D.E. Peterson, P.D. Ohlenbusch, W.H. Fick, P.W. Stahlman, R.E. Wolf
Kans. Agric. Exp. Stn. Report of Progress 902, December 2002, 96 pp.
- 03-195-J Ethanol and Lactic Acid Production as Affected by Sorghum Genotype and Location
X. Zhan, D. Wang, M.R. Tuinstra, S. Bean, P.A. Seib, X.S. Sun
Industrial Crops and Products 18:245-255, 2003
- 03-198-S Kansas Fertilizer Research 2002
H.D. Bond, M.M. Claassen, S.R. Duncan, D.L. Fjell, R.J. Gehl, H.C. George, C.B. Godsey, W. B. Gordon, J. Heitman, K. A. Janssen, K.W. Kelley, G. L. Kilgore, G.J. Kluitenberg, R. E. Lamond, D.F. Leikam, L. D. Maddux, C.W. Marr, V. L. Martin, T.M. Maxwell, K.A. McVay, M.M. Mikha, J. L. Moyer, G. M. Pierzynski, K. Rector, C.W. Rice, A. J. Schlegel, J.P. Schmidt, J.P. Shroyer, S.A. Staggenborg, D. W. Sweeney, C.A. Thompson, C.R. Thompson, D. A. Whitney, B.D. Wood
Kans. Agric. Exp. Stn. Report of Progress 903, December 2002, 71 pp. (CD-ROM only)
<http://www.oznet.ksu.edu/library/crpsl2/SRP903.pdf>
- 03-201-S 2002 Kansas Performance Tests with Grain Sorghum Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, V. Martin, L. Maddux, P. Evans, K. Kofoid, J. Long, A. Schlegel, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 900, December 2002, 46 pp.
- 03-305-S Assessing the Effectiveness of Various Riparian Buffer Vegetation Types
C.J. Barden, K.R. Mankin, D. Ngandu, W.A. Geyer, D.L. Devlin, K. McVay
Kans. Agric. Exp. Stn. Keeping up with Research 137, March 2003
- ### Biology
- 00-209-B Rainfall Timing, Soil Moisture Dynamics, and Plant Responses in a Mesic Tallgrass Prairie Ecosystem
P.A. Fay, A.K. Knapp, J.M. Blair, J.D. Carlisle, B.T. Danner, J.K. McCarron
In: *Changing Precipitation Regimes and Terrestrial Ecosystem*, University of Arizona Press, pp. 147-163, 2003
- 00-280-J Hunting Mortality and Overwinter Survival of Northern Bobwhites Relative to Food Plots in Kansas
L.A. Madison, R.J. Robel, D.P. Jones
Wildlife Society Bulletin 30:1004-1011, 2002
- 00-336-J Energy Characteristics and Consumption of Several Seeds Recommended for Northern Bobwhite Food Plantings
L.A. Madison, R.J. Robel
Wildlife Society Bulletin 29(4):1219-1227, 2002
- 01-70-J Changes in Ecosystem Structure and Function in a Chronosequence of Grasslands Restored through the Conservation Reserve Program
S.G. Baer, D.J. Kitchen, J.M. Blair, C.W. Rice
Ecological Applications 12:1688-1701, 2002
- 01-344-J Invertebrate Biomass: Associations with Habitat Use by Lesser Prairie-Chickens and Sand Sagebrush Density during Summer in Southwestern Kansas
B.E. Jamison, R.J. Robel, T.L. Walker, G.C. Salter, J.S. Pontius, R.D. Applegate
Wildlife Society Bull. 30(2):517-526, 2002
- 1-419-J First Record of the Cinereus Shrew for Riley County, Kansas
R.S. Matlack, D.W. Kaufman, R.E. Charlton
The Prairie Naturalist 33:107-108, 2001
- 02-95-J Ecosystem Significance of Crayfishes and Central Stonerollers in a Prairie Stream: Functional Differences between Co-occurring Omnivores
M.A. Evans-White, W.K. Dodds, M.R. Whiles
J. North American Benthological Society 22:423-441, 2003

Publications of Station Scientists

- 02-122-J Vascular Plants of Konza Prairie Biological Station: An Annotated Checklist of Species in a Kansas Tallgrass Prairie
E.G. Towne
Sida 20:269-294, 2002
- 02-196-J Carbon and Water Relations of Juvenile Quercus Species in Tall-Grass Prairie
B.T. Danner, A.K. Knapp
J. Vegetation Science 12:807-816, 2001
- 02-201-J The Misuse of Soluble Reactive Phosphorus and Inorganic Nitrogen to Indicate Nutrient Status of Surface Waters
W.K. Dodds
J. North American Benthological Society 22:171-181, 2003
- 02-263-J Vegetation Dynamics from Annually Burning Tallgrass Prairie in Different Seasons
E.G. Towne, K.E. Kemp
J. Range Management 56:185-192, 2003
- 02-297-J The Drosophila DIAP1 Protein Is Required to Prevent Accumulation of a Continuously Generated, Processed Form of the Apical Caspase DRONC
I. Muro, B.A. Hay, R. J. Clem
J. Biological Chemistry 277:49644-49650, 2003
- 02-308-J Butterflies of Konza Prairie Biological Station: An Annotated Checklist
V.F. Wright, R.L. Huber, C.L. Huber
J. Kansas Entomological Society 76(3):469-476, 2003
- 02-309-J First Kansas Record for Tetraopes texanus (Coleoptera: Cerambycidae)
R.L. Huber, V.F. Wright
J. Kansas Entomological Society 75(4):341, 2002
- 02-352-J In vivo Induction of Apoptosis Correlating with Reduced Infectivity during Baculovirus Infection
T.E. Clarke, R.J. Clem
J. Virology 77:2227-2232, 2003
- 02-372-J Ring-Necked Pheasant Parasitism of Lesser Prairie-Chicken Nests in Kansas
C.A. Hagen, B.E. Jamison, R.J. Robel, R.D. Applegate
Wilson Bulletin 114(4):522-524, 2002
- 02-403-J Patterns of Reproduction for Western Mice in North-Central Kansas
J.R. Goheen, G.A. Kaufman, D.W. Kaufman
The Prairie Naturalist 34:107-113, 2002
- 02-404-J Woodchuck Recorded in Saline and Russell Counties, Kansas
G.A. Kaufman, D.W. Kaufman
The Prairie Naturalist 34:145-147, 2002
- 02-436-J Ethylene and Jasmonic Acid Signaling Pathways Affect NPR1-independent Expression of Defense Genes without Impacting Resistance to Pseudomonas syringae and Peronospora parasitica in the Arabidopsis ssl Mutant
A. Nandi, P. Kachroo, H. Fukushige, D.F. Hildebrand, D.F. Klessig, J. Shah
Molecular Plant-Microbe Interaction 16:588-599, 2003
- 02-472-J LEDGF Activation of PKC Gamma and GAP Junction Disassembly in Lens Epithelial Cells
T.A. Nguyen, D. Boyle, L. Wagner, T. Shinohara, D.J. Takemoto
Experimental Eye Research 76:565-572, 2003
- 03-12-J Toll-like Receptor 4 (TLR4)-Positive Macrophages Protect Mice from Pasteurella-Induced Pneumonia
M.L. Hart, D.A. Mosier, S.K. Chapes
Infection and Immunity 71(2):663-670, 2003
- 03-18-J Improving Baculovirus Resistance to UV Inactivation: Increased Virulence Resulting from Expression of a DNA Repair Enzyme
D.T. Petrik, A. Iseli, B.A. Montelone, J.L. Van Etten, R.J. Clem
J. Invertebrate Pathology 82:50-56, 2003
- 03-53-J Role of Major Histocompatibility Complex Class II in Resistance of Mice to Naturally Acquired Infection with *Syphacia obvelata*
P.W. Stewart, S.K. Chapes
Comparative Medicine 53:70-74, 2003
- 03-59-J Effect of Body Size on Reproductive Characteristics of the Northern Grasshopper Mouse in North Central Kansas
J.R. Goheen, G.A. Kaufman, D.W. Kaufman
The Southwestern Naturalist 48:427-431, 2003
- 03-70-J Functional Dissection of the Baculovirus Late Expression Factor-8 Gene: Sequence Requirements for Late Gene Promotor Activation
J. S. Titterington, T.K. Nun, A. L. Passarelli
J. General Virology 84:1817-1826, 2003
- 03-85-J Electrospray Ionization Tandem Mass Spectrometry Scan Modes for Plant Chloroplast Lipids
R. Welti, X. Wang, T.D. Williams
Analytical Biochemistry 314:149-152, 2003
- 03-87-J Soil Resources Regulate Productivity and Diversity in Newly Established Tallgrass Prairie
S.G. Baer, J.M. Blair, S.L. Collins, A.K. Knapp
Ecology 84:724-735, 2003

Publications of Station Scientists

- 03-115-J IGF-1-Induced Phosphorylation of Comexin 43 by pkc d: Regulation of Gap Junctions in Rabbit Lens Epithelial Cells
D. Lin, D.L. Boyle, D.J. Takemoto
Investigative Ophthalmology and Visual Science
44:1160-1168, 2003
- 03-132-J The Arabidopsis thaliana sfd1 Mutants Affect Plastidic Lipid Composition and Suppress Dwarfing, Cell Death and Disease Resistance Phenotypes Resulting from the Deficiency of a Fatty Acid Desaturase
A. Nandi, K. Krothapalli, C. Buseman, M. Li, R. Welti, A. Enyedi, J. Shah
Plant Cell 15:2383-2398, 2003
- 03-165-J Silencing of the Baculovirus Op-iap3 gene by RNA Interference Reveals that it is Required for Preventing Apoptosis During Orgyia pseudotsugata M Nucleopolyhedrovirus Infection of LD652Y Cells
J.C. Means, I. Muro, R.J. Clem
J. Virology 77:4481-4488, 2003
- 03-194-J piggyBac-Mediated Germline Transformation in the Beetle Tribolium castaneum
M.D. Lorenzen, A. Berghammer, S.J. Brown, R.E. Denell, M. Klingler, R.W. Beeman
Insect Molecular Biology 5:433-440, 2003
- 03-204-J Laboratory Evaluation of the Dual-Probe Heat-Pulse Method for Measuring Soil Water Content
J.M. Basinger, G.J. Kluitenberg, J.M. Ham, J.M. Frank, P.L. Barnes, M.B. Kirkham
Vadose Zone J. 2:389-399, 2003
- 03-218-J Structural Characterization of Peptide Fragments from hGC81-LEV
M. Dhanasekaran, P.W. Baures, S. Van Compernelle, S. Todd, O. Prakash
J. Peptide Research 61:1-10, 2003
- 03-237-J Abiotic Constraints on the Establishment of Quercus Seedlings in Grassland
B.T. Danner, A.K. Knapp
Global Change Biology 9:266-275, 2003
- 03-257-J Effect of Bt Corn (MON 863) for Corn Rootworm Control on Nontarget Soil Microarthropods, Earthworms, and Nematodes
G. Wilde, M. Al-Deeb, J. Blair, T. Todd
Environmental Entomology 32:859-865, 2003
- 03-280-J Insect Defenses Against Virus Infection: The Role of Apoptosis
T. Clarke, R. Clem
International Reviews of Immunology 22:401-424, 2003

- 03-344-J Productivity Responses to Altered Rainfall Patterns in a C4-Dominated Grassland
P.A. Fay, J.D. Carlisle, A.K. Knapp, J.M. Blair, S.L. Collins
Oecologia 137:245-251, 2003
- 03-382-J Macroinvertebrates in North American Tallgrass Prairie Soils: Effects of Fire, Mowing, and Fertilization on Density and Biomass
M.A. Callahan Jr., J.M. Blair, T.C. Todd, D.J. Kitchen, M.R. Whiles
Soil Biology and Biochemistry 35:1079-2093, 2003

Publications without contribution numbers

Prevalence of Mycoplasma Antibodies in Lesser Prairie-Chicken Sera
C.A. Hagen, S.S. Cupper, R.D. Applegate, R.J. Robel
Avian Diseases 46:708-712, 2002

Chemical Engineering

- 02-127-J Effect of Tree Species on the Devolatilization of Oven-Dry Wood
W.P. Walawender, T.K. Suazo, W.A. Geyer
Wood and Fiber Science, 35(2):301-307, 2003
- 03-105-J Benefits of Vegetation for Soils with Organic Contaminants
L.C. Davis, S. Castro-Diaz, Q. Zhang, L.E. Erickson
Critical Reviews in Plant Sciences 21:457-491, 2002
- 03-130-J A Graph-Theoretic Method for the Algorithmic Synthesis of Azeotropic-Distillation Systems
G. Feng, L.T. Fan, P.A. Seib, B. Bertok, L. Kalotai, F. Friedler
Industrial and Engineering Chemistry Research
42:3602-3611, 2003
- 03-350-J A Graph-Theoretic Method for the Algorithmic Synthesis of Azeotropic-Distillation Systems
G. Feng, L.T. Fan, P.A. Seib, B. Bertok, L. Kalotai, F. Friedler
Industrial Engineering Chemistry Research
42:3602-3611, 2003

Civil Engineering

Publications without contribution numbers

Seepage in Soils: Principles and Applications
L.N. Reddi
John Wiley & Sons Inc., Hoboken, NJ, 2003

Publications of Station Scientists

Communications

- 02-19-J Preferred Communication Channels of Homemakers
K.M. Boone, S. Zenger
J. Applied Communications 85(4):19-35, 2002
- 02-135-J What's the Impact with Congressional Aides? A Mixed Methods Study
K. Boone, M. Tucker, J. McClaskey
J. Applied Communications 86(2):13-35, 2002
- 03-201-S 2002 Kansas Performance Tests with Grain Sorghum Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, V. Martin, L. Maddux, P. Evans, K. Kofoid, J. Long, A. Schlegel, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 900, December 2002, 46 pp.
- 03-307-S Weed Control with Imazaquin and Pendimethalin Around Newly Planted Shrub and Tree Seedlings
W.A. Geyer, W.H. Fick, E. Rhodenbaugh
Kans. Agric. Exp. Stn. Keeping Up with Research 138, March 2003
- 03-322-S 2003 Agricultural Research Southeast Agricultural Research Center
L.W. Lomas, J.L. Moyer, D.W. Sweeney, K.W. Kelley, J.H. Long, F.K. Brazle, G.L. Kilgore, S. Staggenborg, S. Duncan, K. Janssen, M.B. Kirkham, M. Knapp, C.M. Taliaferro
Kans. Agric. Exp. Stn. Report of Progress 909, April 2003, 55 pp.

Diagnostic Medicine/Pathobiology

- 02-245-J Unique Epitope of Bovine Immunodeficiency Virus Gag Protein Spans the Cleavage Site between p16ma and p2L
M. Lu, L. Zheng, K. Mitchell, S. Kapil, H.C. Minocha
Clin. Diagnostic. Lab. Immun. 9(6):1277-81, 2002
- 02-394-J Technical Note: Effect of Removal of Microbial Cells by Centrifugation on Peptide and μ -amino Nitrogen Concentrations in Ruminant Fluid
S.E. Ives, E.C. Titgemeyer, T.G. Nagaraja
J. Dairy Science 85:3059-3061, 2002
- 02-497-J Molecular Heterogeneity of *Ehrlichia chaffeensis* Isolates Determined by the Restriction Fragment Length Polymorphism and Sequence Analysis of Outer Membrane Protein Genes
C. Cheng, C. Paddock, R.R. Ganta
Infection and Immunity 71:187-195, 2003

- 03-12-J Toll-like Receptor 4 (TLR4)-Positive Macrophages Protect Mice from *Pasteurella*-Induced Pneumonia
M.L. Hart, D.A. Mosier, S.K. Chapes
Infection and Immunity 71(2):663-670, 2003
- 03-47-J Veterinary Certified Hazard Analysis and Critical Control Points: A Survey of Dairy Producers Practices and their Attitudes Pertaining to Dairy Market Beef Food Safety
M.J. Van Baale, J.C. Galland, D.R. Hyatt, G.A. Milliken
Food Protection Trends 23(6):466-473, 2003
- 03-53-J The Role of MHCII in the Resistance of Mice to Naturally Occurring Infection with *Syphacia obvelata*
P.W. Stewart, S.K. Chapes
Comparative Medicine 53:70-74, 2003
- 03-56-J Heterospecific Expression of the *Bacillus subtilis* Cell Shape Determination Genes *mreBCD* in *Escherichia coli*
J. C. Lee, J.H. Cha, D.B. Zerby, G.C. Stewart
Current Microbiology 47:146-152, 2003
- 03-121-S Dairy Day 2002
M.J. Brouk, J.F. Smith, J.P. Harner, R.T. Dingwell, K.E. Leslie, J.M. Sargeant, Y.H. Schukken, L.L. Timms, J.E. Shirley, A.F. Parker, E.C. Titgemeyer, R.C. Cochran, J.M. DeFrain, T.G. Nagaraja, E.E. Ferdinand, N. Wallace, R.T. Ethington, V. Burgos, W.F. Miller, M.V. Scheffel, A. Hammond, J.S. Stevenson, C.A. Blevins, J.J. Aberle, B.A. Hensley, S.M. Tiffany
Kans. Agric. Exp. Stn. Report of Progress 898, November 2002, CD-ROM
<http://www.oznet.ksu.edu/library/lvstk2/srp898.pdf>
- 03-298-J Essential Nature of the *mreC* Determinant in *Bacillus subtilis*
G.C. Stewart, J.-C. Lee
J. Bacteriology 185:4490-4498, 2003

Director's Office

- 03-432-D 2002 Report on Grains Research and Educational Programs Supported by Kansas Corn, Grain Sorghum, Soybean, and Wheat Commissions
F. Chumley
February 2003, 55 pp.
(available from dept. only)
- 03-370-D 2002 Director's Report of Research in Kansas (electronic only) June 2003, 51 pp.
www.oznet.ksu.edu/library/misc2/drr02.pdf

