

CURRICULUM VITAE

Kenneth J. Moore

General Information

Home Address: 2419 Camden Drive
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Ames, IA 50011

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Linked in: www.linkedin.com/in/ken-moore-67b96510

Personal Information

Date of Birth: June 6, 1957
Place of Birth: Phoenix, Arizona
Marital Status: Married, three grown children

Education

- A.A.** Glendale Community College, Highest Distinction
Major: General/Agriculture
GPA: 3.9/4
Received: 1977
- B.S.** Arizona State University, Summa Cum Laude
Major: Agriculture
Advisor: P. G. Stiles
GPA: 3.9/4
Received: 1979
- M.S.** Purdue University
Major: Agronomy
Advisor: V. L. Lechtenberg
GPA: 6.0/6
Received: 1981
- Ph.D.** Purdue University
Major: Agronomy
Advisor: V. L. Lechtenberg
GPA: 6.0/6
Received: 1983

Professional Experience

Assistant Professor of Agronomy, Univ. of Illinois, 1983-87.
Assistant Professor of Agronomy and Horticulture, New Mexico State University, 1987-88.
Assoc. Prof. of Agronomy and Horticulture, New Mexico State Univ., 1988-89.
Research Agronomist, USDA-ARS, 1989-93.
Adjunct Assoc. Prof. of Agronomy, University of Nebraska, 1989-93.
Adjunct Professor of Agronomy, University of Nebraska, 1993-95.
Professor of Agronomy, Iowa State University, 1993-2011.
Senior Research Fellow, AgResearch Grasslands, New Zealand, 1998.
Charles F. Curtiss Distinguished Professor in Agriculture and Life Sciences, ISU, 2011-present.

Professional Associations

American Society of Agronomy
Crop Science Society of America
American Association for the Advancement of Science
American Association of University Professors

Memberships in Honorary Societies

Gamma Sigma Delta
Phi Kappa Phi
Sigma Xi
Phi Theta Kappa

Awards and Honors

Cowden Agricultural Scholarship, Arizona State University, 1978.
Wall Street Journal Student Achievement Award, Arizona State University, 1979.
Outstanding Young Scientist, American Forage and Grassland Council, 1982.
Merit Award, American Forage and Grassland Council, 1991.
Point of Light Award, USDA, 1991.
Young Crop Scientist Award, Crop Science Society of America, 1993.
Fellow, American Society of Agronomy, 1995.
Raymond and Mary Baker Agronomic Excellence Award, Iowa State University, 1996.
Fellow, Crop Science Society of America, 1996.
Kling Anderson Lectureship, Department of Agronomy, Kansas State University, 1997.
Senior Research Fellowship, AgResearch Grasslands, 1998.
Innovator Award, presented to the Master of Science in Agronomy Distance Education Program by the Iowa Distance Learning Association, 2006.
Team Award, presented to the Master of Science in Agronomy Distance Education Program by the College of Agriculture, Iowa State University, 2007.
Fellow, American Association for the Advancement of Science, 2008.
Charles F. Curtiss Distinguished Professor in Agriculture and Life Sciences, 2011.
Agronomic Service Award, American Society of Agronomy, 2011.
ASA Distinguished Service Award (for serving as ASA Division Alignment Task Force member), American Society of Agronomy, 2011.
Martin and Ruth Massengale Lectureship, Crop Science Society of America, 2016.
Pioneer Hi-Bred Agronomy Professorship, Iowa State University, 2017.

Distance Education Teaching Award, College of Agriculture and Life Sciences, Iowa State University, 2018.
Arden R. Campbell Award, Department of Agronomy, Iowa State University, 2018.
Carl Sprengel Agronomic Research Award, American Society of Agronomy, 2019.
W.A. Albrecht Earth Day Lectureship, School of Natural Resources, University of Missouri, 2022.

Biographical Citations

American Men and Women of Science
Outstanding Young Men of America
Who's Who in Science and Engineering
Who's Who in American Education
Who's Who in the Midwest
Who's Who in America
Who's Who in the 21st Century
Who's Who in Agriculture Higher Education
Men of Achievement

Teaching Experience

Courses: Agronomy 105, Crop Production Lab, Purdue University, 1981.
Agronomy 422, Forage Quality and Utilization, UIUC, 1984, 1986.
Agronomy 400, Crop Production Seminar, UIUC, 1985, 1986.
Agronomy 121, Principles of Field Crop Science, UIUC, 1986.
Agronomy 493, Applied Experimental Design and Analysis, UIUC, 1987.
Agronomy 304, Forage Crops, NMSU, 1988.
Agronomy 365, Crop Production, NMSU, 1988.
Agronomy 996, Design and Analysis Agronomic Experiments, UNL, 1991.
Agronomy 434, Pasture and Grazing Management, ISU, 1993.
Agronomy 434/534, Forage Quality and Utilization, ISU, 1995.
Economics / Agronomy 496, Sustainable Agricultural and Economic Development in Costa Rica, ISU, 1997, 2001.
Agronomy 526, Field Plot Technique, ISU, 1997-present.
Agronomy 513, Quantitative Methods for Agronomy, ISU, 1999, 2010-11.
Agronomy 596x, Agronomic Research and Education in Costa Rica, ISU, 2004.
Horticulture 529, Co-taught Publishing in Biological Sciences Journals, ISU, 2005.
Agronomy 531, Crop Management and Ecology, ISU, 2006.
Agronomy 599M, Creative Component Seminar, ISU, 2013-2017.

Other: AID-OICD Seed Improvement Short Course, UIUC, 1986.
Field and Furrow (Agronomy) Club Co-advisor, UIUC, 1985-87.
Agronomy Graduate Student Club Co-advisor, ISU, 1995-present.
Mentor, PlantingScience, Botanical Society of America, 2009-2019.
Crop Science Curriculum Review, Texas A&M, 2009.
Agronomy Club Co-advisor, ISU, 2010-12.
SCUBA Club Co-advisor, ISU, 2013-2014.

