



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 find publications by a particular scientist, use the Find icon (binoculars) in the Acrobat tool bar in this document and put the surname in the dialog box. Use Find Again until all relevant publications are found.

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	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
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	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
01-196-J	Sex Pheromone of the Noctuid Moth, <i>Tyta luctuosa</i> (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	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
01-235-B	Drought Resistance M.B. Kirkham In: <i>Encyclopedia of Water Science</i> , B.A. Stewart and T. Howell, (eds.), Marcel Dekker Inc., New York, pp.173-177, 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
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	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
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	02-181-B	Soil Erosion and Conservation E.L. Skidmore, S.J. van Donk In: <i>Handbook of Processes and Modeling in the Soil-Plant System</i> , D.K. Benbi, R.Neider (eds.) Haworth Press, Inc Binghamton, New York, 227-260, 2003
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	02-183-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
02-20-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	02-203-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
02-51-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	02-213-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 56 th 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

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| <p>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</p> <p>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</p> <p>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</p> <p>02-301-J Genetic Mapping of an <i>Aegilops tauschii</i> 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</p> <p>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)</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> | <p>02-424-J Heterotic Effects of Wheat-Rye Chromosomal Translocations on Agronomic Traits of Hybrid Wheat (<i>Triticum aestivum</i> 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</p> <p>02-437-J Common Waterhemp (<i>Amaranthus rudis</i>) Resistance to Protoporphyrinogen Oxidase (Pro-Tox)-Inhibiting Herbicides
D. Shoup, K. Al-Khatib, D. Peterson
Weed Science 51:145-150, 2003</p> <p>02-441-J Growth and Gas Exchange of Sorghum Grown Under Low Light
Q. Xu, M.B. Kirkham
Photosynthetica 41:27-32, 2003</p> <p>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</p> <p>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</p> <p>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.</p> <p>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.</p> <p>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</p> <p>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</p> |
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Publications of Station Scientists

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| <p>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</p> <p>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.</p> <p>03-172-J The Teaching Learning Trinity
S.J. Thien
J. of Natural Resources and Life Sciences Education 32:87-92, 2003</p> <p>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</p> <p>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</p> <p>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.</p> <p>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</p> <p>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.</p> | <p>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.</p> <p>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</p> <p>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.</p> <p>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.</p> <p>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)</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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</p> |
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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*
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| <p>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
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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
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http://www.oznet.ksu.edu/library/hort2/SRP911.pdf</p> | <p>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
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| <p>02-166-J Single Irrigations during Reproductive Growth to Improve Early Maturing Soybean Yield and Quality
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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 Clopidolite 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 typhimuri-um* Disease Challenge on Porcine Muscle Growth

KS481836 Dietary Mannanligosaccharides 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 Reproduc-tive 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 Mem-brane 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 Environ-mental Contaminants

KS614 Function and Regulation of Mam-malian Pyruvate Dehydrogenase Complex

KS629 Biochemistry of Genetic Systems: Aphid Salivary Proteins and Enzymes

KS631 Molecular Analysis of Metalloprote-ase 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 Ma-chine Vision Grain Inspection System

536939 Demonstration of BMPs to Avoid Groundwater Pollution from Applica-tion 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
		526783	Develop an On-Line Mammal Atlas for Kansas	KS537	Water Quality in the Flinthills
		526785	Scaling Up the Ecosystem Consequences of Forest Expansion in the Great Plains Region	KS538	Conservation and Management of Mammals in Natural and Anthropogenic Ecosystems
		526786	Development of Aquatic GAP Analysis for Kansas	KS539	Salicylic Acid Signaling: Target for Engineering Enhanced Disease Resistance
		526790	Characterization of Insect Rpr, Hid, and Grim Homologs	KS542	Protein Level Regulation of Glutamine Synthetase in Common Beans
		529471	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
		526792	Kansas Biomedical Research Infrastructure Network (K-BRIN)	KS568	Quantitative and Qualitative Analysis of Adipose Tissue from Avian Wildlife
		526795	Kansas Biomedical Research Infrastructure Network (K-BRIN)	KS569	Gene Sequences of <i>Cryptosporidium parvum</i>
		526801	Fluorescence Spectrophotometer with Microtiter Plate Reading	KS615	Engineering Systemic Acquired Resistance in Wheat
		526807	Control of Translation Initiation in Fission Yeast	KS620	Comparison of Sources of Fecal Contamination in Water: Antibiotic Resistance Versus Biolog Patterns
		526808	Enterococcus faecalis Protein EbsG and LTA Function	KS621	Herbarium-Based Studies in Plant Systematics
		526810	Effectiveness of Nanoparticles for Treatment of Mycelia and	KS627	The National Atmospheric Deposition Program: Konza Prairie, Kansas
		526811	Belowground Meristem Populations as Regulators of Grassland Dynamics	KS697	Molecular Genetics of Plant-Aphid Interaction
		526815	Research Fellowship	KS9184	Role of Baculovirus Expression Factors in Host Range
		526816	Analysis of CD81-PGRL Complex on T Cells		
		526817	REU Site: Conservation of the Tallgrass Prairie Ecosystems		
		526818			