Publications of Station Scientists

Entomology

- 00-188-J Polygalacturonase from *Sitophilus oryzae*: Possible Horizontal Transfer of a Pectinase Gene from Fungi to Weevils
Z. Shen, M. Denton, N. Mutti, K. Pappan, M.R. Kanost, J.C. Reese, G.R. Reeck
J. of Insect Science 3:24, 9 pp., 2003
- 01-151-J Phylogenetic Relationships Among *Blattabacterium*, Endosymbiotic Bacteria from the Wood Roach, *Cryptocercus*
J.W. Clark, S. Kambhampati
Molecular Phylogenetics and Evolution 26:82-88, 2003
- 01-164-J Distribution of *Cyclocephala* spp. (Coleoptera: Scarabaeidae) in Kansas
R.J. Bauernfeind
Environmental Entomology 30(5):899-902, 2001
- 01-196-J Sex Pheromone of the Noctuid Moth, *Tyta luctuosa* (Lepidoptera: Noctuidae), a Candidate Biological Control Agent of Field Bindweed
W.-H. Cao, R.E. Charlton, J.R. Nechols, M.J. Horak
Environmental Entomology 32:17-22, 2003
- 01-331-J Wheat Curl Mites Infesting Wheat Spikes in the Greenhouse Affect Grain Production
T.L. Harvey, T.J. Martin, D.L. Seifers
J. Agric. and Urban Entom. 19:1-5, 2002
- 01-369-J Differential Transmission of Isolates of the High Plains Virus by Different Sources of Wheat Curl Mites
D.L. Seifers, T.L. Harvey, R. Louie, D.T. Gordon, T.J. Martin
Plant Disease 86:138-142, 2002
- 01-419-J First Record of the Cinereus Shrew for Riley County, Kansas
R.S. Matlack, D.W. Kaufman, R.E. Charlton
The Prairie Naturalist 33:107-108, 2001
- 02-3-J Evaluation of Cruiser and Gaucho as Seed Treatment for Controlling European Corn Borer and Indianmeal Moth in Stored Grain
B. Yue, G. Wilde, F. Arthur
J. Economic Entomology 92:503-509, 2003
- 02-48-J Relationships Between Stream Size, Suspended Particles, and Filter-Feeding Macroinvertebrates in a Great Plains Drainage Network.
M.R. Whiles and W.K. Dodds.
J. of Environmental Quality 31:1589-1600, 2002
- 02-95-J Ecosystem Significance of Crayfishes and Central Stonerollers in a Tallgrass Prairie Stream: Functional Differences between Co-occurring Omnivores
M.A. Evans-White, W.K. Dodds, M.R. Whiles
North American Benthological Society 22:423-441, 2003
- 02-105-J Laboratory and Field Trials with Three Commercial Ultrasonic Devices Against Three Ant Species
F. Huang, Bh. Subramanyam, J. Clark
J. Agricultural and Urban Entomology 19:25-28, 2003
- 02-175-J Phylogenetic Relationships Among *Bactrocera* (Diptera: Tephritidae) Species Inferred from Mitochondrial DNA Sequences
P.T. Smith, S. Kambhampati, K. Armstrong
Molecular Phylogenetics and Evolution 26:8-17, 2003
- 02-182-J Aboveground Invertebrate Responses to Land Management Differences in a Central Kansas Grassland
J.L. Jonas, M.R. Whiles, R.E. Charlton
Environmental Entomology: Community/Ecosystem Ecology 31:1142-1152, 2002
- 02-188-J Phylogenetic Analysis of Mitochondrial DNA Supports the Monophyly of Dacini Fruit Flies (Diptera: Tephritidae)
P.T. Smith, B.A. McPheron, S. Kambhampati
Annals of the Entomological Society of America 95:668-664, 2003
- 02-189-J Mitochondrial DNA Variation among Host Races of *Eurosta solidaginis* Fitch (Diptera: Tephritidae)
P.T. Smith, K. Kragen, J.R. Cronin, S. Kambhampati
Molecular Phylogenetics and Evolution 25:372-376, 2003
- 02-284-J Effects of Proteinase Inhibitors on Growth and Digestive Proteolysis of the Red Flour Beetle, *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae)
B. Oppert, T.D. Morgan, K. Hartzler, B. Lenarcic, K. Galesa, J. Brzin, V. Turk, K. Yoza, K. Ohtsubo, K.J. Kramer
Comp. Biochem. Physiol. 134:481-490, 2003
- 02-105-J Laboratory and Field Trials with Three Commercial Ultrasonic Devices Against Three Ant Species
F. Huang, Bh. Subramanyam, J. Clark
J. Agricultural and Urban Entomology 19:25-28, 2003
- 02-301-J Genetic Mapping of an *Aegilops tauschii* Gene Transferred to Common Wheat Conferring Resistance to all Strains of Wheat Curl Mite
R. Malik, G.L. Brown-Guedira, C.M. Smith, T.L. Harvey, B.S. Gill
Crop Science 43:644-650, 2003
- 02-330-J Modulation of Bovine Lymphocyte Response by Salivary Gland Extracts of the Stable Fly, *Stomoxys calcitrans* (Diptera: Muscidae)
M.J. Wilkerson, C.R. Wyatt, A.B. Broce and M.R. Kanost
J. Med. Entomol., 39:900-907, 2002
- 02-434-J Time-Mortality Relationships for *Tribolium castaneum* (Coleoptera: Tenebrionidae) Life Stages Exposed to Elevated Temperatures
R. Mahroof, Bh. Subramanyam, J.E. Throne, A. Menon
J. Economic Entomology 96:1345-1351, 2003

Publications of Station Scientists

- 02-439-J Within-Plant Distribution of Twospotted Spider Mite, *Tetranychus urticae* Koch (Acari: Tetranychidae), on Ivy Geranium: Development of a Presence-Absence Sampling Plan
G.P. Opit, D. Margolies, J. Nechols
J. Economic Entomology 96:482-488, 2003
- 02-443-J Characterization and cDNA Cloning of Three Major Proteins from Pharate Pupal Cuticle of *Manduca sexta*
R. Suderman, S.O. Andersen, T.L. Hopkins, M.R. Kanost, K.J. Kramer
Insect Biochemistry and Molecular Biology 33:331-343, 2003
- 02-457-J Antennal Morphology of the Soybean Stem Borer *Dectes texanus texanus* LeConte (Coleoptera: Cerambycidae)
D. Crook, S. Ramaswamy, R. Higgins
J. Kansas Entomological Society 76:397-405, 2003
- 02-468-J Mechanisms Underlying Sawtoothed Grain Beetle (*Oryzaephilus Surinamensis* (L.)) (Coleoptera: Silvanidae) Infestation of Consumer Food Packaging Materials
S.V. Mowery, M.A. Mullen, J.F. Campbell, A.B. Broce
J. Economic Entomology 95:1333-1336, 2002
- 03-80-J Assessment of *Aegilops tauschii* for Resistance to Diverse Strains of Wheat Curl Mites
R. Malik, C.M. Smith, G.L. Brown-Guedira, T.L. Harvey, B.S. Gill
J. Economic Entomology 96:1329-1333, 2003
- 03-93-J The Effect of Pre-Adult and Adult Temperatures on Oocyte Development of the Field Bindweed Moth, *Tyta luctuosa* (Lepidoptera: Noctuidae)
S.C. Villamil, J.R. Nechols, S. Ramaswamy
J. Kansas Entomological Society 76:442-446, 2003
- 03-103-J Response of *Muscidifurax zaraptor* (Hymenoptera: Pteromalidae) to the Olfactory Stimuli from Hosts and their Habitat
T. McKay, A.B. Broce
J. Kansas Entomological Society 76:31-37, 2003
- 03-112-J Behavioral Interaction between Males of *Cephalonomia tarsalis* (Ashmead) (Hymenoptera: Bethyilidae) Competing for Females
L.-L. Cheng, R.W. Howard, J.F. Campbell, R.E. Charlton, J.R. Nechols, S. Ramaswamy
J. Insect Behavior 16:625-645, 2003
- 03-121-S Dairy Day 2002
M.J. Brouk, J.F. Smith, J.P. Harner, R.T. Dingwell, K.E. Leslie, J.M. Sargeant, Y.H. Schukken, L.L. Timms, J.E. Shirley, A.F. Park, E.C. Titgemeyer, R.C. Cochran, J.M. DeFrain, T.G. Nagaraja, E.E. Ferdinand, N. Wallace, R.T. Ethington, V. Burgos, W.F. Miller, M.V. Scheffel, A. Hammond, J.S. Stevenson, C.A. Blevins, J.J. Aberle, B.A. Hensley, S.M. Tiffany
Kans. Agric. Exp. Stn. Report of Progress 898, November 2002, CD-ROM
<http://www.oznet.ksu.edu/library/lvstk2/srp898.pdf>
- 03-220-J Insect Resistance to *Bacillus thuringiensis*: Alterations in the Indianmeal Moth Larval Gut Proteome
M. Candas, O. Loseva, B. Oppert, P. Kosaraju, L.A. Bulla Jr.
Molecular & Cellular Proteomics 2:19-28, 2003
- 03-257-J Effect of *Bt* Corn (MON 863) for Corn Rootworm Control on Nontarget Soil Microarthropods, Earthworms, and Nematodes
G. Wilde, M. Al-Deeb, J. Blair, T. Todd
Environmental Entomology 32:859-865, 2003
- 03-278-J Molecular Cloning and Characterization of a cDNA Encoding Cytochrome c Oxidase Subunit Va from the Lesser Grain Borer, *Rhyzopertha dominica* (F.) (Coleoptera: Bostrichidae)
J. Ayala, A.K. Dowdy, R.W. Beeman, K.Y. Zhu
Arch. Insect Biochem. Physiol. 54:47-54, 2003
- 03-382-J Macroinvertebrates in North American Tallgrass Prairie Soils: Effects of Fire, Mowing, and Fertilization on Density and Biomass.
M.A. Callahan Jr., J.M. Blair, T.C. Todd, D.J. Kitchen, M.R. Whiles
Soil Biology and Biochemistry 35:1079-1093, 2003

Food Animal Health and Management Center

- 00-44-J Feeding Management Strategies for Nursery Pigs: Influences of Variation in Weaning Weight on Feed Budgeting
S.S. Dritz, M.D. Tokach, R.D. Goodband, J.L. Nelssen
Comp. Cont. Educ. Pract. Vet. 24:52-58, 2002
- 00-434-J Effects of Providing a Water-Soluble Globulin in Drinking Water on the Growth Performance of Weanling Pigs
M.U. Steidinger, R.D. Goodband, M.D. Tokach, J.L. Nelssen, S.S. Dritz
J. Animal Science 80:3065, 2002
- 01-218-J A Review of Creatine Supplementation and Its Potential to Improve Pork Quality
B.W. James, R.D. Goodband, J.A. Unruh, M.D. Tokach, J.L. Nelssen, S.S. Dritz
J. Appl. Anim. Res. 21:1-16, 2002
- 02-218-J Effects of Blood Meal pH and Irradiation on Nursery Pig Performance
J.M. DeRouchey, M.D. Tokach, J.L. Nelssen, R.D. Goodband, S.S. Dritz, J.C. Woodworth, M.J. Webster, B.W. James
J. Animal Science 81:113-122, 2002

Publications of Station Scientists

- 02-357-J Evaluating Processing Temperature and the Feeding Value of Extruded-Expelled Soybean Meal on Nursery and Finishing Pig Growth Performance
M.J. Webster, R.D. Goodband, M.D. Tokach, J.L. Nelssen, S.S. Dritz, J.C. Woodworth, M. De la Latta, N.W. Said
J. Animal Science 81:1473-1481, 2003
- 03-47-J Veterinary Certified Hazard Analysis and Critical Control Points: A Survey of Dairy Producers Practices and their Attitudes Pertaining to Dairy Market Beef Food Safety
M.J. Van Baale, J.C. Galland, D.R. Hyatt, G.A. Milliken
J. Food Protection Trends 23(6):466-473, 2003
- 03-120-S Swine Day 2002
R.G. Main, J.L. Nelssen, S.S. Dritz, M.D. Tokach, R.D. Goodband, M.G. Young, J.C. Woodworth, S.I. Koo, J.E. Minton, K.Q. Owen, B.J. Johnson, J.P. Kayser, J.D. Dunn, A.T. Waylan, J.C. Nietfeld, T.E. Burkey, J. Hancock, T. Yearly, B.W. James, C.W. Hastad, K.R. Lawrence, J.L. Usry, G.L. Lynch, T.P. Keegan, J.M. DeRouchey, S.M. Hanni, M.R. Barker, M.J. Webster, C.N. Groesbeck, J.A. Unruh, M.G. Young, B.Z. Predicala, R.G. Maghirang
Kans. Agric. Exp. Stn. Report of Progress 897, November 2002, CD-ROM;
<http://www.oznet.ksu.edu/library/lvstk2/srp897.pdf>
- 03-121-S Dairy Day 2002
M.J. Brouk, J.F. Smith, J.P. Harner, R.T. Dingwell, K.E. Leslie, J.M. Sargeant, Y.H. Schukken, L.L. Timms, J.E. Shirley, A.F. Park, E.C. Titgemeyer, R.C. Cochran, J.M. DeFrain, T.G. Nagaraja, E.E. Ferdinand, N. Wallace, R.T. Ethington, V. Burgos, W.F. Miller, M.V. Scheffel, A. Hammond, J.S. Stevenson, C.A. Blevins, J.J. Aberle, B.A. Hensley, S.M. Tiffany
Kans. Agric. Exp. Stn. Report of Progress 898, November 2002, CD-ROM
<http://www.oznet.ksu.edu/library/lvstk2/srp898.pdf>
- 03-203-J Effects of Soybean Meal Particle Size on Growth Performance of Nursery Pigs
K.R. Lawrence, R.D. Goodband, M.D. Tokach, S.S. Dritz, J.L. Nelssen, J.M. DeRouchey, C.W. Hastad, M.J. Webster
J. Animal Science 81:2118, 2003
- 03-272-S Cattlemen's Day 2003
J.J. Sindt, J. S. Drouillard, B. Dicke, T.J. Klopfenstein, L. Borck, E. Ceylan, J.L. Marsden, S.K. Johnson, S.L. Fogleman, R. Jones, E.R. Loe, J.S. Drouillard, T.J. Kessen, S.P. Montgomery, J.N. Pike, M.J. Sulpizio, T.T. Marston, D.A. Llewellyn, L.C. Hollis, J.W. Himm, M. Singh, H. Thippareddi, R.K. Phebus, J.L. Marsden, C.L. Kastner, T. Schroeder, C. Ward, J. Lawrence, D. Feuz, S.C. Clark, D.W. Moser, R.E. Williams, M.T. Ortega, T. Feldkamp, J. Lusk, E.R. Loe, T.J. Kessen, S.P. Montgomery, J.N. Pike, M.J. Sulpizio, L.K. Thompson, D.Y.C. Fung, S.P. Montgomery, D.A. Blasi, R.L. Packard, J.C. Forcherio, R.R. Scott, J.W. Stephens, J.A. Unruh, M.E. Dikeman,

M.C. Hunt, T.E. Lawrence, T.M. Loughin, D.A. Llewellyn, R.C. Cochran, C.G. Farmer, T.A. Wickersham, E. J. Yancey, K.A. Hachmeister, E. Chambers IV, G.A. Milliken, E. Westcott, J.D. Dunn, J. P. Kayser, A.T. Waylan, E.K. Sissom, B.J. Johnson, M.A. Greenquist, B.E. Depenbusch, E.J. Good, E.R. Loe, D.R. Eborn, M. Irsik, M. Langemeier, J.A. Minick, E.J. Pollak, D.E. Wilson, E.W. Dressler, A.B. Broce, C.M. Gordon, M.F. Spire, J.J. Higgins, J.A. Fox, M.A. Boland, W. Grady, L.W. Lomas, J.L. Moyer, F.K. Brazle, G.L. Kilgore, E. Ceylan, M. Hajmeer, L.D. Keenan, D.R. Eborn, E.J. Yancey, G.A. Milliken, E. Dressler, P. Gadgil, S. Grunewald, C. Ward, J.W. Stephens, J.P. Kayser, E. Obuz, T.J. Herald, S. Hinojosa Verdin, E.G. Towne, G.L. Bishop, J.R. Brethour, C.M. Trater, K.C. Candler, M.S. Awawdeh, D.P. Gnad, E.A. Klevesahl, J.I. Arroquy, E.J. Pollak, J. Taylor, S. Davis, T. Holm, S. Koontz, C. Gill, A.L. Reicks
Kans. Agric. Exp. Stn. Report of Progress 908, March 2003, CD-ROM
<http://www.oznet.ksu.edu/library/lvstk2/srp908.pdf>

Food Science Institute

- 03-33-J Staged Injection Marination with Calcium Lactate, Phosphate and Salt may Improve Beef Water Binding Ability and Palatability Traits
T.E. Lawrence, M.E. Dikeman, M.C. Hunt, C.L. Kastner, D.E. Johnson
Meat Science 65:967-972, 2003

Grain Science and Industry

- 98-379-B Biodegradable Plastics from Renewable Biomaterials
X.S. Sun
In: *Advanced Agricultural Engineering*, X.S. Yang (ed.)
Scientific Press, New York, 149-167, 2001
- 98-480-J NIR Transmittance of Free Lipid Content and Its Glycolipid and Digalactosyldiglyceride Contents Using Wheat Flour Lipid Extracts
J.B. Ohm, O.K. Chung
Cereal Chem. 77:556-559, 2000
- 00-89-J Enzyme Supplementation and Particle Size of Wheat in Diets for Nursery and Finishing Pigs
J. Mavromichalis, J.D. Hancock, T.L. Gugle, G.A. Kennedy, C.L. Wyatt, B.W. Senne
J. Animal Science 78:3086-3095, 2000
- 00-98-J Effects of Expander Processing and Enzyme Supplementation of Wheat-Based Diets for Finishing Pigs
J.S. Park, I.H. Kim, J.D. Hancock, C.L. Wyatt, K.C. Behnke, G.A. Kennedy
Asian-Australian J. Animal Science 16:248-256, 2003

Publications of Station Scientists

- 01-46-J Starch Production from Sorghum Grits
J. Higiroy, R.A. Flores, P.A. Seib
J. Cereal Sci. 37:101-109, 2003
- 01-153-J Optimizing Quantitative Reproducibility in HPCE Separations of Cereal Proteins
S.R. Bean, G.L. Lookhart
Cereal Chem. 78:530-537, 2001
- 01-168-J A Method of Presenting Ground Wheat Samples to a Near-Infrared Reflectance Spectroscopy for Particle Size Analysis
M.C. Pasikatan, G.M. Milliken, J.L. Steele, C.K. Spillman, E. Haque
Cereal Chemistry 78(6):730-736, 2001
- 01-173-J Development of Standard Procedures for a Simple, Rapid Test to Determine Wheat Color Class
M.S. Ram, F.E. Dowell, L. Seita, G. Lookhart
Cereal Chem. 79(2):230-237, 2002
- 01-223-J Trap Catches of Stored-Product Insects Before and After Heat Treatment in a Pilot Feed Mill
R. Roesli, S. Bhadriraju, F.J. Fairchild, K.C. Behnke
J. Stored Prod. Res. 39:521-540, 2003
- 01-241-J Recent Developments in HPCE of Cereal Proteins
S.R. Bean, G.L. Lookhart
Electrophoresis 22:1503-1509, 2001
- 01-243-J Factors Influencing the Characterization of Gluten Proteins by Size Exclusion Chromatography Multi-Angle Laser Light Scattering
S.R. Bean, G.L. Lookhart
Cereal Chem. 78(5):608-618, 2001
- 01-249-J Granulation Sensing of First-Break Ground Wheat Using a Near-Infrared Reflectance Spectrometer: Studies with Soft Red Winter Wheats
M.C. Pasikatan, E. Haque, C.K. Spillman, J.L. Steele, G. Milliken
J. Science of Food and Agriculture 83(3):151-157, 2003
- 01-257-J Thermal and Mechanical Properties of Plastics Molded from Sodium Dodecyl Sulfate-Modified Soy Protein Isolates
X. Mo, X. Sun
J. Polymers and Envir. 8(4):161-166, 2002
- 01-329-J Hardness and Fracturability of Foods by Electronic Sensing System
Y. Peng, X. Sun, L. Carson, C. Setser
J. Texture Studies 33(2):135-148, 2002
- 01-336-J Properties of Soy Protein Isolate/Poly(ethylene-co-ethyl acrylate-co-maleic anhydride) Blends
Z. Zhong, X. Sun
J. Applied Polymer Sci. 88:407-413, 2003
- 01-346-J Effects of Storage Time on Properties of Soybean Protein-Based Plastics
X. Mo, X. Sun
J. Polymers and the Environment 11(1):15-22, 2002
- 01-381-E Developing Web-Based Interdisciplinary Modules to Teach Waste/Residue Management in the Food Chain
C.W. Shanklin, H. Huang, S. Seo, K.E. Lee, C.H. Ok, S. Seo, S.A. Flores
J. Food Science Education 2(3):46-52, 2003
- 01-495-J Laboratory Wet-Milling of Grain Sorghum with Abbreviated Steeping to Give Two Products
X.J. Xie, P.A. Seib
Starch/Staerke 54:169-178, 2001
- 02-20-J Composition and Quality of Wheat Grown under Different Shoot/Root Temperatures during Maturation
M. Guedira, P.J. McCluskey, F. MacRitchie, G.M. Paulsen
Cereal Chemistry 79:397-403, 2002
- 02-38-J Revealing Protein Infrared Spectral Detail in a Heterogenous Matrix Dominated by Starch
D.L. Wetzel, P. Srivarin, J.R. Finney
Vibrational Spectroscopy 31:109-114, 2003
- 02-45-J Synchrotron Infrared Microspectroscopy of Retinal Layers
D.L. Wetzel, G.W. Williams
Vibrational Spectroscopy 30:101-109, 2002
- 02-105-J Laboratory and Field Trials with Three Commercial Ultrasonic Devices Against Three Ant Species
F. Huang, Bh. Subramanyam, J. Clark
J. Agricultural and Urban Entomology 19:25-28, 2003
- 02-125-B Sanitation in Grain Storage and Handling
M. Toews, Bh. Subramanyam
In: *Food Plant Sanitation*, Y.H. Hui (ed.), Marcel Dekker, NY, 418-497, 2003
- 02-160-J Ultrasound Affects Spermatophore Transfer, Larval Numbers, and Larval Weight of *Plodia interpunctella* (Hubner) (Lepidoptera: Pyralidae)
F. Huang, B. Subramanyam, R. Taylor
J. Stored Prod. Res. 39:413-422, 2003
- 02-183-J Characterization and Functional Properties of Soy b-Conglycinin and Glycinin of Different Genotypes Grown in Kansas
K. A. Khatib, T.J. Herald, F. MacRitchie, F.M. Aramouni, W. Schapaugh
J. Food Sci. 67:2923-2929, 2002