Graduate Students Supervised

- Marilyn Rapp. 1986. M.S. Agronomy. University of Illinois. Quality and composition of tall fescue treated with growth regulating chemicals.
- Robert Gerhardt. 1988. M.S. Agronomy. University of Illinois. The *in vitro* digestibility and chemical composition of normal and brown midrib sorghums and their morphological components. Process Technologist, Roquette America, Inc. Keokuk, IA.
- John Fritz. 1988. Ph.D. Agronomy. University of Illinois. Structure and utilization of cell walls of normal and brown midrib mutant sorghum x sudangrass hybrids. Associate Professor (retired), Agronomy, Kansas State University.
- Mari Dugarte-Fernandez. 1990. M.S. Agronomy and Horticulture. New Mexico State University. Physiological effects of hybrid, water stress, and nitrogen fertilizer on sorghum x sudangrass at different stages of growth.
- Abdel Chriyaa. 1994. Ph.D. Agronomy. University of Nebraska. Browse foliage and annual legume pods as supplements to low quality roughages for sheep in semi-arid Morocco. Research Scientist, INRA Aridoculture Center, Settat.
- Daren Redfearn. 1995. Ph.D. Agronomy. University of Nebraska. Relationship of developmental morphology and canopy architecture in switchgrass tiller populations to dry matter yield and fiber quality. Professor, Agronomy and Horticulture, University, of Nebraska, Lincoln, NE.
- Robert Mitchell. 1995. Ph.D. Agronomy. University of Nebraska. Developmental morphology and forage quality relationships in perennial forage grasses. Research Agronomist, USDA-ARS, Lincoln, NE.
- Kimberly Williams. 1996. M.S. Crop Production and Physiology. Iowa State University. Yield and quality of oat interseeded with berseem clover and sweetclover as an early season forage crop.
- Byron Sleugh. 1997. M.S. Crop Production and Physiology. Iowa State University. Yield and quality of binary grass-legume mixtures. Global Biology Leader – Pasture and Land Management, Corteva Agriscience, Indianapolis, IN.
- Witjaksana Darnosarkoro. 1997. Ph.D. Crop Production and Physiology. Iowa State University. Agronomic performance and nutritive value of soybean lines developed for forage. Director, Indonesian Oil Palm Institute, Medan.
- Michael Hoy. 1998. M.S. Crop Production and Physiology. Iowa State University. Establishment method and seeding date effects on alfalfa yield and quality.
- Brent Brueland. 1999. M.S. Crop Production and Physiology. Iowa State University. Effects of early spring grazing on the regrowth of smooth brome grass. Vice President Sales and Marketing, Environmental Tillage Systems, Inc., Des Moines, IA.
- Keith Harmony. 1999. Ph.D. Crop Production and Physiology. Iowa State University. Legume establishment and persistence at sites varying in landscape position, grazing method, and soil characteristics. Associate Professor, Range Science, Kansas State University, Hays, KS.
- Byron Sleugh. 1999. Ph.D. Crop Production and Physiology. Iowa State University. Evaluation of forage yield, quality and canopy development of various species of amaranths harvested at different stages of development. Global Biology Leader – Pasture and Land Management, Corteva Agriscience, Indianapolis, IN.
- Wendy Hartmann. 2000. M.S. Crop Production and Physiology. Iowa State University. Evaluation of protein quality in various forage legumes following a freezing event.
- Roque Lemus. 2000. M.S. Crop Production and Physiology. Iowa State University. Cultivar and fertility effects on switchgrass biofuel production in southern Iowa. Extension/Research Professor, Plant and Soil Sciences, Mississippi State University.
- Alison Tarr-Carpenter. 2002. M.S. Crop Production and Physiology. Iowa State University. Geostatistical use of indirect methods for improving sampling accuracy in pastures. Agronomic Information Specialist, Monsanto, Pontiac, IL.

- John Guretzky. 2002. Ph.D. Crop Production and Physiology. Iowa State University. Distribution of legumes and plant diversity in pastures that vary in landscape position and grazing management. Associate Professor, Agronomy and Horticulture, University of Nebraska, Lincoln.
- Sara Florine. 2004. M.S. Crop Production and Physiology. Iowa State University. Biomass composition in cool-season pastures harvested for energy in southern Iowa. Agricultural Extension Agent, Purdue University, Jasonville, IN.
- Daniel Kilborn. 2005. M.S. Crop Production and Physiology. Iowa State University. Site-specific management for biomass production. Agronomist, Midwest Seed Genetics, Ames, IA.
- Indi Braden. 2005. Ph.D. Crop Production and Physiology. Iowa State University. Improving productivity of warm-season pastures by interseeding legumes. Professor, Southeast Missouri State University, Cape Girardeau, Mo.
- Patrick Murphy. 2006. M.S. Agricultural and Biosystems Engineering. Iowa State University. Determination of iodoform and manure application rates in biomass ensilage conversion system for corn stover. Research Scientist, Agricultural Product Storage, Ames, IA.
- Todd Cogdill. 2008. M.S. Crop Production and Physiology. Iowa State University. Investigation of management strategies for the production of sweet sorghum as a bioenergy crop and preservation of crop residue by the ensiling process. Ag Biologist II, BASF, Ankeny, IA.
- Michael Hunter. 2008. M.S. Agronomy. Iowa State University. Evaluation of teff [*Eragrostis tef* (Zucc.) Trotter] as a forage crop in New York. Field Crops Extension Educator, Cornell Cooperative Extension, Redwood, NY.
- Patrick Murphy. 2009. Ph.D. Agricultural and Biosystems Engineering. Iowa State University. Development of a system for characterizing biomass quality of lignocellulosic feedstocks for biochemical conversion to biofuels. Research Scientist, Agricultural Product Storage, Ames, IA.
- Ben Goff. 2010. M.S. Crop Production and Physiology. Iowa State University. Double-cropping sorghum for biomass production. Extension Agent, Agriculture & Natural Resources, West Virginia University.
- Naroon Waramit. 2010. Ph.D. Native warm-season grasses: Species, nitrogen fertilization, and harvest date effects on biomass yield and composition. Lecturer, Department of Agronomy, Kasetsart University, Thailand.
- Dustin Wiggans. 2010. M.S. Comparing inter-specific competition for continuous corn grown in a living mulch with stover removal. Biological Science Technician, USDA-ARS, Fort Collins, CO.
- Scott Flynn. 2011. Ph.D. Corn production with perennial ground covers: evaluation of cover species and their effects on corn growth and development. Zonal Biology Leader, Corteva Agriscience, Lee's Summit, MO.
- Theo Gunther. 2011. M.S. Establishment of switchgrass in corn across a landscape gradient: establishment, yield, and quality of biomass feedstock. Senior Research Program Development Coordinator, Iowa Soybean Association, Ankeny, IA.
- Josh Henik. 2012. M.S. Normalized difference vegetative index used to identify spatial variability in vegetative growth and grain yield of corn. Assistant Professor of Agriculture, Kirkwood Community College, Mount Vernon, IA.
- John Burger. 2013. M.S. Soybean yield response following a triticale cover crop. Product Engineer, Ottumwa, IA.
- Ty Barten. 2013. Ph.D. Evaluation and prediction of corn stover biomass and composition from commercially available corn hybrids. Discovery Breeder, Monsanto Breeding Technology, Huxley, IA.
- Juan Carlos Quezada. 2015. M.S. Biosynthetically produced amino acid byproducts can replace nitrogen fertilizers for corn production. Graduate Student, Doctoral Program in Civil and Environmental Engineering, École Polytechnique Fédérale de Lausanne EPFL.
- Aurangzaib, Muhammad. 2015. Ph.D. Developmental morphology, biomass yield and compositional differences among upland and lowland switchgrass (*Panicum virgatum* L.) ecotypes grown as a bioenergy feedstock crop. Assistant Professor, Islamia University, Bahawalpur, Pakistan.