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 Heliopsis 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 <i>Tribolium Castaneum</i> 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	<i>Heliothis virescens</i> : 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
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Food Animal Health and Management Center

528795	Ecology of <i>E. coli</i> 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 <i>E. coli</i> O157:H7 in Cattle
KS654	Medical, Surgical, and Pathophysiological Aspects of Animal Disease
KS9795	Ecology of <i>E. coli</i> 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 <i>E. coli</i> 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 Area-wide 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	Plant Pathology	524660	Facilitate Multiple Stress Resistant Wheat and Alfalfa Germplasm
536759	USDA/Army School-Age and Teen Project		524662	Characterization of the Pathogenicity Protein AvrXa7
536835	Improving Food Stamp Program use Among Rural Older Adults: a Partnership for Research and Results		524689	General Resistance Mediated by Arabidopsis NHO Genes and Pseudomonas Virulence
536886	Stage-Based Intervention to Increase Fruit and Vegetable Intakes of Young Adults		524690	Major Expansion of Qgene, a Popular Genomic Software Package
536922	Community Approach to Obesity Prevention		524691	Agroecology and Biotechnology of Fungal Pathogens of Sorghum and Millet
536935	Validation of an Instrument to Measure Competent Eating		524692	Agroecology and Biotechnology of Fungal Pathogens of Sorghum and Millet
536967	Shawnee County Body Mass Index Profile		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		524698	Wheat Genetics Resource Center at Kansas State University
KS1003	Nutrient Bioavailability Phytonutrients and Beyond		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		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		524706	Wheat Improvement through Genetic Engineering
KS530	Estrogen Replacement and Dietary Phytoestrogens: Effects on Nutritional Status of Lipid-Soluble Vitamins		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		524713	Plant Diagnostic Center Laboratories for Plant Disease and Pest Diagnosis and Surveillance
KS9168	Role of Vitamin A in Lung Epithelial Cell Repair		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		524718	Investigation of the Mechanisms by which the Hemibiotrophic Rice Blast Fungus Delivers Effector Proteins into Plant Cells
K-CARE			524720	Facilitate Development of Wheat Germplasm Resistant to Fusarium Head Blight via Marker Assisted Breeding
525445	Green Topeka: Tree-Based Buffer Planning in the Shunganunga Creek Watershed		524721	The Genetic Mapping of Agresiveness and Fertility Barriers in <i>Gibberella zeae</i>
525459	FY 2003 Kansas Water Resources Research Institute		524723	Diversity of North and South American and Korean Populations of <i>Gibberella zeae</i>
527784	Air Quality: Odor, Dust, and Gaseous Emissions from Concentrated Animal Feeding Operations in the Southern Great Plains		524724	Isolation of Maize Genes Controlling Defense Reactions to Pathogens of other Cereals
536797	Watershed Specialist Initiative		524727	Facilitate Development of New Molecular Markers for Wheat
536801	Planning Workshop for the Leadership Team of the Animal Waste Initiative		524729	Diversity in Fusarium Species in Cereals from West Africa
536819	Abatement of Fecal Coliform Bacteria	520199	Soybean Foliar Fungicide and Seed Treatment Tests	
536821	Waste Management Water Quality Protection Learning Center	520201	Evaluations and Testing of Fungicides and Nematicides on Horticultural Crops	
536904	Nutrient Placement and Movement in No-Till Cropping Systems for Protecting Groundwater Water Quality	520202	Seed Treatment	
536906	Water Quality Protection from Nitrogen Using Subsurface Drip Irrigation	524475	Non-Conventional Plant Improvement Technology	
		524478	Fusarium Research	
		524492	Wheat Genetics Resource Center and its Contributions to the Kansas Wheat Industry	
		524502	Winter Wheat Seed Treatment Tests	
		524637	Rice Deletion Mutants for Dissection of Quantitative Resistance	
		524649	Structure and Function of the Expressed Portion of the Wheat Functional and Comparative Genomics of NBS-LRR Encoding	
		524651	Microsatellite Marker Development and Construction of a Microsatellite Size Database	
		524672	Assessment of the Insular Organization of the Wheat D Genome by Physical Mapping	
		524673	Functional Genomics of the Interactions of Tomato and Pseudomonas Syringe pv Tomato DC3000	
		524678	Molecular Characterization of Novel Rp1 Genes	
		524679	Mutational Analysis of a Gametocidal Gene, Gc2 of Wheat	
		524680	Development of Barley Yellow Dwarf-Resistant Wheat Cultivars for Structural Approaches for Control of Microbial Pathogens	
		524697	Collaborative Research: Effects of Environmental Variation on Plant Disease in the Tallgrass Prairie & REU Supplement	
		524703	Expression of Phenylalanine-free Zein Protein in Transgenic Soybean as a Value-Added Trait for PKU Patients	
		524717	Functional Analysis of the Avr-Pita Rice Blast Avirulence Protein in Pathogenicity and Host Specificity	
		524719	Genomic Analysis and Cloning of the Disease Resistance Gene	
		524726	Enhancement of Soybean through Genetic Engineering	
		524750	Molecular Characterization of Rearrangement and Recombination Hot Spots in Maize, Sorghum and Pearl Millet	
		524653	Development of Scab Resistant Wheat Cultivars for Kansas	