Publications of Station Scientists

- 02-220-J Development and Evaluation of a Pelleted Feedstuff Containing Condensed Corn Steep Liquor and Raw Soybean Hulls for Dairy Cattle Diets
J.M. DeFrain, J.E. Shirley, K.C. Behnke, E.C. Titgemeyer, R.T. Ethington
Animal Feed Science and Technology 107:75-86, 2003
- 02-285-J Temperature and Relative Humidity Profiles During Heat Treatment of Mills and Its Efficacy Against *Tribolium castaneum* (Herbst) Life Stages
R. Mahroof, Bh. Subramanyam, D. Eustace
J. Stored Prod. Res 39:555-569, 2003
- 02-289-J Thermal and Mechanical Properties of Poly(lactic acid)/Starch/MDI Blending with Triethyl Citrate
T. Ke, X.S. Sun
J. Applied Polymer Science 88(13):2947-2955, 2002
- 02-337-J Assessing Food Firmness Using an Electronic Sensing System with a Model Food System
L. Carson, X. Sun, C. Setser, Y. Peng
J. Texture Studies 33(5):389-399, 2002
- 02-342-J Humidity Change and its Effects on Baking in an Electrically Heated Air Jet Impingement Oven
J. Xue, C.E. Walker
Food Research International 36(6):561-569, 2003
- 02-348-J Persistence and Efficacy of Spinosad Residues in Farm-Stored Wheat
L. Fang, Bh. Subramanyam, S. Dolder
J. Economic Entomology 95:1102-1109, 2002
- 02-363-J Storage of Exported U.S. Corn and Grain Sorghum in Tropical Climates
C. Reed, B.P. Ioerger, S.M. Doyungan, D. Trigo-Stockli
Transactions of the American Society of Agricultural Engineers 18(6):707-715, 2002
- 02-365-J Melting Behavior and Crystallization Kinetics of Starch and Poly(Lactic Acid) Composites
T. Ke, X.S. Sun
J. Applied Polymer Science 89:1203-1210, 2003
- 02-371-J Cohesiveness of Mass Studies Using an Electronic Sensing System with a Model Food System
L. Carson, X. Sun, C. Setser, Y. Peng
Texture Studies 33(6):571-584, 2002
- 02-381-J Contribution of Contact Toxicity and Wheat Condition to Mortality of Stored-Product Insects Exposed to Spinosad
M.D. Toews, Bh. Subramanyam
Pest Management Science 59:538-544, 2003
- 02-397-J Processing and Shelf-Life Performance of Feed Manufactured from High Moisture Corn
T. Herrman, T. Loughin
Transactions of the American Society of Agricultural Engineers 46(3):697-703, 2003
- 02-405-J Lactic Acid Production Using Extrusion Cooked Grain Sorghum
Y. Zhang, D. Wang, X.S. Sun, S. Kim, D.Y.C. Fung
Transactions of the American Society of Agricultural Engineers 44(3):623-630, 2003
- 02-434-J Time-Mortality Relationships for *Tribolium castaneum* (Coleoptera: Tenebrionidae) Life Stages Exposed to Elevated Temperatures
R. Mahroof, Bh. Subramanyam, J.E. Throne, A. Menon
J. Economic Entomology 96:1345-1351, 2003
- 02-449-J Wheat in Bins and Discharge Spouts, and Grain Residues on Floors of Empty Bins in Concrete Grain Elevators as Habitats for Stored-Grain Beetles and their Natural Enemies
C.R. Reed, D.W. Hagstrum, P.W. Flinn, R.F. Allen
J. Economic Entomology 96(3):996-1004, 2003
- 02-484-J Protein Composition-Functionality Relationship for a Set of Argentinian Wheats
M.B. Cuniberti, M.R. Roth, F. MacRitchie
Cereal Chemistry 80:132-1134, 2003
- 03-39-B Effect of Sulfur Nutrition on Agronomic and Quality Attributes of Wheat
H.A. Naeem, F. MacRitchie
In: *Sulfur in Plants*, Y.P. Abrol and A. Ahmad, (eds.). Kluwer Academic Publishers, The Netherlands, pp. 305-322, 2003
- 03-119-J Activity of Spinosad Against Adults of *Rhyzopertha dominica* (F.) (Coleoptera: Bostrichidae) Is Not Affected by Wheat Temperature and Moisture
L. Fang, B. Subramanyam
J. Kansas Entomological Society 76:529-532, 2003
- 03-130-J A Graph-Theoretic Method for the Algorithmic Synthesis of Azeotropic-Distillation Systems
G. Feng, L.T. Fan, P.A. Seib, B. Bertok, L. Kalotai, F. Friedler
Industrial and Engineering Chemistry Research 42:3602-3611, 2003
- 03-137-J Physical Properties of Medium-Density Straw Particleboard
X. Mo, E. Cheng, D. Wang, X. Sun
Industrial Crops and Products 18(1):47-53, 2003
- 03-150-J Nutritional and Economic Implications of Protein Variance Structure and the Application of Statistical Process Control in the Chinese Feed Industry
J. Yan, T.J. Herrman, T. Loughin, A. Featherstone, F.D. Yaun
Cereal Chemistry 80(5):623-626, 2003

Publications of Station Scientists

03-195-J Ethanol and Lactic Acid Production as Affected by Sorghum Genotype and Location
X. Zhan, D. Wang, M.R. Tuinstra, S. Bean, P.A. Seib, X.S. Sun
Industrial Crops and Products 18:245-255, 2003

Horticulture, Forestry and Recreation Resources

00-192-J Photosynthesis, Respiration, and Carbon Allocation of Two Cool-Season Perennial Grasses in Response to Surface Soil Drying
B. Huang, J. Fu
Plant and Soil 227:17-26, 2000

00-276-J Involvement of Antioxidants and Lipid Peroxidation in the Adaptation of Two Cool-Season Grasses to Localized Drought Stress.
J. Fu, B. Huang
J. Exper. Bot. 45:105-114, 2001

00-447-A Pecan Production in the Midwestern U.S.
W. Reid, K.L. Hunt
In: *A Guide to Nut Tree Culture in North America*, D.W. Fulbright (ed.). Northern Nut Growers Association, Saline, MI, pp 107-115, 2003

00-453-J Growth and Physiological Responses of Tall Fescue to Surface Soil Drying
J. Fu, G. Huang
Intl. Turfgrass Soc. Res. J. 9:291-296, 2001

02-382-J Use of Pre-Charged Zeolite to Provide Aluminum for Blue Hydrangea Production
G.B. Opena, K.A. Williams
J. Plant Nutrition 26(9):1825-1840, 2003

03-48-T Build Native Productivity
W. Reid
Pecan South 35(5):14-15, 2002

03-109-J The Profession of Horticultural Therapy Compared with Other Allied Therapies
C.A. Shoemaker
J. Therapeutic Horticulture 3:74-81, 2002

03-111-J How Much Is a Year's Worth of Water?
J. Fry
Golf Course Management 70(11):85-88, 2002

03-198-S Kansas Fertilizer Research 2002
H.D. Bond, M.M. Claassen, S.R. Duncan, D.L. Fjell, R.J. Gehl, H.C. George, C.B. Godsey, W. B. Gordon, J. Heitman, K. A. Janssen, K.W. Kelley, G. L. Kilgore, G.J. Kluitenberg, R. E. Lamond, D.F. Leikam, L. D. Maddux, C.W. Marr, V. L. Martin, T.M. Maxwell, K.A. McVay, M.M. Mikha, J. L. Moyer, G. M. Pierzynski,

K. Rector, C.W. Rice, A. J. Schlegel, J.P. Schmidt, J.P. Shroyer, S.A. Staggenborg, D. W. Sweeney, C. A. Thompson, C.R. Thompson, D. A. Whitney, B.D. Wood
Kans. Agric. Exp. Stn. Report of Progress 903, December 2002, 71 pp., CD-ROM
<http://www.oznet.ksu.edu/library/crpsl2/SRP903.pdf>

03-253-T Native Grove Renewal
W. Reid
Pecan South 35(10):8, 16-17, 20-22, 2002

03-256-T Water Savings and Turf Quality Resulting from Deficit Irrigation on Four Turfgrasses
J. Fry, J. Fu
TurfNews March/April 2003, pp. 32, 34, 36, 37

03-305-S Assessing the Effectiveness of Various Riparian Buffer Vegetation Types
C.J. Barden, K.R. Mankin, D. Ngandu, W.A. Geyer, D.L. Devlin, K. McVay
Kans. Agric. Exp. Stn. Keeping Up with Research 137, March 2003

03-307-S Weed Control with Imazaquin and Pendimethalin Around Newly Planted Shrub and Tree Seedlings
W.A. Geyer, W.H. Fick, E. Rhodenbaugh
Kans. Agric. Exp. Stn. Keeping Up with Research 138, March 2003

03-356-S 2003 Turfgrass Research
B. Bauernfeind, D. Bremer, M. Darratt, M. Fagerness, J. Fu, J. Fry, M. Harankhedkar, F. Iriarte, S. Keeley, L. Leuthold, L. Parsons, Z. Qi, D. Settle, M. Shelton, K. Su, N. Tisserat, W. Upham, T. Warner, A. Zuk
Kans. Agric. Exp. Stn. Report of Progress 911, May 2003, CD-ROM
<http://www.oznet.ksu.edu/library/hort2/SRP911.pdf>

Hotel, Restaurant, Institution Management and Dietetics

00-70-J Hospitality Graduates' Employment Status and Job Satisfaction
S.-K. Kang, R.Gould
J. Hospitality and Tourism Educ. 14(4):11-18, 2002

00-485-J Modeling Tourist Flows to Indonesia and Malaysia
A. Tan, J. Miller, C. McCahon
Proc. of the Sixth Annual Graduate Educators and Graduate Students Conference, Atlanta, GA, 2001, pp. 406-408

01-116-J Service Orientation for Contact Employees in Korean Casual-Dining Restaurants
H.J. Kim, C. McCahon, J. Miller
Intl. J. Hosp. Manag. 22(1):67-83, 2003

Publications of Station Scientists

- 01-239-J Assessing Service Quality in Korean Casual-Dining Restaurants Using DINESERV
H.J. Kim, C. McCahon, J. Miller
J. Foodserv. Bus. Res. 6(1):67-84, 2003
- 01-261-J A Decision Tree for Selecting the Most Cost-Effective Disposal Alternative in Foodservice Operations
S. Wie, C.W. Shanklin
J. Am. Dietet. Assoc. 103:475-482, 2003
- 03-223-J Development of Service Quality Measurement for Foodservice in a Continuing Care Retirement Community
K-E. Lee, C.W. Shanklin, D.E. Johnson
Foodserv. Res. Intl. 14:1-12, 2003
- 03-300-J The Integration of Research and Extension: A Preliminary Study
R Gould, G.Ham
J. Extension 40(4), 2002
<http://www.joe.org/joe/2002august/a3.shtml>
- 03-353-J Developing Web-Based Interdisciplinary Modules to Teach Waste/Residue Management in the Food Chain
C.W. Shanklin, H.-C. Huang, K.-E. Lee, C. Ok, S.-H. Seo, S.A. Flores
J. Food Sci. Educa. 2(3):46-52, 2003
- 03-65-J Low Zinc Intake Decreases the Lymphatic Output of Retinol in Rats Infused Intraduodenally with, β -Carotene
S.K. Noh, S.I. Koo
J. Nutritional Biochemistry 14:147-153, 2003
- 03-100-J Vitamin A Depletion Induced by Cigarette Smoke Is Associated with the Development of Emphysema
T. Li, A. Molteni, P. Latkovich, W. Castellani, R.C. Baybutt
J. of Nutrition 133:2629-2634, 2003
- 03-168-J Texture and Flavor Sensory Characteristics of Beverages Containing Commercial Thickening Agents for Dysphagia Diets
V. Lotong, S.S. Chun, E. Chambers IV, J.M. Garcia
J. Food Science 68:1537-1541, 2003

Publications without contribution numbers

Elevated Plasma Phenylalanine Concentrations May Adversely Affect Bone Status of Phenylketonuric Mice
S. Yannicelli, D.M. Medeiros
J. of Inherited Metabolic Disease 25:347-361, 2002

Educational Materials in Review. A Natural Compounds in Cancer Therapy
J. Stotts, K. Keppler, B. Lohse Knous, L. Griffith.
J. of Nutrition Education and Behavior 34:233, 2002

Bone Morphology, Strength, and Density Are Compromised in Iron-Deficient Rats and Exacerbated by Calcium Restriction
D.M. Medeiros, A. Plattner, D. Jennings, B. Stoecker
J. of Nutrition 132:3135-3141, 2002

Role of Copper in Mitochondrial Biogenesis Via Interaction with ATP Synthase and Cytochrome *c* Oxidase
D.M. Medeiros, D. Jennings
J. Bioenergetics and Biomembranes 34:389-395, 2002

Impaired Cardiac Mitochondrial Membrane Potential and Respiration in Copper-Deficient Rats
X. Chen, D.B. Jennings, D.M. Medeiros
J. of Bioenergetics and Biomembranes 34(5):397-406,2002

Nutritional Issues for Pharmacists
B. Lohse Knous
Correspondence course for Pharmat Inc. Lawrence, KS
29(4):1-24, 2003

Sensory Evaluation/Practical Considerations
E. Chambers, B. McGuire
Elsevier Science Ltd. 5137-5141, 2003

Viscosity Comparison of Thickened Juices at Two- and Ten-Minute Intervals
L.R. Biggs, L.C. Cooper, J. Mertz Garcia, E. Chambers IV
Undergraduate Research J. for the Human Sciences (2002)
http://www.kon.org/urc/biggs_cooper.html

Human Nutrition

- 01-329-J Hardness and Fracturability of Foods by Electronic Sensing System
Y. Peng, X. Sun, L. Carson, C. Setser
J. Texture Studies 33(2):135-148, 2002
- 02-337-J Assessing Food Firmness Using An Electronic Sensing System With A Model Food System
L. Carson, X. Sun, C. Setser, Y. Peng
Texture Studies 33:389-399, 2002
- 02-371-J Assessing Cohesiveness of Mass in Foods using an Electronic Sensing System
L. Carson, X. Sun, C. Setser, Y. Peng
Texture Studies 33(6):571-584, 2002
- 02-470-J Effects of Modified Tall Oil on Body Composition and Serum and Tissue Levels of Cholesterol, Phospholipids, and Alpha-tocopherol in Adult Ovariectomized Rats
P.R. O'Quinn, S.I. Koo, S.K. Noh, J.L. Nelssen, R.D. Goodband, M.D. Tokach
Nutrition Research 23:549, 2003
- 02-500-J Categorization of Commercial Orange Juices Based on Flavor Characteristics
V. Lotong, E. Chambers IV, D.H. Chambers
J. Food Science 68(2):722-725, 2003

Publications of Station Scientists

Carbohydrates/Sensory Properties
C.S. Sester, G.D. Brannan
Elsevier Science Ltd. 899-905, 2003

A Qualitative Analysis of Factors Related to Late Life Independence as Related by the Old-Old and Viewed through the Concept of Locus of Control
C.S. Wilken, K. Walker, J.G. Sandberg, C.A. Holcomb
J. of Aging Studies 16:73-86, 2002

Plant Pathology

99-137-B Population Genetics Level Problems in the *Gibberella fujikuroi* Species Complex
J.F. Leslie

In: *Paul E. Nelson Memorial Symposium*, B.A. Summerell, J.F. Leslie, D. Backhouse, W.L. Bryden, L.W. Burgess (eds.) APS Press, St. Paul, MN, pp. 113-121; 392, 2001

00-403-B Fusaric Acid and Other Alkyl-Picolinic Acids in *Fusarium thapsinum*, *F. moniliforme*, and *F. semitectum*
J.K. Porter, C.W. Bacon, E.M. Wray, G.A. Kuldau, J.F. Leslie

In: *Mycotoxins and Plicotoxins in Perspective at the Turn of the Millennium*, W.J. deKoe, R.A. Samson, H.P. vanEgmond, J. Gilbert and M. Sabino, (eds.), W.I. deKoe, Wageningen, The Netherlands, pp. 41-47, 2002

00-411-J Genetic Variation in *Fusarium* Section *Liseola* from No-Till Maize in Argentina
S.N. Chulze, M.L. Ramirez, A. Torres, J.F. Leslie
Applied and Environmental Microbiology 66:5312-5315, 2000

01-57-J Analysis of Resistance to Ergot in Sorghum and Potential Alternative Hosts
J.D. Reed, M.R. Tuinstra, B.A. Ramundo, L.E. Clafin
Crop Science 42:1135-1138, 2002

01-74-J *Arabidopsis NONHOST-1* Defines a General Resistance Mechanism against Nonhost *Pseudomonas* Bacteria
M.Lu, X. Tang, J.-M. Zhou
Plant Cell 13:437-447, 2001

01-288-J *Fusarium andiyazi* sp. nov., a New Species from Sorghum
W. F. Marasas, J. P. Rheeder, S. C. Lamprecht, K. A. Zeller, J. F. Leslie
Mycologia. 93:1203-1210, 2001

01-313-J Overexpression of *Pti5* in Tomato Potentiates Pathogen-Induced Defense Gene Expression and Enhances Disease Resistance to *Pseudomonas syringae* pv tomato
P. He, R. Warren, T. Zhao, L. Shan, X. Tang, J.M. Zhou
Molecular Plant-Microbe Interactions 14:1453-1457, 2001