- Bourguignon, Marie. 2016. Ph.D. Growth, productivity, and utilization of kenaf (*Hibiscus cannabinus* L.): A promising fiber and fuel crop for Iowa. Technology & Development Representative, Monsanto, Pennsylvania / New Jersey / Delaware.
- Infante-Posada, Pedro A. 2016. Ph.D. Evaluating temperate and tropical corn for biomass production in Central Iowa. Seedcare Product Biology Manager LAN (R&D), Syngenta, Panama City, Panama.
- Bartel, Cyndi. 2017. Ph.D. Perennial groundcovers for maize-based bioenergy production systems. Postdoctoral Fellow, Iowa State University, Ames, IA.
- Bulyaba, Rosemary. 2019. Ph.D. Limestone application on a Ferralsol soil and genotype by environment effects on yield and grain nutrient composition in common bean. Kampala, Uganda.
- Patel, Swetabh. 2020. Ph.D. Intercropping and relay cropping in corn-soybean based cropping system in Midwest. Assistant Scientist, Kansas State University.
- Joern, Carl. 2020. M.S. Soybean yield response to sulfur applications in Indiana. Pioneer Field Agronomist, Corteva Agriscience, Northwest Indiana.
- Kimmelshue, Chad. Ph.D. 2021. Effect of seed size, planting depth, and hybrid on the emergence, grain quality, and drying of maize (*Zea Mays* L.) in a perennial groundcover and bare soil system. Product Development Specialist, Pivot Bio, Ames, IA.

Postdoctoral Research Associates Supervised

- Craig Roberts. 1987. Quantification of mold in hay. Professor, Plant Sciences, University of Missouri, Columbia, Mo.
- John Fritz. 1991. Assessing chemical differences among switchgrass strains selected for divergent digestibility. Associate Professor (retired), Agronomy, Kansas State University, Manhattan, KS.
- Todd White. 2003. Understanding spatial relationships in species adaptation along landscape gradients. Senior Scientist, Agricultural Systems Group, AgResearch, Lincoln, NZ.
- Dirk Philipp. 2007. Solid-state fermentation and storage of corn stover biomass. Assistant Professor, Animal Science, University of Arkansas, Fayetteville, AR.
- Sotirios Archontoulis. 2012-14. A modeling approach to unifying concepts taught in a professional MS agronomy curriculum. Associate Professor, Agronomy, Iowa State University, Ames, IA.
- Cynthia Bartel. 2020-21. Perennial cover crop systems for maize grain and biomass production. Iowa State University, Ames, IA.

International Experience

- Attended XVI International Grassland Conference, Nice, France, October 2-10, 1989.
- Technical Advisor to the Aridoculture research station of the Institut National de la Recherche Agronomique (INRA) of Morocco located near Settat. Sponsored by MidAmerica International Agricultural Consortium (MIAC) under an AID project. March 24-31, 1992; May 21-30, 1993.
- Attended XVII International Grassland Conference, Palmerston North, New Zealand, Feb. 7-12; Lincoln, Feb. 13-17, Rockhampton, Australia, Feb. 18-22.
- Participated in Professional In-Country Experience, Spanish Language Study, Costa Rica, May 15-27, 1995.
- Co-taught a short course, Introduction to Multimedia Development, University of Costa Rica, Omar Dengo Foundation, San Jose, Costa Rica, March 12-15, 1996.
- Conducted workshops on developing visual databases using Microsoft Access and making them portable using Adobe Acrobat, University of Costa Rica, San Jose, Costa Rica, August 5-10, 1996.
- Development of collaborative research on highland dairy forage production in Costa Rica, University of Costa Rica, San Jose, Costa Rica, November 12-20, 1996.
- Professional development in grassland ecology research design and analysis, AgResearch, Palmerston North, New Zealand, January 26 - February 14, 1997.

- Co-taught study abroad course, ECON/AGRON 496: Sustainable Agricultural and Economic Development in Costa Rica, Costa Rica, March 7-16, 1997.
- Senior Research Fellow, AgResearch Grasslands, New Zealand, 1998.
- Conducted workshops on grant proposal development, College of Agriculture, Science, and Education, Port Antonio, Jamaica, May 16-19, 2000.
- Site visits in Mexico to explore potential collaborations on distance education programs in agronomy, Colegio de Postgraduados (Montecillo and Puebla campuses), Universidad Autónoma Chapingo, Universidad Popular Autónoma del Estado de Puebla, and El Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) at Querétaro, November 12-18, 2000.
- Attended XIX International Grassland Conference, São Pedro, Brazil, February 11-17, 2001.
- Co-taught study abroad course, ECON/AGRON 496: Agricultural Production and Marketing in Costa Rica, Costa Rica, March 9-18, 2001.
- Site visit to develop collaborative research, Facultad Ciencias Agrarias, Universidad Nacional de Mar del Plata, Balcarce, Argentina, October 15-22, 2003.
- Co-taught study abroad course, AGRON 596: Agricultural Research and Education in Costa Rica, Costa Rica, January 3-11, 2004.
- Attended 4th International Crop Science Conference, Brisbane, Australia, September 26-October 1, 2004.
- Attended XX International Grassland Conference, Dublin, Ireland, June 26-July 2, 2005.
- Attended E Learn 2007, World Conference on E learning in Corporate, Government, Healthcare, & Higher Education, Quebec City, Canada, October 15-19, 2007.
- Site visits in Australia to discuss biofuels research and development, University of Melbourne, May 14-15, University of Sydney, May 19-20, CSIRO, May 21, and University of Queensland, Brisbane, May 22, 2008.
- Invited Speaker, XXI International Grassland Conference, Hohhot, China, June 29-July 5, 2008.
- Invited Speaker, International Conference: Biofuels, Bioenergy and Bioproducts from Sustainable Agricultural & Forest Crops. Bloomington, MN. August 19-21, 2008.
- Moderator, Integrated assessment of biomass for biofuel or renewables – trade-offs with feed and food, Integrated Assessment of Agriculture and Sustainable Development (AgSAP) Conference, Egmond aan Zee, The Netherlands, March 10-12, 2009.
- Group Leader, Global Food Supply, First Strategic Summit of Plant Science Societies, Honolulu, HI, July 15-16, 2009.
- Delegation Leader, People-to-People Ambassador Program, Agronomy Delegation to the People's Republic of China, October 9-19, 2009.
- Invited Speaker, International Symposium on Forage Breeding, Campo Grande, Brazil, November 9-12, 2009 (Did not attend for health reasons. Paper presented by Michael Casler).
- Invited Speaker, International Conference on Bio-fuel Crop Production and Development, Zamorano University, Yeguaré Valle, Honduras. August 23-25, 2010.
- Host, American United International Group, Chinese Agricultural Delegation, BioCentury Research Farm, Boone, IA, October 22, 2010.
- Invited Speaker, Examples of Positive Bioenergy and Water Relationships Workshop, Global Bioenergy Partnership Working Group on Capacity Building for Sustainable Bioenergy, Activity Group 6 - Bioenergy and Water, Royal Swedish Academy of Agriculture and Science, Stockholm, 25-26 August, 2015.
- Delegate, 1st Meeting of Activity Group 6 - Bioenergy and Water, GBEP Working Group on Capacity Building for Sustainable Bioenergy, Royal Swedish Academy of Agriculture and Science, Stockholm, 26 August, 2015.