Active Projects—FY 2003

524732	Cereals Comparative Genomics Initiative Grants Program
524738	International: U.S. Japan Seminar on Genomic and Genetic Analysis of Plant Parasitism and Defense
524743	Limiting Losses to Phytophthora Sojae in the North Central Region
524751	Plant Diagnostic Laboratories for Plant Disease and Pest Diagnosis and Surveillance
524757	Managing Frogeye Leaf Spot and Charcoal Rot in the North Central Region
527786	Development of Model Study on Ethanol and Lactic Acid
536808	Integrated Pest Management
KS215	Overwinter Survival of Heterodera, Pratylenchus and Associated Nematodes in the North Central Region
KS2453	Plant Biotechnology
KS545	Analysis of the Roles of Viral and Host Proteins in Virus Movement in Plants
KS601	Genetics and Physiology of Fusarium SSP
KS609	Chromosome Engineering and Wheat Improvement
KS689	Polyploidy, Intergenomic Interactions, and Gene Dosage in Wheat Gene Expression
KS698	Search for Resistance Genes in Rice that Correspond to Avirulence Genes in the Wheat Take-All Fungus
KS699	Soybean Cyst Nematode Control through Novel Genetic Engineering Approach
KS923	Biocontrol of Soilborne Plant Pathogens
KS9600B	Wheat Genetics Resource Center at Kansas State University
KS9637	Rice Deletion Mutants for Dissection of Quantitative Resistance
KS9662	Characterization of the Pathogenicity Proteins AvrXa7
KS9661	Isolation of Maize Genes Controlling Defense Reactions to Pathogens of Other Cereals
KS9679	Mutational Analysis of a Gametocidal Gene, Gc2 of Wheat
KS9689	General Resistance Mediated by Arabidopsis NHO Genes and Pseudomonas Virulence
KS9698	Wheat Genetics Resource Center at Kansas State University
KS9699	Managing Lands for Both Reduced Wheat Streak Mosaic Virus and Benefits to Wildlife and the Environment
KS9709	Expression of Phenylalanine-free Zein Protein in Transgenic Soybean as a Value-Added Trait for PKU Patients

KS9717	Functional Analysis of the AVR-Pita Rice Blast Avirulence Protein in Pathogenicity and Host Specificity
KS9719	Genomic Analysis and Cloning of the Disease Resistance Gene Xa7
KS9724	Isolation of Maize Genes Controlling Defense Reactions to Pathogens of Other Cereals
KS9733	Innate Immunity in Arabidopsis

Sociology, Anthropology. and Social Work

527628	Agriculture in the Internet Economy
527630	SGER: Collaborative Research: The Internet and the U.S. Agricultural System
KS1012	Sustaining Local Food Systems in a Globalizing Environment Forces, Responses, Impacts
KS296	Rural Labor Markets: Workers, Firms and Communities in Transition

Statistics

527616	Collaborative Research: Testing for Marginal Independence between Two or More Multiple Response Categorical Variables
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Agricultural Research Center—Hays

525971	Weed Research
525984	Hays Research Center Beef Research
525986	Crop Culture
526004	Kansas Dual Purpose Pest Resistant White Wheats
526011	Integrated Management Systems for Jointed Goatgrass Control in the Central Great Plains
526016	Regeneration of Sorghum Accessions
526017	Integrated Management Systems for Jointed Goatgrass in the Central Great Plains
526024	Same as 526017
526025	Clearfield Winter Wheat Risk Assessment
526029	Risk and Management of Clearfield Winter Wheat
526032	National Jointed Goatgrass Extension Coordinator
526034	HAYRC Sorghum Research - Plot Combine
526035	National Jointed Goatgrass Extension

526036	Clearfield Winter Wheat Risk Assessment (Part 2)
526037	Integrated Management Systems for Jointed Goatgrass in the Central Great Plains
526038	Longspine Sandbur Interference and Control in Sunflower
KS521	Weed Management Investigations in Agronomic Crops
KS524	Genetic Improvement of Wheat
KS561	Complementary Forages in Beef-Cattle Production Systems
KS562	Precision Management of Feedlot Cattle
KS565	Dryland Soil Management and Crop Production
KS594	Pathogen-Host Investigations of Viruses Infecting Wheat and Sorghum
KS847	Forestry Investigations in The Great Plains of Kansas