01-338-J Expression of 35S: PTO Globally Activates Defense Genes in Tomato Plants
F. Xiao, X. Tang, J.M. Zhou
Plant Physiology 126:1637-1645, 2001

02-30-J Icebergs and Species in Populations of *Fusarium*
J.F. Leslie, K.A. Zeller, B.A. Summerell
Physiological and Molecular Plant Pathology 59:107-117, 2001

02-44-J Overexpression of Pto Induces a Salicylic Acid-Independent Cell Death but Inhibits Necrotic Lesions Caused by Salicylate-Deficiency in Tomato Plants
J. Li, L. Shan, J. Zhou, X. Tang
Molecular Plant-Microbe Interactions 15:654-661, 2002

02-67-J A Genetic Map of *Gibberella zeae* (*Fusarium graminearum*)
J.E. Jurgenson, R.L. Bowden, K.A. Zeller, J.F. Leslie, N.J. Alexander, R.D. Plattner
Genetics 160:1452-1460, 2002

02-128-J An Expanded Genetic Map of *Gibberella moniliformis* (*Fusarium verticillioides*)
J. Jurgenson, K. Zeller, J. Leslie
Applied and Environmental Microbiology 68:1972-1979, 2002

02-167-J Production of Beauvericin, Moniliformin, Fusaproliferin, and Fumonisin B₁, B₂, and B₃ by Fifteen *Fusarium* Species
J. Fotso, J.F. Leslie, J.S. Smith
Applied and Environmental Microbiology 68:5195-5197, 2002

02-170-J *Pto* Mutants Differentially Activate pto-dependent, arrpto-Independent Resistance and Gene-pts-gene Resistance
F. Xiao, M. Lu, T. Zhao, J. Li, Y.S. Young, V.K. Thar, X. Tang, J.M. Zhou
Plant Physiol. 131:1239-1249, 2003

02-180-J Preparation of a Fusaproliferin Standard from the Culture of *Fusarium subglutinans* E-1583 by High Performance Liquid Chromatography
X. Wu, J.F. Leslie, R.A. Thakut, J.S. Smith
J. of Food and Agricultural Chemistry 51:383-388, 2003

02-195-B Will the Real *Fusarium moniliforme* Please Stand Up?
J.F. Leslie, W.F.O. Marasas
In: *Sorghum and Millets Disease*, J. F. Leslie, ed., Iowa State Press, Ames, Iowa, pp. 201-210, 2002

02-200-J Recent Advances in Wheat Transformation
V. Janakiraman, M. Steinau, S. McCoy, H. Trick
In Vitro Cell. Dev. Biol.-Plant 38:404-414, 2002

Publications of Station Scientists

- 02-223-J Analysis of Combining Ability for Ergot Resistance in Grain Sorghum
J.D. Reed, M.R. Tuinstra, N.W. McLaren, K.D. Kofoid, N.W. Ochanda, L.E. Clafin
Crop Science 42:1818-1823, 2002
- 02-240-B Mycotoxins from Fungal-Infected Sorghum: *Claviceps*, *Fusarium* and the *Striga* Connection
J.K. Porter, C.W. Bacon, W.P. Norred, E.M. Wray, G.A. Kulda, A.E. Glenn, J.F. Leslie
In: *Sorghum and Millets Disease*, J. F. Leslie, ed., Iowa State Press, Ames, Iowa, pp. 229-236, 2002
- 02-242-J An Allele Effect May Limit Invasion by *Tilletia indica*, the Karnal Bunt Pathogen
K.A. Garrett, R.L. Bowden
Phytopathology 92:1152-1159, 2002
- 02-265-J Amplified Fragment Length Polymorphism (AFLP) Diversity in *Cephalosporium maydis* from Egypt
A.A. Salah, K.A. Zeller, E.M. El-Assiuty, A.S.M. Ismael, Z.M. Fahmy, J.F. Leslie
Phytopathology 93: 853-859, 2003
- 02-301-J Genetic Mapping of an *Aegilops tauschii* Gene Transferred to Common Wheat Conferring Resistance to all Strains of Wheat Curl Mite
R. Malik, G.L. Brown-Guedira, C.M. Smith, T.L. Harvey, B.S. Gill
Crop Science 43:644-650, 2003
- 02-359-J Allopolyploidy Alters Gene Expression in the Highly Stable Hexaploid Wheat
P. He, B.R. Friebe, B.S. Gill, J-M. Zhou
Plant Mol. Biol. 52:401-414, 2003
- 02-360-J Genetic and Molecular Characterization of the Maize rp3 Rust Resistance Locus
C. Webb, T. Richter, N. Collins, N. Nicolas, H. Trick, T. Pryor, S. Hurbert
Genetics 161:381-394, 2002
- 02-375-J *In planta* induced genes of *Puccinia triticina*
V.K. Thara, J.P. Fellers, J.M. Zhou
Mol. Plant Pathology 4:51-56, 2003
- 02-383-J Long-term Crop Rotations Affect Soybean Yield and Soil Chemical Properties
K. Kelley, J. Long, T. Todd
Field Crops Research 80:41-50, 2003
- 02-424-J Heterotic Effects of Wheat-Rye Chromosomal Translocations on Agronomic Traits of Hybrid Wheat (*Triticum aestivum* L.) Under Adequate Moisture Regime
J.O. Owuoché, R.G. Sears, G.L. Brown-Guedira, B.S. Gill, A.K. Fritz
Euphytica 132(1):67-77, 2003
- 02-481-J First Report of *Uromyces striatus* on White Sweetclover in Kansas
D.L. Stuteville
Plant Disease 86:1404, 2002
- 02-494-J Diversity of Epidemic Populations of *Gibberella zeae* from Small Quadrants in Kansas and North Dakota
K.A. Zeller, R.L. Bowden, J.F. Leslie
Phytopathology 93: 874-880, 2003
- 03-14-J *Gibberella konza* (*Fusarium konzum*) sp. nov., a New Species within the *Gibberella fujikuroi* Species Complex from Prairie Grasses
K.A. Zeller, B.A. Summerell, S. Bullock, J.F. Leslie
Mycologia 95:943-954, 2003
- 03-62-J Map-Based Cloning of a Rust-Resistance Gene from Wheat's Large Polyploid Genome
L. Huang, S. Brooks, W. Li, J. Fellers, H. Trick, B. Gill
Genetics 164:655-664, 2003
- 03-80-J Assessment of *Aegilops tauschii* for Resistance to Diverse Strains of Wheat Curl Mites
R. Malik, C.M. Smith, G.L. Brown-Guedira, T.L. Harvey, B.S. Gill
J. Economic Entomology 96:1329-1333, 2003
- 03-97-J Interplay of the *Arabidopsis* Nonhost Resistance Gene NHO1 with bacterial virulence.
L. Kang, J. Li, T. Zhao, F. Xiao, X. Tang, R. Thilmony, S.Y. He, J.-M. Zhou
Proc. of the National Academy of Sciences 100:3519-3524, 2003
- 03-106-J Greenhouse and Field Testing of Transgenic Wheat against *Fusarium graminearum*
A. Anand, H.N. Trick, B.S. Gill, W.W. Bockus, S. Muthukrishnan
J. of Experimental Botany 54:(384)1101-1111, 2003
- 03-118-J A Utilitarian Approach to *Fusarium* Identification
B.A. Summerell, B. Salleh, J.F. Leslie
Plant Disease 87:117-128, 2003
- 03-139-T Genetically Modified Crops Part I. Methodology and Applications
R. Bowden, H. Trick
American Institute of Baking Technical Bulletin 24(11):1-8, 2002
- 03-180-J Stable Transgene Expression and Random Gene Silencing in Wheat
A. Anand, H.N. Trick, B.S. Gill, S. Muthukrishnan
Plant Biotechnology J. 1:241-251, 2003

Publications of Station Scientists

- 03-201-S 2002 Kansas Performance Tests with Grain Sorghum Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, V. Martin, L. Maddux, P. Evans, K. Kofoid, J. Long, A. Schlegel, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 900, December 2002, 46 pp.
- 03-211-S Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon, W. Heer, L. Maddux
Kans. Agric. Exp. Stn. Report of Progress 904, December 2002, 9pp.
- 03-214-D 2002 National Winter Canola Variety Trial
C. Rife, K. Janssen, R. Aiken, J. Long, W. Heer, M. Witt, R. Auld, R. Bacon, D. Baltensperger, U. Bishnoi, H. Bhardwaj, D. Bordovsky, E. Christmas, S. Conley, J. Fisher, R. Freed, Jerry Johnson, Joe Johnson, J. Kelly, J. Klein, R. Kochenower, J. Krall, K. Kusel, K. Larson, L. Nelson, P. Raymer, M. Schmidt, F. Schweissing, R. Smoot, D. Starner
Agronomy Dept. Report, January 2003, 58 pp.
(Available through department only)
- 03-257-J Effect of *Bt* Corn (MON 863) for Corn Rootworm Control on Nontarget Soil Microarthropods, Earthworms, and Nematodes
G. Wilde, M. Al-Deeb, J. Blair, T. Todd
Environmental Entomology 32:859-865, 2003
- 03-356-S 2003 Turfgrass Research
B. Bauernfeind, D. Bremer, M. Darratt, M. Fagerness, J. Fu, J. Fry, M. Harankhedkar, F. Iriarte, S. Keeley, L. Leuthold, L. Parsons, Z. Qi, D. Settle, M. Shelton, K. Su, N. Tisserat, W. Upham, T. Warner, A. Zuk
Kans. Agric. Exp. Stn. Report of Progress 911, May 2003, CD-ROM
<http://www.oznet.ksu.edu/library/hort2/SRP911.pdf>
- 01-148-J Effect of a Wide Range in the Ratio of Supplemental Degradable Intake Protein to Starch on Utilization of Low-Quality Prairie Hay
E.A. Klevesahl, R.C. Cochran, E.C. Titgemeyer, T.A. Wickersham, C.G. Farmer, J.I. Arroquy, D.E. Johnson
Animal Feed Science and Technology 105:5-20, 2003
- 01-168-J A Method of Presenting Ground Wheat Samples to a Near-Infrared Reflectance Spectroscopy for Particle Size Analysis
M.C. Pasikatan, G.M. Milliken, J.L. Steele, C.K. Spillman, E. Haque
Cereal Chemistry 78(6):730-736, 2001
- 01-249-J Granulation Sensing of First-Break Ground Wheat Using a Near-Infrared Reflectance Spectrometer: Studies with Soft Red Winter Wheats
M.C. Pasikatan, E. Haque, C.K. Spillman, J.L. Steele, G. Milliken
J. Science of Food and Agriculture 83(3):151-157, 2003
- 02-65-J Mechanical Measures of Uncooked Beef Longissimus Muscle to Predict Sensory Panel Tenderness and Warner-Bratzler Shear Force
R.R. Timm, J.A. Unruh, M.E. Dikeman, M.C. Hunt, T.E. Lawrence, J.E. Boyer Jr.
J. Animal Science 81:1721-1727, 2003
- 02-203-J Atrazine, S-metolachlor, and RPA 201772 Loss in Surface Water Runoff as Affected by Precipitation, Tillage, and Placement Variables
R.J. Rector, D.L. Regehr, P.L. Barnes, T.M. Loughin
Weed Science 51:810-816, 2003
- 02-261-J Application Timing Impact On Runoff Losses of Atrazine
R.J. Rector, D.L. Regehr, P.L. Barnes, T.M. Loughin, M.A. Hoobler
Weed Science 51:817-825, 2003
- 02-397-J Processing and Shelf-Life Performance of Feed Manufactured from High Moisture Corn
T. Herrman, T. Loughin
Transactions of the American Society of Agricultural Engineers 46(3):697-703, 2003
- 02-422-J Effects of Calcium Salts on Beef Longissimus Quality
T.E. Lawrence, M.E. Dikeman, M.C. Hunt, C.L. Kastner, D.E. Johnson
Meat Science 64:299-308, 2003
- 02-459-J Optical Density of Pre-Foaling Mammary Secretions is a Reliable Predictor of Foaling Time in Mares
J.L. Turner, L.P. Todd, M.J. Arns, J.J. Higgins, J.E. Minton
The Professional Animal Scientist 18:312-315, 2002
- ### Sociology, Anthropology and Social Work
- 00-135-B From Extraction to Amenities: Restructuring and (In)Conspicuous Consumption in Missoula, MT
W.R. Goe, S. Noonan, S. Laman
In: *Communities of Work*, W. Falk, M. Shulman, A. Tickamyer (eds.), Ohio University Press, Athens, OH, pp. 104-127 2003
- ### Statistics
- 01-77-J Relative Performance of Soybean in End-Trimmed and Plant-to-Length Plots
S.J. Meis, W.T. Schapaugh, Jr., G.A. Milliken
Crop Science 42:700-704, 2002

Publications of Station Scientists

- 03-11-J Incidence of Postpartum Anestrus in Suckled Beef Cattle: Treatments to Induce Estrus, Ovulation and Conception
J.S. Stevenson, S.K. Johnson, G.A. Milliken
Professional Animal Scientist 19:124-134, 2003
- 03-33-J Staged Injection Marination with Calcium Lactate, Phosphate and Salt may Improve Beef Water Binding Ability and Palatability Traits
T.E. Lawrence, M.E. Dikeman, M.C. Hunt, C.L. Kastner, D.E. Johnson
Meat Science 65:967-972, 2003
- 03-47-J Veterinary Certified Hazard Analysis and Critical Control Points: A Survey of Dairy Producers Practices and their Attitudes Pertaining to Dairy Market Beef Food Safety
M.J. Van Baale, J.C. Galland, D.R. Hyatt, G.A. Milliken
Food Protection Trends 23(6):466-473, 2003
- 03-150-J Nutritional and Economic Implications of Protein Variance and Application of Statistical Process Control in the Chinese Feed Industry
Z. Yan, T.J. Herrman, T. Loughin, A. Featherstone, D. Feng
Cereal Chemistry 80(5):623-626, 2003
- 03-223-J Development of Service Quality Measurement for Foodservice in a Continuing Care Retirement Community
K-E. Lee, C.W. Shanklin, D.E. Johnson
Foodserv. Res. Intl. 14:1-12, 2003
- 03-272-S Cattlemen's Day 2003
J.J. Sindt, J. S. Drouillard, B. Dicke, T.J. Klopfenstein, L. Borck, E. Ceylan, J.L. Marsden, S.K. Johnson, S.L. Fogleman, R. Jones, E.R. Loe, J.S. Drouillard, T.J. Kessen, S.P. Montgomery, J.N. Pike, M.J. Sulpizio, T.T. Marston, D.A. Llewellyn, L.C. Hollis, J.W. Himm, M. Singh, H. Thippareddi, R.K. Phebus, J.L. Marsden, C.L. Kastner, T. Schroeder, C. Ward, J. Lawrence, D. Feuz, S.C. Clark, D.W. Moser, R.E. Williams, M.T. Ortega, T. Feldkamp, J. Lusk, E.R. Loe, T.J. Kessen, S.P. Montgomery, J.N. Pike, M.J. Sulpizio, L.K. Thompson, D.Y.C. Fung, S.P. Montgomery, D.A. Blasi, R.L. Packard, J.C. Forcherio, R.R. Scott, J.W. Stephens, J.A. Unruh, M.E. Dikeman, M.C. Hunt, T.E. Lawrence, T.M. Loughin, D.A. Llewellyn, R.C. Cochran, C.G. Farmer, T.A. Wickersham, E. J. Yancey, K.A. Hachmeister, E. Chambers IV, G.A. Milliken, E. Westcott, J.D. Dunn, J. P. Kayser, A.T. Waylan, E.K. Sissom, B.J. Johnson, M.A. Greenquist, B.E. Deppenbusch, E.J. Good, E.R. Loe, D.R. Eborn, M. Irsik, M. Langemeier, J.A. Minick, E.J. Pollak, D.E. Wilson, E.W. Dressler, A.B. Broce, C.M. Gordon, M.F. Spire, J.J. Higgins, J.A. Fox, M.A. Boland, W. Grady, L.W. Lomas, J.L. Moyer, F.K. Brazle, G.L. Kilgore, E. Ceylan, M. Hajmeer, L.D. Keenan, D.R. Eborn, E.J. Yancey, G.A. Milliken, E. Dressler, P. Gadgil, S. Grunewald, C. Ward, J.W. Stephens, J.P. Kayser, E. Obuz, T.J. Herald, S. Hinojosa Verdin, E.G. Towne, G.L. Bishop, J.R. Brethour, C.M. Trater, K.C. Candler, M.S. Awawdeh, D.P. Gnad, E.A. Klevesahl, J.I. Arroquy, E.J. Pollak, J. Taylor, S. Davis, T. Holm, S. Koontz, C. Gill, A.L. Reicks

Kans. Agric. Exp. Stn. Report of Progress 908,
March 2003, CD-ROM
<http://www.oznet.ksu.edu/library/lvstk2/srp908.pdf>

- 03-419-S Comparison of Differentially Corrected GPS Sources for Support of Site-Specific Management in Agriculture
P.I. Coyne, S.J. Casey, G.A. Milliken
Kans. Agric. Exp. Stn. Special Publication,
July 2003, 32 pp. http://www.wkarc.org/Research/ARCH/PrecisionAg/DGPS_web.pdf

Agricultural Research Center–Hays

- 01-369-J Differential Transmission of Isolates of the High Plains Virus by Different Sources of Wheat Curl Mites
D.L. Seifers, T.L. Harvey, R. Louie, D.T. Gordon, T.J. Martin
Plant Disease 86:138-142, 2002
- 02-213-A Can Long Grain-Fill Duration Improve Yield Potential and Grain Quality of Sorghum?
M.R. Tuinstra, T.D. Kriegshauser, R.L. Vanderlip, K.D. Kofoid, J.D. Hancock
Proc. of the 56th Corn & Sorghum Research Conference, 2001 pp.185-195. American Seed Trade Association. Chicago, Dec. 5-7, 2001 Alexandria, VA
- 02-223-J Analysis of Combining Ability for Ergot Resistance in Grain Sorghum
J.D. Reed, M.R. Tuinstra, N.W. McLaren, K.D. Kofoid, N.W. Ochanda, L.E. Claffin
Crop Sci. 42:1818-1823, 2002
- 02-301-J Genetic Mapping of an *Aegilops tauschii* Gene Transferred to Common Wheat Conferring Resistance to all Strains of Wheat Curl Mite
R. Malik, G.L. Brown-Guedira, C.M. Smith, T.L. Harvey, B.S. Gill
Crop Science 43:644-650, 2003
- 03-80-J Assessment of *Aegilops tauschii* for Resistance to Diverse Strains of Wheat Curl Mites
R. Malik, C.M. Smith, G.L. Brown-Guedira, T.L. Harvey, B.S. Gill
J. Economic Entomology 96:1329-1333, 2003
- 03-160-S 2002 Kansas Performance Tests with Corn Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, V. Martin, P. Evans, L. Maddux, K. Kofoid, J. Long, A. Schlegel, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 899, November 2002, 49 pp.