Research Interests

My research focuses on the use of perennial crops for producing biomass feedstock from marginal land and the use of cover crops and perennial groundcover for grain production. Previously I conducted several experiments to determine relationships between the structure of plant cell walls and their bioavailability through enzymatic hydrolysis. Research accomplishments in this area include characterization of the structure and digestion kinetics of cell walls in normal and brown midrib sorghums, contrasting genotypes of switchgrass, indiagrass, big bluestem and several *Brachiaria* species. Other contributions in this area include the development of methodology used to study cell wall structure and digestion including development of improved techniques for studying *in vitro* digestion kinetics of plant cell walls, and development of a procedure for separating and quantifying lignin-derived phenolics using high-resolution gas chromatography. I have extensive research experience working with switchgrass and other perennial grasses and developed a widely used and cited system for describing and quantifying the developmental morphology of perennial grasses. I have evaluated several alternative crop species for utilization as biomass crops and developed best management practices for growing sweet sorghum and kenaf in Iowa. My cropping systems research includes studies on long and short-term rotations of biomass crops with corn and soybean, and development of perennial cover crops and management strategies for whole corn biomass production systems. I have also worked on developing solid-state fermentation systems for storage of corn stover biomass including evaluation of enzymatic and chemical treatments to improve stability during storage and pretreatments to enhance bioavailability of structural carbohydrates.

Other Interests

Scuba diving, sailing, kayaking, music.

Professional and Public Service

National and International:

Leadership in Professional Societies

Board of Directors, Crop Science Society of America (CSSA), 1990-92, 2002-05.

Crop Quality and Utilization, Division C6, Chair, CSSA, 1991-92.

Renaissance Initiative Coordinating Team (C235), CSSA, 2000-02.

Executive Committee, CSSA, 2002-05.

President, CSSA, 2003-04.

Council of Scientific Society Presidents, 2002-04, 2006-09.

Board of Directors, American Society of Agronomy (ASA), 2002-05, 2006-09.

Executive Committee, ASA, 2002-05, 2006-09.

President, ASA, 2007-08.

Board of Directors, Council for Agricultural Science and Technology, 2004-05.

Board of Directors, Alliance of Crop, Soil and Environmental Science Societies (ACSESS), 2008-09.

Editorial Service

Agronomy Journal Editorial Board (A302), Associate Editor 1990-93, 2014-19; Technical Editor, 1993-97.

Crop Science Editorial Board (C302), Associate Editor, 1993-94.

Editor, CSSA Special Publication, Post-Harvest Physiology and Preservation of Forages (ACS322.69), 1992-95.

Editor, CSSA Special Publication, Native Warm Season Grasses: Research Trends and Issues, (ACS322), 1995-99.

Feasibility Committee for Monograph on Silage (ACS394.38), Chair, ASA, 1994-95.

Monographs Committee (ACS325), ASA, 1995-98.

Society Publishing Neighborhood Initiative Subcommittee, Conversations on Change, Council for Agricultural Science and Technology, 2000-02.

Plant Health Progress Editorial Board, Senior Editor 2000-01.

Crop Management Editorial Board (C308), Founding Editor 2001-02.

Editorial Affairs, Policies, & Practices Committee (C301), CSSA, 2002.

Editorial Policy Coordination Committee (ACS321), ASA-CSSA-SSSA, 2002.

Forage Management Journal Feasibility Committee (AC301.5), ASA-CSSA, 2003.

Agronomy Open Access Journal, Editorial Board, MDPI, 2018-present.

Crops Open Access Journal, Founding Editor-in-Chief, MDPI, 2021-present.

Conferences and Meetings Service

Planning committee for the 1987 American Forage and Grassland Council (AFGC) Annual Meeting, 1986-87.

Presiding Officer, Forage Quality - Animal Response, American Society of Agronomy (ASA) Annual Meeting, 1986.

Presiding Officer, Forage Quality and Management, American Forage and Grassland Conference, 1987.

Presiding Officer, Forage Digestion and Utilization, American Society of Agronomy Annual Meeting, 1988.

Moderator, Preservatives and Drying Aids for Alfalfa, 20th National Alfalfa Symposium, 1990.

Program Planning Committee, CSSA Annual Meeting, Division C6 Program Chair, 1991-92.

Symposium Committee, Chair. Post-Harvest Physiology and Preservation of Forages, Division C-6, CSSA, 1992.

Presiding Officer, Forage Crop Production and Utilization, American Forage and Grassland Conference, 1993.

Presiding Officer, Symposium - Current procedures and applications of NIRS in plant analysis, American Society of Agronomy Annual Meeting, 1994.

Program Planning Committee, Native Warm Season Grass Conference and Expo, 1995-96.

Presiding Officer, Crop Quality and Utilization, American Society of Agronomy Annual Meeting, 1995.

Moderator, Utilization of Warm Season Grasses, Native Warm-Season Grass Conference and Expo, West Des Moines, Iowa, September 12, 1996.

Symposium Committee, Co-chair. Distance Education in Agronomy: New Opportunities for Life-long Learners, Divisions A-1, A-4, and A9, American Society of Agronomy, 1999-2000.