Northwest Research-Extension Center

525782	Reducing Irrigation Water Needs with High Frequency, Limited Subsurface Drip Irrigation
520365	Sunflower Performance Testing Program
525766	Crops Research
525776	Water Conservation — Increased Efficiency in Usage
525778	Strategies for the Management of the Sunflower Stem Weevil
525779	Quantifying Heat and Water Stress Impacts on Yield and Water Use for Oilseed Sunflower Crops
KS094	Micro-Irrigation Technologies for Protection of Natural Resources and Optimum Production
KS570	Managing Transpiration Efficiency: Productivity and Stability in Semi-Arid Crop Systems
KS628	Improved Spatial and Temporal Management of Advanced Irrigation Systems
KS9776	Water Conservation-Increased Efficiency in Usage

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

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

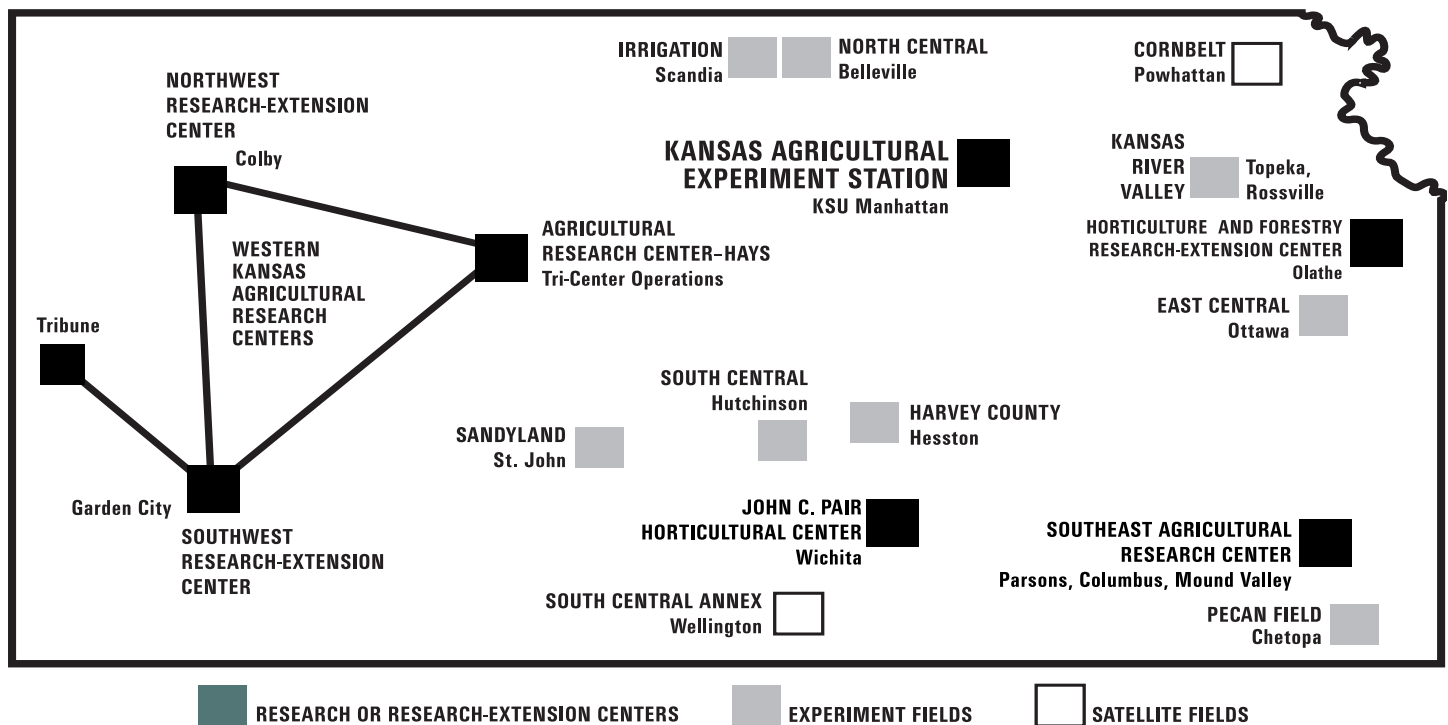
Southwest Research-Extension Center

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

FY2003 Kansas Agricultural Experiment Station Income and Disbursement Statement

	5.63%	48.13%	16.54%	29.70%		
FY2003 Funding	\$3,301,598	\$28,202,371	\$9,692,478	\$17,405,977	\$58,602,424	
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

K-State Research and Extension is an equal opportunity provider and employer.