Publications of Station Scientists

- 03-193-S 2003 Chemical Weed Control for Field Crops, Pastures, Rangeland and Noncropland
D.L. Regehr, D.E. Peterson, P.D. Ohlenbusch, W.H. Fick, P.W. Stahlman, R.E. Wolf
Kans. Agric. Exp. Stn. Report of Progress 902, December 2002, 96 pp
- 03-198-S Kansas Fertilizer Research 2002
H.D. Bond, M.M. Claassen, S.R. Duncan, D.L. Fjell, R.J. Gehl, H.C. George, C.B. Godsey, W. B. Gordon, J. Heitman, K. A. Janssen, K.W. Kelley, G. L. Kilgore, G.J. Kluitenberg, R. E. Lamond, D.F. Leikam, L. D. Maddux, C.W. Marr, V. L. Martin, T.M. Maxwell, K.A. McVay, M.M. Mikha, J. L. Moyer, G. M. Pierzynski, K. Rector, C.W. Rice, A. J. Schlegel, J.P. Schmidt, J.P. Shroyer, S.A. Staggenborg, D. W. Sweeney, C. A. Thompson, C.R. Thompson, D. A. Whitney, B.D. Wood
Kans. Agric. Exp. Stn. Report of Progress 903, December 2002, 71 pp., CD-ROM
<http://www.oznet.ksu.edu/library/crpsl2/SRP903.pdf>
- 03-201-S 2002 Kansas Performance Tests with Grain Sorghum Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, V. Martin, L. Maddux, P. Evans, K. Kofoid, J. Long, A. Schlegel, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 900, December 2002, 46 pp.
- 03-202-S 2002 Kansas Performance Tests with Soybean Varieties
W. Schapaugh, K. Roozeboom, P. Evans, J. Long, A. Schlegel, C. Thompson, M. Witt, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, L. Maddux, V. Martin
Kans. Agric. Exp. Stn. Report of Progress 901, December 2002, 33 pp.
- 03-251-S 2002 Kansas Performance Tests with Summer Annual Forages
K. Roozeboom, W. Heer, P. Evans, K. Kofoid
Kans. Agric. Exp. Stn. Report of Progress 906, February 2003, 9 pp.
- 03-272-S Cattlemen's Day 2003
J.J. Sindt, J. S. Drouillard, B. Dicke, T.J. Klopfenstein, L. Borck, E. Ceylan, J.L. Marsden, S.K. Johnson, S.L. Fogleman, R. Jones, E.R. Loe, J.S. Drouillard, T.J. Kessen, S.P. Montgomery, J.N. Pike, M.J. Sulpizio, T.T. Marston, D.A. Llewellyn, L.C. Hollis, J.W. Himm, M. Singh, H. Thippareddi, R.K. Phebus, J.L. Marsden, C.L. Kastner, T. Schroeder, C. Ward, J. Lawrence, D. Feuz, S.C. Clark, D.W. Moser, R.E. Williams, M.T. Ortega, T. Feldkamp, J. Lusk, E.R. Loe, T.J. Kessen, S.P. Montgomery, J.N. Pike, M.J. Sulpizio, L.K. Thompson, D.Y.C. Fung, S.P. Montgomery, D.A. Blasi, R.L. Packard, J.C. Forcherio, R.R. Scott, J.W. Stephens, J.A. Unruh, M.E. Dikeman, M.C. Hunt, T.E. Lawrence, T.M. Loughin, D.A. Llewellyn, R.C. Cochran, C.G. Farmer, T.A. Wickersham, E. J. Yancey, K.A. Hachmeister, E. Chambers IV, G.A. Milliken, E. Westcott, J.D. Dunn,

J. P. Kayser, A.T. Waylan, E.K. Sissom, B.J. Johnson, M.A. Greenquist, B.E. Depenbusch, E.J. Good, E.R. Loe, D.R. Eborn, M. Irsik, M. Langemeier, J.A. Minick, E.J. Pollak, D.E. Wilson, E.W. Dressler, A.B. Broce, C.M. Gordon, M.F. Spire, J.J. Higgins, J.A. Fox, M.A. Boland, W. Grady, L.W. Lomas, J.L. Moyer, F.K. Brazle, G.L. Kilgore, E. Ceylan, M. Hajmeer, L.D. Keenan, D.R. Eborn, E.J. Yancey, G.A. Milliken, E. Dressler, P. Gadgil, S. Grunewald, C. Ward, J.W. Stephens, J.P. Kayser, E. Obuz, T.J. Herald, S. Hinojosa Verdin, E.G. Towne, G.L. Bishop, J.R. Brethour, C.M. Trater, K.C. Candler, M.S. Awawdeh, D.P. Gnad, E.A. Klevesahl, J.I. Arroquy, E.J. Pollak, J. Taylor, S. Davis, T. Holm, S. Koontz, C. Gill, A.L. Reicks
Kans. Agric. Exp. Stn. Report of Progress 908, March 2003, CD-ROM
<http://www.oznet.ksu.edu/library/lvstk2/srp908.pdf>

- 03-419-S Comparison of Differentially Corrected GPS Sources for Support of Site-Specific Management in Agriculture
P.I. Coyne, S.J. Casey, G.A. Milliken
Kans. Agric. Exp. Stn. Special Publication, July 2003, 32 pp. http://www.wkarc.org/Research/ARCH/PrecisionAg/DGPS_web.pdf

Northwest Research-Extension Center

- 02-406-J Supplemental Norgestomet, Progesterone, or Melengestrol Acetate Increases Pregnancy Rates in Suckled Beef Cows after Timed Inseminations
J.S. Stevenson, G.C. Lamb, S.K. Johnson, M.A. Medina-Britos, D.M. Grieger, K.R. Harmony, J.A. Cartmill, S.Z. El-Zarkouny, C.R. Dahlen, T.J. Marple
J. Animal Science 81:571-586, 2003
- 03-24-S 2002 Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon, W. Heer, L. Maddux
Kans. Agric. Exp. Stn. Report of Progress 904, December 2002, 9pp.
- 03-104-J Resynchronization of Estrus in Cattle of Unknown Pregnancy Status using Estrogen, Progesterone, or Both
J.S. Stevenson, S.K. Johnson, M.A. Medina-Britos, A.M. Richardson, G.C. Lamb
J. Animal Science 81:1681-1692, 2003
- 03-211-S Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon, W. Heer, L. Maddux
Kansas. Agric. Exp. Stn. Report of Progress 904, December 2002, 9pp.
- 03-211-S Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon, W. Heer, L. Maddux
Kansas. Agric. Exp. Stn. Report of Progress 904, December 2002, 9pp.

Publications of Station Scientists

- 03-214-D 2002 National Winter Canola Variety Trial
C. Rife, K. Janssen, R. Aiken, J. Long, W. Heer, M. Witt,
R. Auld, R. Bacon, D. Baltensperger, U. Bishnoi,
H. Bhardwaj, D. Bordovsky, E. Christmas, S. Conley,
J. Fisher, R. Freed, Jerry Johnson, Joe Johnson, J. Kelly,
J. Klein, R. Kochenower, J. Krall, K. Kusel, K. Larson,
L. Nelson, P. Raymer, M. Schmidt, F. Schweissing,
R. Smoot, D. Starner
Agronomy Dept. Report, January 2003, 58 pp.
(Available through department only)
- 03-244-S 2002 Kansas Performance Tests with Sunflower Hybrids
P. Evans, K. Roozeboom, M. Claassen, W.B. Gordon,
W. Heer, A. Schlegel
Kans. Agric. Exp. Stn. Report of Progress 905,
January 2003, 25 pp.
- 03-251-S 2002 Kansas Performance Tests with Summer Annual
Forages
K. Roozeboom, W. Heer, P. Evans, K. Kofoid
Kans. Agric. Exp. Stn. Report of Progress 906,
February 2003, 9 pp.
- 03-263-S Kansas Performance Tests with Spring Small Grains
K. Roozeboom, P. Evans, W.B. Gordon, K. Janssen
Kans. Agric. Exp. Stn. Report of Progress 907,
February 2003
- 03-181-J Effects of Seed Treatment Fungicides on Stand and Yield
of Grain Sorghum, 2002
D.J. Jardine, M. Claassen, B. Gordon, J.H. Long
Fungicide & Nematicide Tests 58:ST006
- 03-182-J Effects of Seed Treatment Fungicides on Stand and Yield
of Grain Soybean, 2002
D.J. Jardine, B. Gordon, K. Janssen, J.H. Long
Fungicide & Nematicide Tests 58:ST005
- 03-198-S Kansas Fertilizer Research 2002
H.D. Bond, M.M. Claassen, S.R. Duncan, D.L. Fjell,
R.J. Gehl, H.C. George, C.B. Godsey, W. B. Gordon,
J. Heitman, K. A. Janssen, K.W. Kelley, G. L. Kilgore,
G.J. Kluitenberg, R. E. Lamond, D.F. Leikam, L. D. Maddux,
C.W. Marr, V. L. Martin, T.M. Maxwell, K.A. McVay, M.M. Mikha,
J. L. Moyer, G. M. Pierzynski, K. Rector, C.W. Rice,
A. J. Schlegel, J.P. Schmidt, J.P. Shroyer, S.A. Staggenborg,
D. W. Sweeney, C. A. Thompson, C.R. Thompson,
D. A. Whitney, B.D. Wood
Kans. Agric. Exp. Stn. Report of Progress 903, December
2002, 71 pp., CD-ROM
<http://www.oznet.ksu.edu/library/crpsl2/SRP903.pdf>
- 03-201-S 2002 Kansas Performance Tests with Grain Sorghum
Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen,
W.B. Gordon, W. Heer, K. Janssen, V. Martin, L. Maddux,
P. Evans, K. Kofoid, J. Long, A. Schlegel, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 900,
December 2002, 46 pp.
- 03-202-S 2002 Kansas Performance Tests with Soybean Varieties
W. Schapaugh, K. Roozeboom, P. Evans, J. Long,
A. Schlegel, C. Thompson, M. Witt, M. Claassen,
W.B. Gordon, W. Heer, K. Janssen, L. Maddux, V. Martin
Kans. Agric. Exp. Stn. Report of Progress 901,
December 2002, 33 pp.
- 03-211-S Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon,
W. Heer, L. Maddux
Kansas. Agric. Exp. Stn. Report of Progress 904,
December 2002, 9pp.
- 03-211-S Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon,
W. Heer, L. Maddux
Kansas. Agric. Exp. Stn. Report of Progress 904,
December 2002, 9pp.
- ### Southeast Agricultural Research Center
- 02-166-J Single Irrigations during Reproductive Growth to Improve
Early Maturing Soybean Yield and Quality
D.W. Sweeney, J.H. Long, M.B. Kirkham
Soil Sci. Soc. Am. J. 67:1-6, 2003
- 02-383-J Long-Term Crop Rotations Affect Soybean Yield and Soil
Chemical Properties
K. Kelley, J. Long, T. Todd
Field Crops Research 80:41-50, 2003
- 03-24-S 2002 Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon,
W. Heer, L. Maddux
Kans. Agric. Exp. Stn. Report of Progress 904,
December 2002, 9pp.
- 03-160-S 2002 Kansas Performance Tests with Corn Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen,
W.B. Gordon, W. Heer, K. Janssen, V. Martin,
P. Evans, L. Maddux, K. Kofoid, J. Long, A. Schlegel,
M. Witt
Kans. Agric. Exp. Stn. Report of Progress 899,
November 2002, 49 pp.

Publications of Station Scientists

- 03-214-D 2002 National Winter Canola Variety Trial
C. Rife, K. Janssen, R. Aiken, J. Long, W. Heer, M. Witt, R. Auld, R. Bacon, D. Baltensperger, U. Bishnoi, H. Bhardwaj, D. Bordovsky, E. Christmas, S. Conley, J. Fisher, R. Freed, Jerry Johnson, Joe Johnson, J. Kelly, J. Klein, R. Kochenower, J. Krall, K. Kusel, K. Larson, L. Nelson, P. Raymer, M. Schmidt, F. Schweissing, R. Smoot, D. Starner
Agronomy Dept. Report, January 2003, 58 pp.
(Available through department only)
- 03-258-A Managing Nitrogen for Dual-Purpose Tall Fescue Production
J.L. Moyer, D.W. Sweeney
Proc. Amer. Forage and Grassland Council, Lafayette, LA, 12:299-302, 2003
- 03-322-S 2003 Agricultural Research Southeast Agricultural Research Center
L.W. Lomas, J.L. Moyer, D.W. Sweeney, K.W. Kelley, J.H. Long, F.K. Brazle, G.L. Kilgore, S. Staggenborg, S. Duncan, K. Janssen, M.B. Kirkham, M. Knapp, C.M. Taliaferro
Kans. Agric. Exp. Stn. Report of Progress 909, April 2003, 55 pp.
- 03-272-S Cattlemen's Day 2003
J.J. Sindt, J. S. Drouillard, B. Dicke, T.J. Klopfenstein, L. Borck, E. Ceylan, J.L. Marsden, S.K. Johnson, S.L. Fogleman, R. Jones, E.R. Loe, J.S. Drouillard, T.J. Kessen, S.P. Montgomery, J.N. Pike, M.J. Sulpizio, T.T. Marston, D.A. Llewellyn, L.C. Hollis, J.W. Homm, M. Singh, H. Thippareddi, R.K. Phebus, J.L. Marsden, C.L. Kastner, T. Schroeder, C. Ward, J. Lawrence, D. Feuz, S.C. Clark, D.W. Moser, R.E. Williams, M.T. Ortega, T. Feldkamp, J. Lusk, E.R. Loe, T.J. Kessen, S.P. Montgomery, J.N. Pike, M.J. Sulpizio, L.K. Thompson, D.Y.C. Fung, S.P. Montgomery, D.A. Blasi, R.L. Packard, J.C. Forchero, R.R. Scott, J.W. Stephens, J.A. Unruh, M.E. Dikeman, M.C. Hunt, T.E. Lawrence, T.M. Loughin, D.A. Llewellyn, R.C. Cochran, C.G. Farmer, T.A. Wickersham, E. J. Yancey, K.A. Hachmeister, E. Chambers IV, G.A. Milliken, E. Westcott, J.D. Dunn, J. P. Kayser, A.T. Waylan, E.K. Sissom, B.J. Johnson, M.A. Greenquist, B.E. Depenbusch, E.J. Good, E.R. Loe, D.R. Eborn, M. Irsik, M. Langemeier, J.A. Minick, E.J. Pollak, D.E. Wilson, E.W. Dressler, A.B. Broce, C.M. Gordon, M.F. Spire, J.J. Higgins, J.A. Fox, M.A. Boland, W. Grady, L.W. Lomas, J.L. Moyer, F.K. Brazle, G.L. Kilgore, E. Ceylan, M. Hajmeer, L.D. Keenan, D.R. Eborn, E.J. Yancey, G.A. Milliken, E. Dressler, P. Gadgil, S. Grunewald, C. Ward, J.W. Stephens, J.P. Kayser, E. Obuz, T.J. Herald, S. Hinojosa Verdin, E.G. Towne, G.L. Bishop, J.R. Brethour, C.M. Trater, K.C. Candler, M.S. Awawdeh, D.P. Gnad, E.A. Klevesahl, J.I. Arroquy, E.J. Pollak, J. Taylor, S. Davis, T. Holm, S. Koontz, C. Gill, A.L. Reicks, Kans. Agric. Exp. Stn. Report of Progress 908, March 2003, CD-ROM
<http://www.oznet.ksu.edu/library/lvstk2/srp908.pdf>

Publications without contribution numbers

Registration of 'Midland 99' Forage Bermudagrass
C.M. Taliaferro, J.A. Anderson, W.L. Richardson, J.L. Baker, S.W. Coleman, W.A. Phillips, L.J. Sandage, J.L. Moyer, T.L. Hansen, R.L. Kallenbach, R.J. Crawford
Crop Sci. 42:2212-2213, 2002

Southwest Research-Extension Center

- 01-355-J Subsurface Drip Irrigation for Alfalfa? An Extension Approach to Answer Farmers of Kansas
M. Alam, T.P. Trooien, D.H. Rogers, T.J. Dumler
J. of Extension (electronic), 40(3), 2002
<http://www.joe.org/joe/2002june/rb5.html>
- 02-110-J Correcting Iron Deficiency in Corn with Seed-Row Applied Iron Sulfate
C.B. Godsey, J.P. Schmidt, A.J. Schlegel, R.K. Taylor, C.R. Thompson, R. Gehl
Agronomy J. 95:160-166, 2003
- 02-179-J Water Use and Light Interception under Palmer Amaranth (Amaranthus palmeri) and Corn Competition
R.A. Massinga, R.S. Currie, T.P. Trooien
Weed Science 51:523-531, 2003
- 03-24-S 2002 Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon, W. Heer, L. Maddux
Kans. Agric. Exp. Stn. Report of Progress 904, December 2002, 9 pp.
- 03-110-J Using Subsurface Drip Irrigation for Alfalfa
M. Alam, T.P. Trooien, T.J. Dumler, D. H. Rogers
J. American Water Resources Association 38:1715-1721, 2002
- 03-160-S 2002 Kansas Performance Tests with Corn Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, V. Martin, P. Evans, L. Maddux, K. Kofoid, J. Long, A. Schlegel, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 899, November 2002, 49 pp.
- 03-198-S Kansas Fertilizer Research 2002
H.D. Bond, M.M. Claassen, S.R. Duncan, D.L. Fjell, R.J. Gehl, H.C. George, C.B. Godsey, W. B. Gordon, J. Heitman, K. A. Janssen, K.W. Kelley, G. L. Kilgore, G.J. Kluitenberg, R. E. Lamond, D.F. Leikam, L. D. Maddux, C.W. Marr, V. L. Martin, T.M. Maxwell, K.A. McVay, M.M. Mikha, J. L. Moyer, G. M. Pierzynski, K. Rector, C.W. Rice, A. J. Schlegel, J.P. Schmidt, J.P. Shroyer, S.A. Staggenborg, D. W. Sweeney, C. A. Thompson, C.R. Thompson, D. A. Whitney, B.D. Wood
Kans. Agric. Exp. Stn. Report of Progress 903, December 2002, 71 pp., CD-ROM only
<http://www.oznet.ksu.edu/library/crpsl2/SRP903.pdf>

Publications of Station Scientists

- 03-201-S 2002 Kansas Performance Tests with Grain Sorghum Hybrids
K. Roozeboom, D. Jardine, M. Knapp, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, V. Martin, L. Maddux, P. Evans, K. Kofoid, J. Long, A. Schlegel, M. Witt
Kans. Agric. Exp. Stn. Report of Progress 900, December 2002, 46 pp.
- 03-202-S 2002 Kansas Performance Tests with Soybean Varieties
W. Schapaugh, K. Roozeboom, P. Evans, J. Long, A. Schlegel, C. Thompson, M. Witt, M. Claassen, W.B. Gordon, W. Heer, K. Janssen, L. Maddux, V. Martin
Kans. Agric. Exp. Stn. Report of Progress 901, December 2002, 33 pp.
- 03-211-S Kansas Performance Tests with Alfalfa Varieties
K. Roozeboom, P. Evans, J. Moyer, M. Witt, W.B. Gordon, W. Heer, L. Maddux
Kans. Agric. Exp. Stn. Report of Progress 904, December 2002, 9pp.
- 03-214-D 2002 National Winter Canola Variety Trial
C. Rife, K. Janssen, R. Aiken, J. Long, W. Heer, M. Witt, R. Auld, R. Bacon, D. Baltensperger, U. Bishnoi, H. Bhardwaj, D. Bordovsky, E. Christmas, S. Conley, J. Fisher, R. Freed, Jerry Johnson, Joe Johnson, J. Kelly, J. Klein, R. Kochenower, J. Krall, K. Kusel, K. Larson, L. Nelson, P. Raymer, M. Schmidt, F. Schweissing, R. Smoot, D. Starner
Agronomy Dept. Report, January 2003, 58 pp.
(Available through department only)
- 03-244-S 2002 Kansas Performance Tests with Sunflower Hybrids
P. Evans, K. Roozeboom, M. Claassen, W.B. Gordon, W. Heer, A. Schlegel
Kans. Agric. Exp. Stn. Report of Progress 905, January 2003, 25 pp.
- 03-302-A The Long Term Impact of Interactions of Atrazine Rates, Tillage Levels and Cover Crops on Weed Seed Soil Banks
R.S. Currie
Proc. North Central Weed Science Society
St. Louis, MO, 2002, CD-ROM 57:173
- 03-312-J Orchard Floor and Nitrogen Management Influences Soil and Water Quality and Tart Cherry Yields
J.E. Sanchez, C.E. Edson, T.C. Willson, et al.
J. of the American Society for Horticultural Science.
128(2):277-284, 2003
- 03-318-J Vernalization Studies with Pacific Northwest Wheats
D.M. Baloch, R.S. Karow, E. Marx, J.G. Kling, M.D. Witt
Agronomy J. 95:1201-1208, 2003
- 03-323-S Field Day 2003 Southwest Research-Extension Center,
J. Elliott, D. Bond, D. Nolan, A. Schlegel, L. Stone, N. Klocke, C. Thompson, R. Currie, R. Massinga, L. Buschman, P. Sloderbeck, M. Witt
Kans. Agric. Exp. Stn. Report of Progress SRP 910, June 2003, 42 pp.
- 03-402-A Application of a Linear Move Sprinkler System for Limited Irrigation Research
N.L. Klocke, C. Hunter Jr., M. Alam
2003 ASAE Annual International Meeting, Las Vegas, NV, 2003, 13pp.