Presiding Officer, Distance Education in Agronomy: New Opportunities for Life-long Learners, American Society of Agronomy Annual Meeting, 2000.

Program Planning Committee (C711), CSSA Annual Meeting, Chair 2002-03.

Betty Klepper Endowed Lectureship Committee (C711.09), CSSA, 2002-05, Chair 2003.

E.T. & Vam York Distinguished ASA Lectureship Committee (A711.10), 2002-03, Chair 2006-07.

Program Planning Committee (A711), ASA Centennial Annual Meeting, Chair 2006-07.

Session Chair, Integrated assessment of biomass for biofuel or renewables – trade-offs with feed and food, Integrated Assessment of Agriculture and Sustainable Development (AgSAP) Conference, 2008-09.

Organizing Committee, Growing Food Crops with Perennial Groundcover Workshop, ASA-CSSA-SSSA Annual Meeting, 2020.

Symposium Committee, Co-chair. Bringing Back the Momentum of Bioenergy Production in the US: Assessment of the Renewable Fuel Standard Program, ASA-CSSA-SSSA Annual Meeting, 2021.

Committee Service

Special Liaison Representative to American Society of Animal Science (ACS 628), American Society of Agronomy, 1988-90.

Forage, Grassland, and Range Resource Committee (ACS824), ASA, 1988-90, 1992-94.

Budget Committee, National Conference on Forage Quality Evaluation and Utilization, 1990-94.

Organization, Policy, and Bylaws Committee (A201), ASA, 1992-95, Chair 2009.

Nominations Committee (C116), Division C-6, CSSA, 1992-95.

Nominations Committee (C101), CSSA, 1992-93, Chair 2005.

Division C6 Ad Hoc Committee on Reorganization, CSSA, 1999-2000.

Crop Science Visibility and Identity Committee (C236.1), CSSA, 2001-03.

Harry J. Larsen/Hydro Memorial Scholarship Committee (A442.1), ASA, 2002-03.

CSSA Honorary Membership Committee (C402), 2003-04.

CSSA Long Range Strategies Committee (C201.4), 2003-04.

ASA-CSSA-SSSA Intersociety Coordinating Committee (ACS004), 2003-04.

ASA-CSSA-SSSA ad hoc Auditor Selection Committee, 2004.

CSSA Awards Committee (C491), 2004-05, Chair 2005.

CSSA Honorary Membership Committee (C402), 2004-05.

CSSA Organization, Policy, & Bylaws Committee (C201), Chair 2005.

CSSA Fellows Committee (C455), Chair 2005.

ASA Long Range Planning Committee (A201.4), 2005.

ASA Centennial Planning Committee (A711.15), 2006-07.

ASA Budget and Finance Committee (A211), 2006-07.

ASA Honorary Membership Committee (A402), 2006-08.

ASA Nominations Committee (A101), Chair 2008.

ASA Fellows Committee (A441), Chair 2009.

ACSESS Operations and Policy Committee (ACS201), 2009.

ACSESS Audit Committee (ACS212), 2009.

ASA Division Alignment Taskforce (A201.4.16), 2008-09.

ASA Global (A902), 2009-10.

ASA Reorganization Transition Team, 2009-10.

CSSA Division C6 subcommittee on developing a policy regarding replication in time and space in Crop Science and other society publications, 2019-20.

Other Service

Forage Grass and Pasture Workshop, USDA-ARS, Raleigh, NC, April 30 - May 1, 1991.

Delegate, Congress on Renewable Natural Resources: Critical Issues and Concepts for the Twenty-First Century, Vail, CO, August 19-22, 1992.

Reviewer, USDA-CREES Special Research Grant Proposals, Grass Seed Cropping Systems for a Sustainable Agriculture, 1996-99.

USDA-ARS, Scientific Quality Review Panel, 2002.

Rangeland, Pasture, and Forages Workshop, USDA-ARS National Program 205, January 24-25, 2006, Denver, Colorado.

Consultant-evaluator for the Program to Evaluate and Advance Quality, The Higher Learning Commission of the North Central Association of Colleges and Schools, 2005-present.
Systems Portfolio Appraiser for the Academic Quality Improvement Program, The Higher Learning Commission of the North Central Association of Colleges and Schools, 2005-present.
Evaluation Team, Comprehensive evaluation visit to University of Wisconsin-Platteville for reaccreditation by the Higher Learning Commission, December 4-6, 2006.
Evaluation Panel, Change request to offer the Master's degree in Agricultural Regulations, University of Arkansas at Pine Bluff, Higher Learning Commission, January 17, 2008.
Systems Appraisal Panel, Indiana Institute of Technology Academic Quality Improvement Program review, Higher Learning Commission, 2008-09.
Alliance of American Agricultural Science Societies (AAASS) Inaugural Meeting, Indianapolis, IN, November 5-7, 2008.
Invited Speaker, National Workshop on the Future of Education in Plant Pathology and Related Disciplines, Washington, D.C., March 19-20, 2009.
Charter representative, Global Plant Council, Honolulu, HI, July 15-16, 2009.
Panel Manager, Sustainable Agroecosystems Science and Long-Term Agroecosystems (LTAP), USDA-CSREES, Washington, D.C., August 17-20, 2009.
Curriculum Review, Department of Crop and Soil Sciences, Texas A&M University, 2009.
Evaluation Team, Comprehensive evaluation visit to University of Colorado at Boulder for reaccreditation by the Higher Learning Commission, February 22-24, 2010.
Systems Appraisal Panel, Garden City Community College Academic Quality Improvement Program review, Higher Learning Commission, 2010-11.
USDA-AFRI Review, Sustainable Bioenergy Conference Grant, 2010.
Reviewer, U.S. Billion-Ton Update: Biomass Supply for a Bioenergy and Bioproducts Industry, 2010-11.
Onsite Expert Review Panel, Chair, USDA-ARS Northern Great Plains Research Laboratory, March 26-29, 2012.
External Review Panel for the Department of Agriculture, Ogden College of Science and Engineering, Western Kentucky University, November 12-13, 2012.
Workshop on Research for Sustainable Bioenergy, Department of Energy Office of Biological and Environmental Research, Germantown, MD, October 2-3, 2013.
Peer Reviewer, BioMass Canada, Theme 2 - Scientific Proposals. December 2017.
Evaluation Team, Comprehensive evaluation of University of Arizona for reaccreditation by the Higher Learning Commission, April 26-28, 2021.
Participant, SAF Research Community Workshop, USDA-DOE-DOT, September 16, 2021.