Active Projects—FY 2003

Agricultural Experiment Station Director

- 525081 Development and Management of Canola in the Great Plains
 525085 Consortium for Agricultural Soils Mitigation of Greenhouse CASMGS)
 KS9081 Development and Management of Canola in the Great Plains Region

Agricultural Economics

- 520550 Improving Farm Competitiveness: Explaining and Forecasting Farm Profitability
 520512 Estimating the Nationwide Demand for Risk Reduction from Foodborne Pathogens
 536501 KS Cooperative Development Center for Education and Assistance Program
 536778 Kansas Urban Water Quality Restoration and Protection Initiative
 520532 Bioeconomic Assessment of Biologically Based Pest Management on Ivy Geranium
 536832 A Rural Community Based Case Test to Evaluate the Efficacy of the USDA Quality System Certification Program (QSCP) for Small Livestock and Meat Marketing Programs
 520543 USDA Agricultural Marketing Resource Center
 520545 Risk Information and Education for Producers Investing in Value Added Businesses
 520547 Are Equivalent Advertising Assessments Optimal in the Face of Product Differentiation?
 535195 National Food and Agribusiness Challenge Grants Program
 520557 Analysis of Income Variability and Stabilization and Development of Risk Management Tool
 536975 Distance Education Strategies for Agricultural Producers
 520559 The Economics of Wheat Protein and Wheat Gluten
 520562 Welfare Estimates under Product Differentiation: The Benefits of Table Grape Promotion on Grape Varieties
 KS190 Agricultural Water Management Technologies, Institutions and Policies Affecting Economic Viability and Environmental Quality
 KS221 Financing Agriculture and Rural America: Issues of Policy, Structure and Technical Change

- KS2443 Livestock Management and Marketing
 KS502 Agricultural International Trade and Natural Resource Policy Impacts on Kansas
 KS585 Supply Chain Management and Agribusinesses Structures
 KS732 An Industry Targeting and Evaluation System for Kansas Rural Communities
 KS9512 Estimating the Nationwide Demand for Risk Reduction from Foodborne Pathogens
 KS9550 Improving Farm Competition: Explaining and Forecasting Farm Profitability

Agronomy

- 535176 Experiential Learning Integrated Across the Curriculum
 536957 Heartland Integrated Water Quality Coordination Initiative
 536910 Revising KSU Sorghum Phosphorus and Potassium Nutrient Recommendations
 520005 Use of Strip-Tillage for Corn Production in Kansas
 536916 Revising KSU Corn Phosphorus and Potassium Nutrient Recommendations
 520980 Flow and Distribution of Fluid Phases through Porous Plant Growth Media in Microgravity
 520979 Enhancing the Utilization of Grain Sorghum and Pearl Millet through the Improvement of Grain Quality via Genetic and Nutrition
 520997 Evaluation of Brassica Napus Accessions to Determine Growth Habit and Vernalization Requirement
 520033 Soil Fertility and Soil Management Investigations
 520044 Range and Pasture Brush and Weed Control
 520052 Field Herbicidal Evaluations
 520713 Development of Hard White Winter Wheat for Kansas
 520756 Foundation Seed Maintenance
 520761 Crop Performance
 520800 Providing Soil Sample Analyses for Soil Survey Activities
 520864 Impact of Golf Courses on Soil Quality
 520887 Wind Erosion Model for Military Lands
 520888 Wind Erosion Assessment and Control
 520890 Addition of Genes Encoding Thaumatin-Like Protein and Late Embryogenesis Abundant Protein
 520904 Canola Production Centers: Introducing a Viable New Crop to Kansas

- 520907 Potential for Imidazolinone-Resistant Sunflower Gene Escape and Altered Fitness of Related Wild Species
 520914 Landscape-Level Trace Gas Fluxes on Grazed and Ungrazed Tallgrass Prairie
 520919 Same as 20914
 520925 Improving Resistance to Preharvest Sprouting in Kansas White Wheat
 536785 Soybean Production in Kansas: Extension and Applied Research
 536786 Grain Sorghum Production in Kansas: Extension and Applied Research
 536787 Corn Production in Kansas: Extension and Applied Research
 520938 Development of Wheat Germplasm with Multiple Disease and Insect Resistance for the Southern Great Plains
 520939 Improvement of Hard Red Winter Wheat for Kansas
 520948 Elucidation of and Development of Cold Tolerance in Sorghum
 520953 Evaluation of Agri-SC for Reducing Soil, Nutrient, and Herbicide Losses in Cropland Runoff
 520965 Enhancing Soybean Germplasm Development
 520966 Sprinkler Irrigation Demonstration Project
 520969 Greenhouse Studies to Demonstrate Zinc Phytotoxicity of Native Plant Species
 520970 Development and Standardization of Methods for Measuring Seepage Rates from Anaerobic Lagoons at Animal Feeding
 520968 Integrated Agricultural Management Systems for Improving Water Quality in Kansas
 520973 Enhancement of Research on Fate and Impact of Environmental Pollutants
 520975 Same as 520973
 520978 Bringing Genomics to the Wheat Fields
 520990 IWM Implementation: A Regional Approach
 520996 Facilitate Development of Abiotic Stress Resistant Wheat
 521013 Grazer-Mycorrhizal Interaction in Tallgrass Prairie: Effects on Carbon and Nitrogen Partitioning and Sequestration
 521006 Quantifying Nitrate Leaching and Improving Current Nitrogen Recommendations for Sandy Soils Under Irrigated Corn
 521014 Implementing Practical and Cost-Effective Approaches to Site-Specific Weed Management

Active Projects—FY 2003

521009 Control of Field Pansy, a "New" Winter Annual in No-Till Crops

521011 A Field Assessment of Methods for Estimation of Groundwater Consumption by Phreatophytes

521012 Evaluation of the Impact of Military Training on Soil

535287 Field Trials V-10126

521027 Soil Laboratory Analysis to Support Soil Properties for Use in Determining How Soils Interpret for Various Uses

537025 Compost Site Operation and Maintenance/Compost Operator School/Education and Technical Assistance

KS032 Ergot: A New Disease of U.S. Grain Sorghum

KS037 Host Plant Control Resistance to and Best Management Practices for Karnal Bunt of Wheat

KS082 Reducing the Potential for Environmental Contamination by Pesticides and Other Organic Chemicals

KS1011 Breeding and Genetics of Forage Crops to Improve Productivity, Quality and Industrial Use

KS188 Characterization of Flow and Transport Processes in Soils at Different Scales

KS202 Biological and Ecological Basis for Weed Management Decision Support Systems to Reduce Herbicide Use

KS218 Characterizing Nitrogen Mineralization and Availability in Crop Systems to Protect Water Resources

KS287 Conservation, Management, Enhancement and Utilization of Plant Genetic Resources

KS507 Calibrating and Validating Wheat and Soybean Crop Models for Kansas Varieties

KS515 Starter Fertilizer Application Effects on Reduced and No-Tillage Grain Sorghum Production

KS523 Starter Fertilizer Formulations and Placement for Conservation Tillage Production Systems

KS525 Improvement of Hard Winter Wheats and Other Small Cereal Grains for Kansas

KS526 Plant Transformation Using Microprojectiles and Agrobacterium

KS533 Crop Growth in Soil beneath Waste Lagoons

KS540 Range Improvement Investigation

KS557 Breeding Sorghum for Improved Yield Potential and Stress Tolerance

KS578 Effects of Long-Term Crop Residue Harvesting and Fertilizer Application on Soil Properties and Crop Yield

KS580 Biomass Sources of Nitrogen for No-Till Rotations for South Central Kansas

KS581 Production of Transgenic Crop Plants for Biotic and Abiotic Stresses

KS582 Enhancing Soybean Production Efficiency and Stability through Breeding and Genetics

KS591 Reduced Tillage and Intensified No-Till Crop Rotations with Winter Wheat and Row Crops

KS610 Use of Crop Models for Summer Crop Management

KS625 Common Waterhemp Resistance to PPO-Inhibiting Herbicides

KS716 Nitrogen Management Strategies to Limit Subsurface Losses in Irrigated Corn Production

KS719 Quantifying Nitrate Leaching and Improving Current Nitrogen Recommendations for Sandy Soils under Irrigated Corn

KS720 Improving Short- and Long-Term Management of Soil Phosphorus and Phosphorus Fertilizers

KS779 Impact Climate and Soils on Crop Selection and Management

KS838 Chemistry and Bioavailability of Waste Constituents in Soils

KS9014 Implementing Practical and Cost-Effective Approaches to Site-Specific Weed Management

KS9085 Consortium for Agricultural Soils Mitigation of Greenhouse Gases (CASMGs)

KS9090 Development and Management of Canola in the Great Plains Region

KS9907 Potential for Imidazolinone-Resistant Sunflower Gene Escape and Altered Fitness of Related Wild Species

KS9931 Evaluation of Post-Control Weed Competitiveness as Input into a Weed Management DSS

KS9949A Sorghum Research

KS9968 Integrated Agricultural Management Systems for Improving Water Quality in Kansas

Anatomy and Physiology

529421 LKS & LKUR in Granulosa Cells Molecular and Functional Diversity of Ovary Ca²⁺ Currents

528619 Porcine Antimicrobial Peptide

528620 Short-Term Training Students in Health Professionals Schools

528622 Bicarbonate Secretion by Human and Porcine Epithelia

528623 Veterinary Research Scholars

KS299 National Animal Genome Research Program

KS584 Gonadotropin Receptor Defects, BST, Cystic Ovaries, and Infertility in Dairy Cattle

KS653 Anatomical, Physiological, and Pharmacological Mechanisms in Health and Disease

KS9612 Porcine Antimicrobial Peptides

KS9619 Same as KS9612

KS9626 Epithelial Sodium Transport Mechanisms and Associated Regulatory Pathways that Affect Bovine Mammary Development, Function, and Involution

Animal Sciences and Industry

521900 Nutritional Influences on Efficiency of Amino Acid Use by Growing Cattle

535183 Interactive Food Safety Training Modules for Distance Learning

521788 Support of Regents Distinguished Professorship in Animal Sciences & Industry

536313 Food and Feed Value-Added Program

536325 North Central Regional Aquaculture Center Extension Project

536826 Improving HACCP Systems for Small Meat and Food Processors in Four Midwest States

521877 Animal Sciences and Industry Food Safety Consortium - KSU

521822 Effectiveness of Cloptilolite as a Suspending Agent in Liquid Feed Supplements

536864 Educational Programs on Food Safety and Irradiation

521891 Flaxseed as Component of Finishing Cattle Diets

521882 Validating *E. coli* O157:H7 in Direct Acidified Beef and Venison Semi-Dry Sausages

521895 Infrared Thermography of Market Hogs as a Predictor of Pork

521899 Effects of Vegetable and Animal Fat Sources on Finishing Cattle Performance, Carcass Characteristics, and Meat Sensory

536926 Value-Added Meats Program for Kansas Companies and Entrepreneurs

521908 Control of *Clostridium perfringens* and *Clostridium botulinum* in Cooked, Ready-to-Eat Meat Products by Chemical during Extended Chilling Process

536965 HACCP Training and Research to Assist Meat Processors with Process Deviations for Lethality and Stabilization

521907 PILOT: Functional FSH Receptor Variants in Bovine Follicles

521909 Influence of Carnichrome on the Energetics of Gestating Sows

521912 Novel Genes Involved in the Molecular Responses of Pigs to the Effects of Endotoxemia

Active Projects—FY 2003

521910 Melengestrol Acetate in Receiving Diets for Feedlot Heifers

521911 Effect of Nutrient Enhanced Foods on Joint Development in 25 to 115 kg Pigs

521913 Pipestone Veterinary Clinic Project

521915 Interactive Effects Between Carnitine and Lysine on Growth Performance of Commercial Finishing Pigs

521917 Efficacy of the Grovac System for Decontamination of Retail Beef Trim-mings: Process Validation against Pathogens & Commercial Shelf-Life Study

521916 Evaluation of Factors Causing "Black Bone" Condition in Packaged Beef Retail Cuts and Ways to Decrease the Incidence

521919 Effect of Nutrient Enhanced Foods on Joint Development in 25 to 115 kg Pigs - Experiment 2

537021 Good Natured Family Farms Chicken Shelf-Life Study

KS026 Reproductive Performance in Domestic Ruminants

KS1006 Methods to Increase Reproductive Efficiency in Cattle

KS1009A Metabolic Relationships in Supply of Nutrients for Lactating Cows

KS1119 Management Systems to Improve the economic and Environmental Sustainability of Dairy Enterprises

KS132 Molecular Mechanisms Regulating Skeletal Muscle Growth and Differentiation

KS189 Forage Protein Characterization and Utilization for Cattle

KS195 Water Quality Issues in Poultry Production and Processing

KS225 Improved Grazing Systems for Beef Cattle Production

KS2212 Postharvest Food Safety

KS2423 Developing Efficient, Coordinated Swine Production Systems

KS481835 The Effect of a *Salmonella typhimurium* Disease Challenge on Porcine Muscle Growth

KS481836 Dietary Mannan oligosaccharides and Sodium Chlorate in Salmonella-Infected Pigs

KS484 Optimum Use of Harvested Forage Crops for Beef and Dairy Cattle

KS579 Stress Factors of Farm Animals and Their Effects on Performance

KS605 Protein Nutrition of Beef Cattle

KS624 Immunization Strategies to Decrease Reproductive Function in Cattle and Horses