Regional:

Representative to NC-114 regional committee on forage production and utilization systems, 1983-87, Secretary, 1987.
Planning committee for the 1987 Central Alfalfa Improvement Conference, 1985-87.
Representative to NCR-31 regional committee on forage physiology, 1986-87, 1993-99. Secretary, 1997; Chair, 1999.
External reviewer, North Central Region Sustainable Agriculture Research and Education Program, 1992.
Representative to NC-189 regional committee on forage protein characterization and utilization, 1993-2004. Secretary, 2000; Chair, 2001.
Center for Grassland Studies, Associate, UNL, 1995-present.
Iowa-Missouri Cooperative Forage Research Project, 1995-99.

Participant, USDA-ARS Wheat, Sorghum, and Forage Research Unit Review, Lincoln, NE, July 27, 1999.

Representative to NC-225 regional committee on improved grazing systems for beef cattle production, 1999-2004. Technical writing subcommittee, 1998-99, 2003.

Representative to NC-1020 regional committee on beef cattle grazing systems that improve production and profitability while minimizing risk and environmental impacts, 2005-2007.

Representative to NC-1021 regional committee on nitrogen cycling, loading, and use efficiency in forage-based livestock production systems, 2005-2007.

USDA Retention Review Panel. February 4th, 2005.

North Central Biomass Feedstock Workshop, Sun Grant Initiative, Sioux Falls, SD, August 15-17, 2006.

Representative to NC-506 regional committee on sustainable biorefining systems for corn in the North Central region, 2007-2008.

Sun Grant Regional Feedstock Partnership - Sorghum Group, 2008-2012.

Project Director, CenUSA Bioenergy, USDA-NIFA-AFRI Coordinated Agricultural Project, 2010-2019.

Discussion Leader, The Perennial Biomass Initiative, CenUSA Bioenergy in association with Green Lands Blue Waters. September 18, 2017, Iowa State University, Ames, IA.

State:

Ad Hoc committee on hay marketing, Illinois Dept. of Agriculture, 1984.

Illinois Forage and Grassland Council, Auditing committee, Chair., 1986-87.

Cropping Systems Issue Team, Leopold Center for Sustainable Agriculture, Member 1994-95. Co-Leader, 1995.

Animal Systems Issue Team, Leopold Center for Sustainable Agriculture, 1993-2002.

Iowa Beef Center, Iowa State University, 1998-2002.

Panelist, The Latest in Soil and Water Conservation, Iowa Ideas Conference, September 21, 2017, Cedar Rapids, IA.

University / College:

Program planning committee for the Orr Center Animal Science Research Unit, University of Illinois, 1986-87.

Forage Crops Variety Release Committee, Agricultural Research Division, Institute of Agriculture and Natural Resources, University of Nebraska, 1993.

Auditing Committee, Gamma Sigma Delta, ISU, 1994-97.

Vision 2020 Visioning Forum, Iowa Communications Network, Iowa State University, January 9, 1995.

Professional Agriculture Supervisory Committee, College of Agriculture, ISU, 1996-99.

Tribal College Task Force, College of Agriculture, ISU, 1998-2001.

Professional Development Committee, College of Agriculture, ISU, 1998-01.

Director of Continuing and Extended Education Search Committee, ISU, 1999.

Advisory Committee Brenton Center for Agricultural Instruction and Technology Transfer, College of Agriculture, ISU, 1999.

Program Planning Committee, Building the Land-Grant Community with Tribal Colleges and Universities, North Central Region Teaching Symposium Pre-Symposium Conference, 1999.

University Statistical Software Selection Committee, ISU, 1999.

Distance Education subcommittee, College of Agriculture Strategic Planning Committee, ISU, 1999-2000.

Advisory Board, Brenton Center for Agricultural Instruction and Technology Transfer, College of Agriculture, ISU, 2001-2004.
Executive Committee, Crop Adviser Institute, ISU, 2001-2017.
Agroecology Institute, College of Agriculture, ISU, 2003-04.
Asynchronous Learning Academy, College of Agriculture, ISU, 2002-2005.
Economic Development Task Force, College of Agriculture, ISU, 2005-2006.
Recruiting Committee College of Agriculture, ISU, 2006.
Science and Engineering Board, Bioeconomy Institute, ISU, 2008-2010.
BioCentury Farm Steering Committee, College of Agriculture and Life Sciences, ISU, 2009-2012.
Management Team, Bioeconomy Institute, ISU, 2010-2016.
Graduate Council, Graduate College, ISU, 2010-2017, Chair, 2015-16.
Miller Fellowship Award Committee, Graduate College, ISU, 2012-2015.
Distinguished Professor Nomination Committee, College of Agriculture and Life Sciences, ISU, 2013.
Karas Award for Outstanding Dissertation Committee, ISU, 2013.
Faculty Review Board, ISU, 2013-2016.
Distinguished Professor Nomination Committee, College of Agriculture and Life Sciences, ISU, 2016.
Graduate Council representative and discussion leader for Dean of Graduate College interview, 2017.
Review participant, ISU Bioeconomy Institute, 2017.
Executive Board, ISU Chapter of the American Association of University Professors, 2019-present.

Department:

Crop Production Seminar Committee, UIUC, 1983-86.
Turner Hall Computer Resources Committee, UIUC, 1984-87.
Search Committee, Plant Physiologist, UIUC, 1985.
Departmental Advisory Committee, UIUC, 1987.
Forage Research Committee, UIUC, 1986-87.
Scholarship Committee, Agronomy and Horticulture, NMSU, 1988.
Social Committee, Department of Agronomy, UNL, 1989-92, Chair 1991.
NIR and Forage Testing Advisory Committee, Department of Agronomy, UNL, 1989-93.
Ad hoc Committee for Lincoln Children's Museum exhibit, UNL, Chair, 1990-91.
Crop Production Trust Fund Research Committee, Department of Agronomy, UNL, 1991-93.
Soil/Plant Analytical Laboratory Advisory Committee, Department of Agronomy, UNL, 1990-93.
Forage Advisory Committee, Department of Agronomy, ISU, 1993-2007.
Resident Teaching Panel and Curriculum Committee, Department of Agronomy, ISU, 1993-2005.
Search Committee, Forage Breeder, Department of Agronomy, ISU, 1993-94.
Uniform Written Preliminary Examination Committee, Crop Production & Physiology major, Department of Agronomy, ISU, 1994-97.
Baker Council Recording Secretary, Department of Agronomy, ISU, 1994-98.
Promotion and Tenure Policy Revision Committee, Department of Agronomy, ISU, 1995.
Agronomy Field Day Committee, Department of Agronomy, ISU, 1995-96.
Agronomy Professional Masters Degree Committee, ISU, Chair, 1995-2017.
Computer Committee, Department of Agronomy, ISU, 1994-2005, Chair, 2005.
CSREES Review Planning Committee, Department of Agronomy, ISU, 1995-96.
Strategic Planning Committee, Department of Agronomy, ISU, 1996-97.
Search Committee, Plant Physiologist, Department of Agronomy, ISU, 1997.
Search Committee, Departmental Executive Officer, Department of Agronomy, ISU, 1999.