KS645 Genetic Effects on Reproduction in Beef Cattle

KS646 Nutritional Modulation of Reproductive and Immune Function in Horses

KS9900 Nutritional Influences on Efficiency of Amino Acid Use by Growing Cattle

Apparel, Textiles and Interior Design

KS1002 New Technologies for the Utilization of Textile Materials

Biochemistry

527308 Protein Structure and Function

527253 Regulation and Function of Membrane Lipid Hydrolysis in Lipid-Based Signaling of Plants

527274 Regulation of Protein Cross-Linking Reactions for Insect Cuticle

529216 Proteinase Systems in Insect Hemolymph

529275 Role of Ordered Helical Segments in Membrane Proteins

529451 Structure and Function of HSP 100 Proteins

527281 Molecular Genetics of Enzymes and Structural Proteins of Aphid

527285 Characterizing Functions of Multiple Phospholipase Ds in

529461 Protein Kinase C Gamma in the Lens

527296 Protein-protein Interactions Mediated by ADAM 12, a Muscle-Specific Metalloprotease-Disintegrin

527297 A Kirkwood-Buff Approach to Improved Cosolvent Force Fields

527299 Metabolic Profiling of Membrane Lipids and their Compositional Dynamics in Plant Stress Responses

527302 Adhesion Receptors of the Insect Immune System

527311 Establishment of the Lipidomics Research Center at Kansas State University

527313 Protein Cross-Linking Reactions for Insect Cuticle Sclerotization

527307 Generation of Genetically Modified Corn Expressing Insect Chitinase Gene

527309 Protein Structure and Function

527314 Effect of Glucose on Blood Coagulation Factor XII Activation and Enzymatic Activity

527316 9th International Chitin-Chitosan Conference

KS511 Biotechnology Core Facility

KS512 High Field Protein Nuclear Magnetic Resonance Laboratory

KS516 Hemolymph Proteins in Insect Immune Responses

KS567 Structure-Function Relationships in Blood Coagulation Factor XII

KS593 Properties of Nitrogenase Iron Protein Mutants

KS595 Biochemistry of Signaling in the Eye

KS599 Modeling Protein Solvation

KS608 Phytoremediation of Organic Environmental Contaminants

KS614 Function and Regulation of Mammalian Pyruvate Dehydrogenase Complex

KS629 Biochemistry of Genetic Systems: Aphid Salivary Proteins and Enzymes

KS631 Molecular Analysis of Metalloprotease Disintegrin ADAM12

KS633 Structure and Function of AAA Proteins

KS688 Wheat Tissue Specific Gene Promoters

KS9281 Molecular Genetics of Enzymes and Structural Proteins of Aphid Salvia

KS9285 Characterizing Functions of Multiple Phospholipase Ds in Arabidopsis

Biological and Agricultural Engineering

527783 Controlling Pollutants from Animal Waste in the Environment

536914 Mobile Irrigation Lab - Improved Irrigation Efficiency for Corn

536918 Kansas AgrAbility Project

527751 Joint State Atrazine Big Blue River Monitoring Project

527765 Kanopolis Watershed Assessment

536226 Kansas Environmental Leadership Program (KELP)

527775 Performance Evaluation of Wetlands in Northeast Kansas

527782 Development of Calibrations and Procedures for a High Speed Machine Vision Grain Inspection System

536939 Demonstration of BMPs to Avoid Groundwater Pollution from Application of Livestock Manure to Cropland

527788 Performance Evaluations of Wetlands in Northeast Kansas

536938 Technical Assistance to Water Users: K-State Mobile Irrigation Lab

536962 Kansas Water Resources Adult Education

527800 High Plains Aquifer Information Network (HIPLAIN) Year 2

527789 Verdigris River Basin - Fall River Watershed WRAPS (K3-023)

527791 Kinetic Model for *E. coli* Transport through Sand Column

527792 Durability of Pulse Width Modulation (PWM) Valve in Precision Anhydrous Ammonia Application

527793 A Wireless Sensor for Measuring Suspended-Sediment Concentration in Streams

Active Projects—FY 2003

527794	Assessing the Impact of Maneuver Training on NPS and Water	526751	Use of Sandsage Habitat by Lesser Prairie-Chicken in Southwestern Kansas	526825	Ecosystem Responses to Experimental Warming and More Extreme Precipitation Patterns
527795	Fermentation Quality of Sorghum	530222	Role of Baculovirus Expression Factors in Host Range	526829	Kansas Biomedical Research Infrastructure Network [K-BRIN] Star Trainee Award
536993	K2-031 Dairy Nutrient Management Technical Assistance	536513	Outdoor Wildlife Learning Site (Owls)	526827	Kansas Biomedical Research Infrastructure Network [K-BRIN] Star Trainee Award
536994	Environmental Health Handbook Revision	536514	Same as 536513	526834	Enhancing Scab Resistance in Wheat by Overexpressing Wheat and Arabidopsis NPR1
KS1004	Development and Evaluation of TMDL Planning and Assessment Tools and Processes	526765	Acquisition of Five Controlled Environment Chambers for Plant Research	770452	FSML: Construction of Duplex-Unit Housing for Visiting Research at the Konza Prairie Biological Station
KS230	Integrating biophysical Functions of Riparian Systems with Management Practices and Policies	526766	EPA Fellowship Grant	KS1142	Regulation of Photosynthetic Processes
KS2312	Water Conservation and Management in Crop Systems	526769	Optimizing Recovery of Cyclospora H2 - Receptor and Tetraspans as Novel Cancer Therapy Targets	KS517	Generation of a Coupled Enhancer System to Control Gene Expression in Shoot Tissues
KS2332	Environmental Air Quality Issues Associated with Agricultural Operations	526770	Ecosystems in Transition: Causes and Consequences of Dramatic Shifts	KS528	Superantigen Binding to Human HLA Molecules
KS2452	Precision Agriculture Technologies	526771	Systematics and Geographic Relations of Phlox L. (Polemoniaceae)	KS529	Functional Characterization of Anti-Apoptotic IAP Proteins
KS558	Thermal Processing of Wheat Gluten-Water Mixtures for New Uses in Food	526773	Schoolyard LTER: Konza Prairie V: Long-Term Research on Grassland Dynamics and Global Change	KS532	Regulation of Cell Adhesion and Migration of Tetraspans
		526780	Long-Term Postdoctoral Fellowship: Elucidation of Animal Diversity by Comparing <i>Drosophila</i> and <i>Tribolium</i> Wing	KS535	Soil Nutrient Availability and Plant Response in Native and Restored Tallgrass Prairie
		526781	Lipid Signaling and NPR1-Independent Pathway in Plant Defense	KS536	Management of Konza Prairie Research Area
		526785	Develop an On-Line Mammal Atlas for Kansas	KS537	Water Quality in the Flinthills
		526786	Scaling Up the Ecosystem Consequences of Forest Expansion in the Great Plains Region	KS538	Conservation and Management of Mammals in Natural and Anthropogenic Ecosystems
		526790	Development of Aquatic GAP Analysis for Kansas	KS539	Salicylic Acid Signaling: Target for Engineering Enhanced Disease Resistance
		529471	Characterization of Insect Rpr, Hid, and Grim Homologs	KS542	Protein Level Regulation of Glutamine Synthetase in Common Beans
		526792	Nitrate Uptake and Retention in Streams: Mechanisms and Effects of Human Disturbances from Stream Reaches to	KS546	Effects of Native and Domesticated Grazers on Belowground Processes in Prairie Ecosystems
		526795	Kansas Biomedical Research Infrastructure Network (K-BRIN)	KS568	Quantitative and Qualitative Analysis of Adipose Tissue from Avian Wildlife
		526801	Kansas Biomedical Research Infrastructure Network (K-BRIN)	KS569	Gene Sequences of <i>Cryptosporidium parvum</i>
		526807	Fluorescence Spectrophotometer with Microtiter Plate Reading	KS615	Engineering Systemic Acquired Resistance in Wheat
		526808	Control of Translation Initiation in Fission Yeast	KS620	Comparison of Sources of Fecal Contamination in Water: Antibiotic Resistance Versus Biolog Patterns
		526810	Enterococcus faecalis Protein EbsG and LTA Function	KS621	Herbarium-Based Studies in Plant Systematics
		526811	Effectiveness of Nanoparticles for Treatment of Mycelia and	KS627	The National Atmospheric Deposition Program: Konza Prairie, Kansas
		526815	Belowground Meristem Populations as Regulators of Grassland Dynamics	KS697	Molecular Genetics of Plant-Aphid Interaction
		526816	Research Fellowship	KS9184	Role of Baculovirus Expression Factors in Host Range
		526817	Analysis of CD81-PGRL Complex on T Cells		
		526818	REU Site: Conservation of the Tallgrass Prairie Ecosystems		

Biology

529501	Genetic Control of Segmentation
529521	In vitro Refinements for <i>Cryptosporidium parvum</i>
526814	Diversity of Ericoid Mycorrhizal Fungi and Its Significance in Plant Nitrogen Acquisition in the Arctic
526804	Konza Prairie LTER V: Long-Term Research on Grassland
526812	Genomic Approaches to Study Organismal Response to Global Environmental Change
526583	Establishment and Operation of the Kansas Cooperative Fish and Wildlife Research Unit
526656	REU in Grassland Ecology at Konza Prairie Research Natural Area
526684	Long-Term Ecological Research in Tallgrass Prairie: Konza LTER Program
526737	Testing of Water Filter and Purification Devices
526741	Differentiation of Bone Marrow Macrophages in Space: Phase A
526746	Genetic Regulation of Developmental Fate / Evolution of Genetic Mechanisms Controlling Developmental Fate
526748	Grassland Ecosystem Response to the Experimental Manipulation of Precipitation
526749	Belowground Responses to Manipulation of Precipitation Timing and Amounts in a Grassland
526750	Acquisition of an Isotope Ratio Mass Spectrometer in the KSU-KU-Creighton University Consortium

Active Projects—FY 2003

- KS9743 Grassland Ecosystem Response to the Experimental Manipulation of Precipitation
- KS9783 Lipid Signaling and NPR1-Independent Pathway in Plant Defenses

Chemical Engineering

- 527908 USDA/ARS Research Support Agreement
- KS543 Carbon Adsorbents and Molecular Sieves for Gas Storage and Fluid Purification
- KS602 Process Synthesis for Downstream Processing in Production of Butanol from Corn and Grain Sorghum

Civil Engineering

- KS489 Containment Barriers for Agricultural Waste
- KS554 Binding of Pesticides to Soils and Its Impact on Bioavailability
- KS616 Environmental Fate of Pharmaceuticals in Animal Wastes

Communications

- 520007 Food Safety Education for the Prevention of Foodborne Illness among U.S. Residents 65 and Older
- 537661 Radio Community Service Grant
- 536722 Bugs in Kansas Book
- 536837 CYFERNet Technology
- 536900 Technical Assistance to Water Users: ET/Weather Station Operation and Maintenance
- KS9007 Food Safety Education for the Prevention of Foodborne Illness among U.S. Residents 65 and Older

Diagnostic Medicine / Pathobiology

- 528432 Correlation of CD151 Levels in Peripheral Blood Monocyte Cells with Porcine Reproductive and Respiratory Syndrome Virus
- 528414 Studies of the Safety of Fiber AB Product in Household Pets
- 528416 Fabric Refresher #2
- 528418 Role of Glycoproteins gE and gI in BHV-1 and BHV-5 Differential Neuro-pathogenesis
- 528422 Pseudorabies Laboratory Testing

- 528424 Effect of Lasalocid on Experimentally Induced Abomasal Bloat and Abomasitis in Neonatal Calves
- 528427 Role of *Fusobacterium necrophorum* Leukotoxin in Virulence
- 528428 An Improved Multiplex Molecular Test for Sensitive Detection of Canine Ehrlichiosis Agents
- 528431 Thrombin and vWF in Shiga-Toxin Associated HUS
- 528437 Development of an Upper Respiratory Tract Infection Model in Adult Dogs by Experimental Infection with Bordetella
- 528438 Antibiotic Detection and Resistance in Feedlot Management: A Preliminary Research, Demonstration and Education Project
- 528439 Assessment of Tilmicosin Mutation Frequency in Cattle Respiratory Disease Pathogens
- 528441 Intergovernmental Personnel Act Assignment
- 528443 Realtime PCR Detection of PRRSV and Rapid Identification of Vaccine in Serum and Semen
- 529484 Control of Enterotoxin Gene Expression in *S. aureus*
- 529511 Cellular Immunity against *Ehrlichia chaffeensis*
- KS1007A Enteric Diseases of Swine and Cattle: Prevention, Control and Food Safety
- KS107 Evolving Pathogens, Targeted Sequences, and Strategies for Control of Bovine Respiratory Disease
- KS229 Porcine Reproductive and Respiratory Syndrome: Mechanisms of Disease and Methods of the Detection Protection and Elimination of PRRS Virus
- KS481837 Identification of T Cell Epitopes in *Cryptosporidium parvum* Sporozoite p23.
- KS481838 Modulation of Host Immune Response by Tick Feeding and Pathogen Transmission, A Model Study
- KS481839 Role of Shipping Stress in the Acquisition of Resistance Genes by Salmonella in Swine
- KS531 Role of BHV-1 and BHV-5 Glycoproteins in Pathogenesis
- KS644 Control of Animal Parasites in Sustainable Agricultural Systems
- KS655 Diagnostic Pathogenesis and Epidemiology of Livestock and Poultry Diseases
- KS831 Bovine Respiratory Diseases: Risk Factors, Pathogens, Diagnosis and Management

- KS9418 Role of Glycoproteins gE and gI in BHV-1 and BHV-5 Differential Neuro-pathogenesis
- KS9427 Role of *Fusobacterium necrophorum* Leukotoxin in Virulence

Entomology

- 520103 Chemical Control of Insect Pests of Corn and other Field Crops, Small Grains, and Forages
- 520342 Insecticide Management of Field Crop Insects at Hays, Kansas
- 520347 Insecticide Management of Field Crop Insects in Southwestern Kansas
- 522317 Insect Genetics
- 522396 Tougaloo College Project
- 522407 Facilitate Multiple Pest Resistant Wheat Germplasm Research
- 522425 Investigation of Adult Male Gypsy Moth Dispersal Behavior
- 522477 Effect of Timing and Number of Insecticide Applications Sunflower Headmoth Control in Kansas
- 522483 Alternative Pest Management for Greenhouse Bedding Plants: Demonstration and Economic Evaluation at a Commercial Level
- 522485 Systematics of Native and Exotic Species of Eretmocerus
- 522429 Phylogenetics of Termites
- 522443 Consortium for Integrated Management of Stored Product Insect
- 522446 Bioeconomic Assessment of Biologically Based Pest Management on Ivy Geranium
- 522449 Determine Physiological Effects of Insect Growth Regulators for Major Pest Species
- 522456 Kansas Pesticide Usage Survey and Crop Profile Development
- 522461 Biological Control of Stored Product Insects Pests
- 522464 Heliiothis virescens: Model for Signal Transduction of Allatropism in Moths
- 522466 Development of a Corn Rootworm Area Wide Management Program in Kansas
- 522472 Biologically Intensive Area-wide IPM of the Russian Wheat Aphid and Greenbug
- 522471 Efficacy of Lead Transgenic Corn Rootworm Event Against Western and Northern Corn Rootworm
- 522478 Dow Field Trials Project
- 522479 Management of the Soybean Aphid: A Pro-Active Approach to a New Pest
- 522480 West Nile Virus Surveillance in the State of Kansas

Active Projects—FY 2003

522481 Biology and Management of the Soybean Stem Borer in Kansas

522486 Soybean Resistance to the Soybean Aphid

522487 Predicting the Durability of Host Resistance and Hessian Fly

522510 Mechanisms of Pesticide Interactions in Aquatic Organisms: Implications to Watershed Contamination and Ecosystem Health

522488 Impact Assessment of Stem-boring Insects in Sunflower: A Pilot

522489 Development of RIDL-based Pink Bollworm

522491 Microbial and Population Ecology of House Flies

522496 Lepidopteran Insect Control

522500 Improving the F2 Screen for European Corn Borer

522503 DNA Fingerprinting of *Tribolium Castaneum* for Tracking

536901 Enhancing Information Exchange Through a User-Friendly Diagnostic Image Library

KS045 Mechanisms and Mitigation of Agrochemical Impacts on Human and Environmental Health

KS1005 Sources, Dispersal and Management of Stable Flies on Grazing Beef and Dairy Cattle

KS1010 Dynamic Soybean Pest Management for Evolving Agricultural Technologies and Cropping Systems

KS1185 Biological Control in Pest Management Systems of Plants

KS205 Ecology and Management of European Corn Borer and Other Stalk- Boring Lepidoptera

KS490 Biological Control of Weeds in Kansas

KS534 Physiology of Flight in Insects

KS544 Physiology of Reproduction in Moths and Butterflies

KS559 Studies on Synergistic Toxicity of Pesticide Mixtures to Aquatic Invertebrates

KS583 Insect Systematics: Research, Extension, and Service

KS626 Management of Corn, Sorghum, Sunflower and Wheat Arthropod Pests

KS634 Phylogenetics and Population Genetics of Insects

KS687 Functional Genomics of DN4 and DN6 Genes Expressing Russian Wheat Aphid Resistance

KS9443 Consortium for Integrated Management of Stored Product Insect Pests

KS9464 *Heliothis virescens*: Model for Signal Transduction of Allatotropism in Moths

KS9475 Alternative Pest Management for Greenhouse Bedding Plants: Demonstration and Economic Evaluation at a Commercial Level

KS9487 Predicting the Durability of Host Resistance and Hessian Fly Virulence

Family Studies and Human Services

528050 Evaluation of PATH Intergenerational Program

536495 Expanding Access to USDA and Land-Grant Universities Child Care Information, Programs and Services

536751 NNCC Internet Web Site and Database Recruitment for Air Force Internships Pilot Project

536753 CYFAR Supported Extension Staff Training / Development

536823 Implementing the CES Extension CARES Initiative

536869 Healthy Indoor Air for Kansas Homes

536889 PATH Intergenerational Project

536943 Extension CARES for America's Children and Youth

536982 Kansas Saves: Build Wealth Not Debt, Look Before You Leap

KS552 Kansas Marriage Preservation Project: Enhancing Marriages and Communities in Rural Kansas

Food and Feed Grain Institute

525222 White Wheat Commercialization in Export Markets

Food Animal Health and Management Center

528795 Ecology of *E. coli O157:H7* in Beef Cow-Calf Operations from Ranch through Feedlot

528436 Rapid Syndromic Validation Program – Animals

KS2211 Production Food Safety and Security

KS604 Pre-harvest Control of *E. coli O157:H7* in Cattle

KS654 Medical, Surgical, and Pathophysiological Aspects of Animal Disease

KS9795 Ecology of *E. coli O157:H7* in Beef Cow-Calf Operations from Ranch through Feedlot

Food Science Institute

KS590 Meat Quality and Safety

KS9877 Animal Sciences and Industry Food Safety Consortium

KS9882 Validating *E. coli O157:H7* in Direct Acidified Beef and Venison Semi-Dry Sausages

Grain Science & Industry

523011 International Grains Program (IGP) Advisory Board

523067 Quality Evaluation from KAES Wheat Breeding Programs

523071 Protein/Hardness Screening of Early Progeny Wheats

523080 Development of Prediction Models for Wheat Quality Parameters

523088 A Continuation of Development of a Stored Wheat Areawide Management Program in Kansas

523098 International Grains Program Support Project

523104 Characterization of the Wheat Polyphenol Oxidase (PPO) Gene(s)

523110 Isolation and Evaluation of Wheat Serine Protease Inhibitors as Biopesticides and Modifiers

523112 Affordable Resins and Adhesives from Optimized Soybean Varieties

523113 Efficacy of Actellic on Sunflower Seeds

523119 Molecular Factors Involved in Determining Wheat Flour and Dough Quality

523125 Tyrosine Crosslinks: Kernel Development and Environmental

523128 Market Development Grant—International Grains Program

523129 Development and Implementation of a Voluntary HACCP Program for the Commercial Feed Industry

523130 Characterization of Spinosad as a Stored Grain and Stored Products Protectant

523134 Characterization of Protein-Based Adhesive Performances for Fiber Cardboard

523138 Correlation of Dough Formation and Breadmaking Quality Parameters to Tyrosine Crosslink Formation under Industry

523139 Mold-Induced Deterioration in Grain Stored under High Temperatures and Effect of Mold Inhibitors

523142 Food-Grade Corn Hybrid Evaluation

523143 High-Strength Degradable Plastic from Starch and Poly(lactic acid)

Active Projects—FY 2003

523154	Evaluation of Two Novel Ultrasonic Devices and a Lactose-Based Pesticide for Management of Urban Insects
536946	Sixth National Stored-Product IPM Training Conference
KS1007	The Science and Engineering for a Biobased Industry and Economy
KS124	Mycotoxins in Cereal Grains
KS213	Marketing and Delivery of Quality Cereals and Oilseeds
KS510	Optimization of Wheat Flour Milling System
KS549	Dry and Wet Milling of Grain Sorghum
KS571	Improvements in Bakery Oven Technology
KS572	Physical Characterization of Extruded Animal Feeds
KS574	Biochemical Studies of Polyphenol Oxidase and Phenolics in Wheat
KS575	Plastics from Starch and Poly(lactic acid)
KS576	Use of Genetic Wheat Lines to Obtain Quality Information for Breeding Programs
KS577	Formaldehyde-free High Strength Adhesives Derived from Cereal Proteins
KS607	Cooperative Quality Evaluation of Wheat: Breeding through Harvest
KS612	Chemical Microstructure of Wheat via In Situ Infrared Microspectroscopy
KS630	Market Targeted Breeding with Molecular Wheat Protein Quality
KS9124	Consistency of Quality for the Wheat Industry
KS9125	Tyrosine Crosslinks in Wheat: Kernel Development and Environmental Effects
KS9126	Fate and Efficacy of Spinosad for Insect Management in Farm Stored Grain
KS9129	Development and Implementation of a Voluntary HACCP Program for the Commercial Feed Industry

Horticulture, Forestry and Recreation Resources

520152	Turfgrass Investigations
520163	Herbicides for Weed Control around Woody Plants
523860	Pecan Cultivar Evaluation
524070	Turfgrass Testing
524076	Floriculture Research
524083	Bioeconomic Assessment of Biologically Based Pest Management on Ivy Geranium
524088	Physiological Mechanisms Involved in Chilling and Cold Stresses to Induce Tolerant of Cucurbitaceae and Strawberry

524089	High Tunnels for the Central Great Plains: Profitable, Season-Extending, Horticultural Production Systems
524090	Subcontracts for High Tunnel for the Central Great Plains: Profitable, Season-Extending Horticultural Production Systems
524091	Development of Fruitless or Embryo-Lethal Woody Ornamental
524093	Evaluation Component of Stardusters Topeka Urban Farm - Youth Job Training and Community Revitalization
524094	Monitoring of Hummingbirds in the Loma Alta Ecological Reserve (Ecuador)
524095	Evaluation of Texas Bluegrass for Use in Golf Course Fairways and Roughs
524097	Ecuador Cloud Forest Research
524098	Evaluation of Texas Bluegrass for Use in Golf Course Fairways and Roughs
524101	Are Organic Vegetables more Nutritious? Fresh and Postharvest Assessment of Nutritional Quality of Organically and Conventionally Grown Lettuce and other Salad Greens
524102	Nitrous Oxide Fluxes in Turfgrass: Effects of Irrigation and Nitrogen Fertilization Rates
536121	Missouri Pecan Growers
536745	Benefits and Design of Kansas Riparian Forest Buffers
536781	Water Quality Improvement of Vegetated Riparian Areas and Buffers
537013	Towards Meeting Kansas TMDL Goals: Education Combined with Volunteer Soil and Water Testing for Enhanced Natural Resource Stewardship
KS130	Freeze Damage and Protection of Horticultural Species
KS293	Improved Pecan Insect and Mite Pest Management Systems
KS520	Soil Quality Test Kit Distribution and Testing by Farmers
KS551	Use of Precharged Zeolites to Provide Aluminum for Blue Sepal Coloration during Hydrangea Production
KS553	Storage Term Extension of Fresh Peony Flowers and Vaselife Evaluation of Specialty Fresh Cut Flowers
KS556	Horticultural Food Crop Production
KS563	Wildlife Damage Control in Horticultural Corps
KS586	New Weed Management Strategies for Kansas Turfgrasses
KS587	Selection and Management of Cool Season Golf and Home Lawn Turf in Kansas