Crop Production and Physiology CRIS Proposal Committee, Department of Agronomy, ISU, 1999.
Ad hoc Committee on Post-tenure Review Policy, Department of Agronomy, ISU, 1999-2002.
Faculty Awards Committee, Department of Agronomy, ISU, 2001-04, 2017-present.
Ad hoc Committee on Collaborative Appointments, Chair, Department of Agronomy, ISU, 2002.
Search Committee, Biomass Breeding, Department of Agronomy, ISU, 2005-06.
Promotion and Tenure Committee, Department of Agronomy, ISU, 2007-10, Chair, 2010.
Search Committee, Forage Breeding, Department of Agronomy, ISU, 2007-08.
VEISHEA Planning Committee, Department of Agronomy, ISU, 2009.
Graduate Advisory Committee, Department of Agronomy, ISU, 2009-2017.
Search Committee, Cropping Systems, Department of Agronomy, ISU, 2013-14.
Agronomy Freshman Curriculum Committee, Department of Agronomy, ISU, 2014.
Search Committee, Forage Systems, Department of Agronomy, ISU, 2014-15, Chair.
Diversity and Inclusion Committee, Department of Agronomy, ISU, 2019-20.
Department Chair Evaluation Committee, Department of Agronomy, 2020.

Community Service Activities:

Lincoln Children's Museum Program Committee, Membership and Community Representative, 1990-91.
Lincoln Children's Museum Board of Directors, Membership Committee Chair, 1991-93.
Lincoln Northeast Family YMCA Committee of Management, 1991-93. Program Committee Chair, 1992-93.
Lincoln YMCA Youth Policy Forum, 1991-93.
Children's Services of Central Iowa, Board of Directors, Ames, IA, 1996-97.
Children's Museum of Central Iowa, Board of Directors, Ames, IA, 1997-02, President, 2000-01.
Saylorville Yacht Club, Board of Directors, Polk City, IA, 2011, 2017-2019.

Continuing Education

Workshops Attended:

The Computer as a Classroom Tool, North Central Computer Institute, East Lansing, MI, October 1-3, 1983.
Invitational ECOP Workshop on Near Infrared Reflectance Spectroscopy, Madison, WI, November 13-15, 1985.
Fundamentals of High Performance Liquid Chromatography, Hewlett-Packard, Las Cruces, NM, May 12, 1988.
Bran+Luebbe Analyzing Technologies Infralyzer 500 Training Course, Elmsford, NY, April 4-7, 1989.
Ninth Annual National Agricultural NIRS Research Network Workshop, Minneapolis, MN, April 11-13, 1989.
New Methods for the Evaluation of the Nutritive Value of Forages, XVI International Grassland Congress, Nice France, October 7, 1989.
National Near Infrared Spectroscopy Forage Research Project Network Training Session, American Society of Agronomy Annual Meeting, Las Vegas, NV, October 17, 1989.
Laboratory Safety and Health Course 224A, U.S. Department of Labor Occupational Safety and Health Administration, Lincoln, NE, January 9-11, 1990.
USDA/ARS Forage Grass and Pasture Workshop, Raleigh, NC, April 30 - May 1, 1991.
Infrasoft International NIRS software training, State College, PA, February 2-5, 1991.
USDA Supervisory Academy XVI, Texas A&M University, College Station Texas, April 26-30, 1993.
EPA Worker Protection Standard Training, Iowa State University, Ames, IA, March 10, 1994.

- Grazing Workshop, University of Missouri Forage Systems Research Center, August 10-12, 1994.
- Statistics Workshop for Editors and Technical Editors, American Society of Agronomy, Seattle, WA, November 13, 1994.
- Exploring ArcView 2.0. Environmental Systems Research Institute, Des Moines, IA, December 13, 1994.
- Professional Development Experience Program, Spanish Language Study, Council for International Programs, Iowa State University, Ames, IA, January 8 - May 27, 1995.
- Designing Learning Modules for Distance Learning. Ag/Sat Video conference, Iowa State University, Ames, IA, April 28, 1995.
- Sexual Harassment Awareness Training, Iowa State University, Ames, IA, January 24, 1996.
- OSHA Lab Safety Training, Iowa State University, Ames, IA, January 31, 1996.
- Interactive Multimedia Mini-Residency Program, Sponsored by USDA Higher Education Challenge Grants Program and the Iowa State University College of Veterinary Medicine, Ames, IA, February 12-15, 1996.
- Network Enhanced Learning: Vision 2000, First Annual Symposium on Methods and Tools for Improving Post-Secondary Education, Iowa State University, Ames, IA, February 24, 1996.
- Authorware Workshop, Media Resources Center and Baker Multimedia Lab, Iowa State University, Ames, IA, June 13-19, 1996.
- Statistical Methods for Landscape-Scale Field Experiments, ASA-CSSA-SSSA Workshop, Anaheim, CA, October 26, 1997.
- Mixed Models: Using Proc Mixed for Biological and Environmental Interactions, ASA-CSSA-SSSA Workshop, Baltimore, MD, October 18, 1998.
- Grant Success Workshop, College of Agriculture, Iowa State University, Ames, IA, December 3, 1999.
- Conversations on Change, Council of Agricultural Science and Technology, San Diego, CA, February 19-21, 2000.
- ArcGIS Workshop, Environmental Systems Research Institute, Omaha, NE, August 29, 2002.
- Introduction to ArcGIS 8.3, Geographic Information Systems Support and Research Facility, Iowa State University, August 21-22, 2003.
- Statistics Workshop: Analyzing Mixed-Model Experiments. CSSA-WSCS-WWW Workshop, Bozeman, MT. June 19, 2005.
- Cultivating Leadership for a Changing Agriculture. Tri-Societies Shared Leadership Workshop, Institute for Conservation Leadership, Madison, WI, February 28-29, 2004.
- Systems Appraiser Training. Academic Quality Improvement Program (AQIP), The Higher Learning Commission. Lisle, IL, April 19-21, 2006.
- Consultant-Evaluator Training. Program to Evaluate and Advance Quality (PEAQ), The Higher Learning Commission. Lisle, IL, November 8-10, 2006.
- Spatial Statistics in Agricultural Research. ASA-CSSA-SSSA Workshop. Indianapolis, IN, November 12, 2006.
- Discrimination and Harassment Prevention-Supervisor Training. Iowa State University, Ames, IA, February 14, 2007.
- Evaluation of Distance Education/Online Programs. PEAQ/AQIP Peer Reviewer Program, The Higher Learning Commission. Chicago, IL, April 20-21, 2007.
- Instructional Design of Authentic E-Learning Environments. E Learn 2007, World Conference on E learning in Corporate, Government, Healthcare, & Higher Education. Quebec City, Canada, October 15, 2007.
- The Next generation of Statistics in our Sciences - GLIMMX Workshop, ASA-CSSA-SSSA Workshop. Long Beach, CA, October 31, 2010.
- SAS Enterprise Workshop, Department of Statistics, Iowa State University, Ames, IA, February 20-23, 2012.