KS589	Riparian Area Management and Agroforestry
KS596	Establishment and Maintenance of Turfgrass Systems with Reduced Water and Pesticide Requirements
KS598	The Culture and Management of Pecans in Northern States
KS611	Agroforestry in the Great Plains Region
KS618	The Human Dimensions of Wildlife Conservation on Agricultural Lands
KS619	Biodiversity in Riparian Buffers of Kansas
KS622	Woody Plant Improvement for the Central Plains
KS623	Water Conservation in Turfgrass via Use of New, Drought Resistant Cultivars and Automated Irrigation Control
KS632	Approaches to Improve Freezing Tolerance in Strawberries
KS637	The Healing Garden: Alternative Medical and Social Behaviors Involving People-Plant Interactions
KS9083	Bioeconomic Assessment of Biologically Based Pest Management on Ivy Geranium
KS9089	High Tunnels for the Central Great Plains: Profitable, Season-Extending Horticultural Production Systems

Human Ecology, Dean of

536810	Food Stamp Awareness and Access Campaign
536815	Kansas Food Stamp Nutrition Education Plan - KNN & FNP

Human Nutrition

528152	Consumer Perception of Products over Extended Use
528157	Role of Carnitine in Fatty Acid Metabolism
528163	Odor of Plastics
528164	Evaluation of Product Characteristics
528165	Evaluation of Products
528168	Role of Vitamin A in Lung Epithelial Cell Repair
528173	Sensory Analysis Assistance
528175	Sensory Information Assistance
528179	Quality of Cut Fresh Fruit
528181	A Simplified Rapid Tool for Estimating Portion Size in Dietary
528182	Nutrition in Dysphagia: Understanding Variability of Thickened Liquids
528184	Iron Factor in Bone Development
528185	Home Refrigeration Practices
536955	Vitamin Settlement Project

Active Projects—FY 2003

528186	Accuracy of Descriptor Categories for Portion Size Estimation in Dietary Recalls			524660	Facilitate Multiple Stress Resistant Wheat and Alfalfa Germplasm
536759	USDA/Army School-Age and Teen Project	520199	Soybean Foliar Fungicide and Seed Treatment Tests	524662	Characterization of the Pathogenicity Protein AvrXa7
536835	Improving Food Stamp Program use Among Rural Older Adults: a Partnership for Research and Results	520201	Evaluations and Testing of Fungicides and Nematicides on Horticultural Crops	524689	General Resistance Mediated by Aradopsis NHO Genes and Pseudomonas Virulence
536886	Stage-Based Intervention to Increase Fruit and Vegetable Intakes of Young Adults	520202	Seed Treatment	524690	Major Expansion of Qgene, a Popular Genomic Software Package
536922	Community Approach to Obesity Prevention	524475	Non-Conventional Plant Improvement Technology	524691	Agroecology and Biotechnology of Fungal Pathogens of Sorghum and Millet
536935	Validation of an Instrument to Measure Competent Eating	524478	Fusarium Research	524692	Agroecology and Biotechnology of Fungal Pathogens of Sorghum and Millet
536967	Shawnee County Body Mass Index Profile	524492	Wheat Genetics Resource Center and its Contributions to the Kansas Wheat Industry	524694	Activation-Tagged and Deletion Mutants and cDNA Microarrays for Functional Genomics of Rice & (REU Supplement)
537024	KACAP Community Food and Nutrition 2003-04 Project	524502	Winter Wheat Seed Treatment Tests	524698	Wheat Genetics Resource Center at Kansas State University
KS1003	Nutrient Bioavailability Phytonutrients and Beyond	524637	Rice Deletion Mutants for Dissection of Quantitative Resistance	524699	Managing Lands for Both Reduced Wheat Streak Mosaic Virus and Benefits to Wildlife and the Environment
KS1167	N-3 Polyunsaturated Fatty Acids and Human Health and Disease	524649	Structure and Function of the Expressed Portion of the Wheat Functional and Comparative Genomics of NBS-LRR Encoding	524702	Better Understanding and Further Utilization of Genes for Wheat Scab Resistance
KS219	Using Stages of Change Model to Promote Consumption of Grains, Vegetables and Fruits by Young Adults	524651	Functional and Comparative Genomics of NBS-LRR Encoding	524706	Wheat Improvement through Genetic Engineering
KS530	Estrogen Replacement and Dietary Phytoestrogens: Effects on Nutritional Status of Lipid-Soluble Vitamins	524652	Microsatellite Marker Development and Construction of a Microsatellite Size Database	524709	Expression of Phenylalanine-free Zein Protein in Transgenic Soybean as a Value-added Trait for PKU Patients
KS606	Macular Disease in an Elderly Kansas Population	524672	Assessment of the Insular Organization of the Wheat D Genome by Physical Mapping	524713	Plant Diagnostic Center Laboratories for Plant Disease and Pest Diagnosis and Surveillance
KS9168	Role of Vitamin A in Lung Epithelial Cell Repair	524673	Functional Genomics of the Interactions of Tomato and Pseudomonas Syringe pv Tomato DC3000	524716	Development and Characterization of Genetic Mutants in Durum and Common Wheat Collaborative Research: Effects of Environmental Variation on Plant Disease in the Tallgrass Prairie
KS9181	Accuracy of Descriptor Categories for Portion Size Estimation in Dietary Recalls	524678	Molecular Characterization of Novel Rp1 Genes	524718	Investigation of the Mechanisms by which the Hemibiotrophic Rice Blast Fungus Delivers Effector Proteins into Plant Cells
		524679	Mutational Analysis of a Gametocidal Gene, Gc2 of Wheat	524720	Facilitate Development of Wheat Germplasm Resistant to Fusarium Head Blight via Marker Assisted Breeding
		524680	Development of Barley Yellow Dwarf-Resistant Wheat Cultivars for Structural Approaches for Control of Microbial Pathogens	524721	The Genetic Mapping of Aggressiveness and Fertility Barriers in <i>Gibberella zeae</i>
		524697	Collaborative Research: Effects of Environmental Variation on Plant Disease in the Tallgrass Prairie & REU Supplement	524723	Diversity of North and South American and Korean Populations of <i>Gibberella zeae</i>
		524703	Expression of Phenylalanine-free Zein Protein in Transgenic Soybean as a Value-Added Trait for PKU Patients	524724	Isolation of Maize Genes Controlling Defense Reactions to Pathogens of other Cereals
		524709	Functional Analysis of the Avr-Pita Rice Blast Avirulence Protein in Pathogenicity and Host Specificity	524727	Facilitate Development of New Molecular Markers for Wheat Diversity in Fusarium Species in Cereals from West Africa
		524717	Genomic Analysis and Cloning of the Disease Resistance Gene		
		524719	Enhancement of Soybean through Genetic Engineering		
		524726	Molecular Characterization of Rearrangement and Recombination Hot Spots in Maize, Sorghum and Pearl Millet		
		524750	Development of Scab Resistant Wheat Cultivars for Kansas		
		524653			

K-CARE

525445	Green Topeka: Tree-Based Buffer Planning in the Shunganunga Creek Watershed
525459	FY 2003 Kansas Water Resources Research Institute
527784	Air Quality: Odor, Dust, and Gaseous Emissions from Concentrated Animal Feeding Operations in the Southern Great Plains
536797	Watershed Specialist Initiative
536801	Planning Workshop for the Leadership Team of the Animal Waste Initiative
536819	Abatement of Fecal Coliform Bacteria
536821	Waste Management Water Quality Protection Learning Center
536904	Nutrient Placement and Movement in No-Till Cropping Systems for Protecting Groundwater Water Quality
536906	Water Quality Protection from Nitrogen Using Subsurface Drip Irrigation

Active Projects—FY 2003

524732	Cereals Comparative Genomics Initiative Grants Program	KS9717	Functional Analysis of the AVR-Pita Rice Blast Avirulence Protein in Pathogenicity and Host Specificity	526036	Clearfield Winter Wheat Risk Assessment (Part 2)	
524738	International: U.S. Japan Seminar on Genomic and Genetic Analysis of Plant Parasitism and Defense	KS9719	Genomic Analysis and Cloning of the Disease Resistance Gene Xa7	526037	Integrated Management Systems for Jointed Goatgrass in the Central Great Plains	
524743	Limiting Losses to Phytophthora Sojae in the North Central Region	KS9724	Isolation of Maize Genes Controlling Defense Reactions to Pathogens of Other Cereals	526038	Longspine Sandbur Interference and Control in Sunflower	
524751	Plant Diagnostic Laboratories for Plant Disease and Pest Diagnosis and Surveillance	KS9733	Innate Immunity in Arabidopsis	KS521	Weed Management Investigations in Agronomic Crops	
524757	Managing Frogeye Leaf Spot and Charcoal Rot in the North Central Region	Sociology, Anthropology, and Social Work			KS524	Genetic Improvement of Wheat
527786	Development of Model Study on Ethanol and Lactic Acid	527628	Agriculture in the Internet Economy	KS561	Complementary Forages in Beef-Cattle Production Systems	
536808	Integrated Pest Management	527630	SGER: Collaborative Research: The Internet and the U.S. Agricultural System	KS562	Precision Management of Feedlot Cattle	
KS215	Overwinter Survival of Heterodera, Pratylenchus and Associated Nematodes in the North Central Region	KS1012	Sustaining Local Food Systems in a Globalizing Environment Forces, Responses, Impacts	KS565	Dryland Soil Management and Crop Production	
KS2453	Plant Biotechnology	KS296	Rural Labor Markets: Workers, Firms and Communities in Transition	KS594	Pathogen-Host Investigations of Viruses Infecting Wheat and Sorghum	
KS545	Analysis of the Roles of Viral and Host Proteins in Virus Movement in Plants	Statistics			KS847	Forestry Investigations in The Great Plains of Kansas
KS601	Genetics and Physiology of Fusarium SSP	527616	Collaborative Research: Testing for Marginal Independence between Two or More Multiple Response Categorical Variables	Northwest Research-Extension Center		
KS609	Chromosome Engineering and Wheat Improvement	Agricultural Research Center—Hays			525782	Reducing Irrigation Water Needs with High Frequency, Limited Subsurface Drip Irrigation
KS689	Polyploidy, Intergenomic Interactions, and Gene Dosage in Wheat Gene Expression	525971	Weed Research	520365	Sunflower Performance Testing Program	
KS698	Search for Resistance Genes in Rice that Correspond to Avirulence Genes in the Wheat Take-All Fungus	525984	Hays Research Center Beef Research	525766	Crops Research	
KS699	Soybean Cyst Nematode Control through Novel Genetic Engineering Approach	525986	Crop Culture	525776	Water Conservation — Increased Efficiency in Usage	
KS923	Biocontrol of Soilborne Plant Pathogens	526004	Kansas Dual Purpose Pest Resistant White Wheats	525778	Strategies for the Management of the Sunflower Stem Weevil	
KS9600B	Wheat Genetics Resource Center at Kansas State University	526011	Integrated Management Systems for Jointed Goatgrass Control in the Central Great Plains	525779	Quantifying Heat and Water Stress Impacts on Yield and Water Use for Oilseed Sunflower Crops	
KS9637	Rice Deletion Mutants for Dissection of Quantitative Resistance	526016	Regeneration of Sorghum Accessions	KS094	Micro-Irrigation Technologies for Protection of Natural Resources and Optimum Production	
KS9662	Characterization of the Pathogenicity Proteins AvrXa7	526017	Integrated Management Systems for Jointed Goatgrass in the Central Great Plains	KS570	Managing Transpiration Efficiency: Productivity and Stability in Semi-Arid Crop Systems	
KS9661	Isolation of Maize Genes Controlling Defense Reactions to Pathogens of Other Cereals	526024	Same as 526017	KS628	Improved Spatial and Temporal Management of Advanced Irrigation Systems	
KS9679	Mutational Analysis of a Gametocidal Gene, Gc2 of Wheat	526025	Clearfield Winter Wheat Risk Assessment	KS9776	Water Conservation-Increased Efficiency in Usage	
KS9689	General Resistance Mediated by Arabidopsis NHO Genes and Pseudomonas Virulence	526029	Risk and Management of Clearfield Winter Wheat			
KS9698	Wheat Genetics Resource Center at Kansas State University	526032	National Jointed Goatgrass Extension Coordinator			
KS9699	Managing Lands for Both Reduced Wheat Streak Mosaic Virus and Benefits to Wildlife and the Environment	526034	HAYRC Sorghum Research - Plot Combine			
KS9709	Expression of Phenylalanine-free Zein Protein in Transgenic Soybean as a Value-Added Trait for PKU Patients	526035	National Jointed Goatgrass Extension Coordinator (Part 2)			

Active Projects—FY 2003

Southeast Agricultural Research Center

526367	Soil Fertility and Management Investigations in Southeastern Kansas
526416	Soybean Research in Southeast Kansas
526420	Southeast Kansas Crop Performance Testing Program
KS527	Forage Utilization by Beef Cattle in Southeastern Kansas
KS560	Forage Cultivars and Production Systems for Southeastern Kansas
KS566	Soil and Water Management Alternatives for Crops in Southeastern Kansas
KS592	Evaluation of Cropping Systems for Southeastern Kansas
KS597	Southeast Kansas Soybean Production and Management

Southwest Research-Extension Center

526151	Weed Control Research in Southwest Kansas
526155	Soil Fertility and Soil Management Research for Western Kansas
526156	Yield Appraisal of Crops for Southwest Kansas
-526202	Compatibility of Intensified Cropping Systems & Wildlife Habitat in Western Kansas
526203	Irrigated Cropping Systems to Reduce Irrigation Water Use and Groundwater Depletion While Sustaining Profitability
526204	Alleviation of Soil Compaction in Dryland Cropping Systems
526208	Irrigated Cropping Systems to Reduce Groundwater Depletion while Sustaining Profitability
526209	Irrigated Cropping Systems to Reduce Groundwater while Sustaining Profitability
526211	Irrigated Cropping Systems to Reduce Groundwater Depletion while Sustaining Profitability
526212	Water Savings from Crop Residues in Irrigated Soybeans
KS481	Water Management for Increased Water-Use-Efficiency in Southwest Kansas
KS519	Cropping Systems for Southwest Kansas
KS522	Developing Weed Management Systems for Southwest Kansas

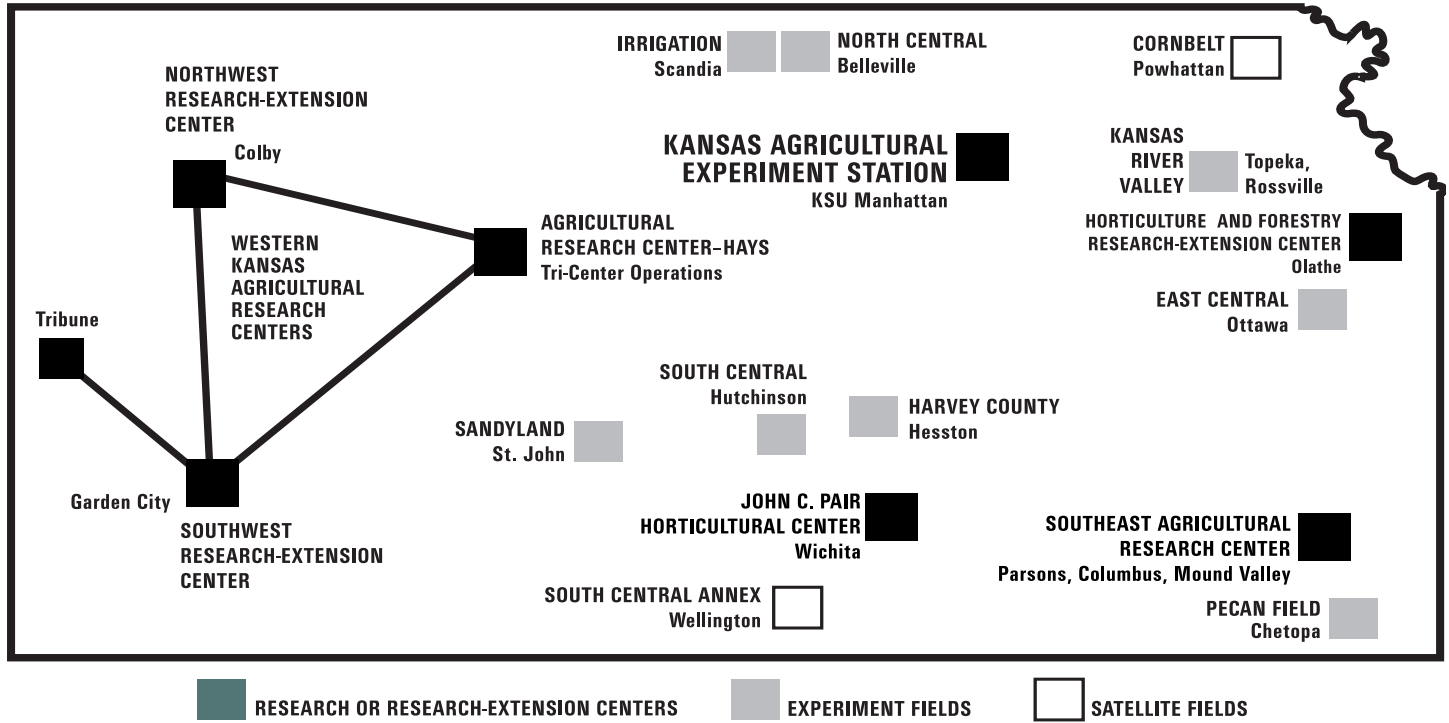
KS617	Investigating Environmental Issues related to Agriculture in Southwest Kansas
KS717	Determination of Nitrate Leaching Following Land Application of Animal Wastes
KS718	Nitrogen Management for No-Till Dryland Corn in Western Kansas

FY2003 Kansas Agricultural Experiment Station Income and Disbursement Statement

FY2003 Expenditures	Federal	State	Fees	Sponsors	Total	Percent
Faculty and Administrative Salary	\$2,228,709	\$19,427,144	\$1,093,972	\$9,330,245	\$32,080,070	54.74%
Classified and Student Salary	\$280,711	\$5,822,131	\$1,156,648	\$1,089,275	\$8,348,765	14.25%
Services, Material and Equipment	\$792,178	\$2,953,096	\$7,441,858	\$6,986,457	\$18,173,589	31.01%
Totals	\$3,301,598	\$28,202,371	\$9,692,478	\$17,405,977	\$58,602,424	100%



Kansas State University Statewide Agricultural Research Services



Kansas State University Agricultural Experiment Station and Cooperative Extension Service, Manhattan, Kansas 66506

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