Introduction to R Workshop, Department of Statistics, Iowa State University, Ames, IA, May 19, 2014.

APSIM Training Course: Evaluating Production and Environmental Performance of Cropping Systems with APSIM, Iowa State University Extension, Ames, IA, June 1-3, 2015.

Standard and Open Pathways Peer Reviewer Training Online course for Experienced Reviewers, Higher Learning Commission, Online Training Course, May 2-31, 2016.

Linear mixed models in the design and analysis of breeding trials and genomic mapping. Raymond F. Baker Center for Plant Breeding, Ames, IA, March 29, 2017.

ISCORE: Iowa State Conference on Race and Ethnicity, Iowa State University, Ames, IA, March 2, 2018.

ADVANCE workshop with Kathrin Zippel (Women in Global Science): Effective Teams, Iowa State University, Ames, IA, March 26, 2018.

Mission Not-impossible: Inclusion at a Land Grant Institution, Iowa State University, Ames, IA, September 26, 2018.

Faculty as Strategic Agents of Institutional Change, Iowa State University, Ames, IA, April 16, 2019.

Cultural Awareness Training Program, College of Agriculture and Life Sciences, Iowa State University, Ames, IA, January 9, 2020.

Inclusive Classroom Training, Center for Excellence in Teaching and Learning, Iowa State University, Ames, IA, March 13, 2020.

Faculty Development Workshop: Intersection of Faculty Academic Freedom and Student Freedom of Expression, Iowa State University, Online, February 3, 2001.

Peer Corps Program, Higher Learning Commission 2021 Annual Conference, Virtual Training, April 5, 2021.

Coming Home: Our Multiracial Identities, Kinship, and Racial Justice Work. Preconference Workshop, National Conference on Race and Ethnicity (NCORE), Online, June 7, 2021.

Esri User Conference: GIS—Creating a Sustainable Future, Online, July 12-15, 2021.

SAF Research Community Workshop, USDA-DOE-DOT, September 16, 2021.

Advocates and Allies Workshop, NDSU Advance FORWARD, Iowa State University, October 22.

Tackling Implicit Bias and Microaggressions in the Workplace Workshop, ADVANCE GEO, Online, March 4, 2022. Sponsored by Agronomy DEI Committee, Iowa State University.

Courses Attended:

Biometry 960: Matrix Algebra Applications in Biometry, University of Nebraska, Fall 1990.

Publications

Google Scholar Profile: <https://scholar.google.com/citations?user=MbvBI4IAAAAJ&hl=en>

Journal Articles (194):

Moore, K. J., V. L. Lechtenberg and K. S. Hendrix. 1985. Quality of orchardgrass hay ammoniated at different rates, moisture concentrations, and treatment durations. *Agronomy Journal* 77:67-71.

Moore, K. J., V. L. Lechtenberg, R. P. Lemenager, J. A. Patterson, and K. S. Hendrix. 1985. In vitro digestion, chemical composition, and fermentation of ammoniated grass-legume silage. *Agronomy Journal* 77:758-763.

Cherney, J. H., K. J. Moore, J. J. Volenec and J. D. Axtell. 1986. Rate and extent of digestion of cell wall components of brown-midrib sorghum species. *Crop Science* 26:1055-1059.

Moore, K. J., R. P. Lemenager, V. L. Lechtenberg, K. S. Hendrix, and J. E. Risk. 1986. Digestion and utilization of ammoniated grass-legume silage. *Journal of Animal Science* 62:235-243.

- Moore, K. J. and J. H. Cherney. 1986. Digestion kinetics of sequentially extracted cell wall components of forages. *Crop Science* 26:1230-1234.
- Volenc, J. J., J. H. Cherney and K. J. Moore. 1986. Rate of synthesis of cell wall components in elongating sorghum leaf blades. *Crop Science* 26:307-311.
- Wedig, C. L., E. H. Jaster and K. J. Moore. 1986. Composition and digestibility of alfalfa and orchardgrass hemicellulose monosaccharides by Holstein steers. *Journal of Dairy Science* 69:1309-1316.
- Fritz, J. O. and K. J. Moore. 1987. Separation and quantification of lignin-derived phenolic monomers using high resolution gas chromatography. *Journal of Agricultural and Food Chemistry* 35:710-713.
- Lawrence, L. M., K. J. Moore, H. F. Hintz, E. H. Jaster and L. Wischover. 1987. Acceptability of alfalfa hay treated with an organic acid preservative for horses. *Canadian Journal of Animal Science* 67:217-220.
- Moore, K. J. and V. L. Lechtenberg. 1987. Chemical composition and digestion *in vitro* of orchardgrass hay ammoniated by different techniques. *Animal Feed Science and Technology* 17:109-119.
- Roberts, C. A., K. J. Moore, D. W. Graffis, H. W. Kirby and R. P. Walgenbach. 1987. Chitin as an estimate of mold in hay. *Crop Science* 27:783-785.
- Roberts, C. A., K. J. Moore, D. W. Graffis, H. W. Kirby and R. P. Walgenbach. 1987. Quantification of mold in hay by near infrared reflectance spectroscopy. *Journal of Dairy Science* 70:2560-2564.
- Roberts, C. A., P. L. Houghton, K. J. Moore, K. A. MacMillan and R. P. Lemenager. 1987. Analysis of bovine udder, plate and viscera using near infrared reflectance spectroscopy. *Journal of Animal Science* 65:278-289.
- Wedig, C. L., E. H. Jaster and K. J. Moore. 1987. Hemicellulose monosaccharide composition and *in vitro* disappearance of orchardgrass and alfalfa hay. *Journal of Agricultural and Food Chemistry* 35:214-218.
- Wedig, C. L., E. H. Jaster, K. J. Moore and N. R. Merchen. 1987. Rumen turnover and digestion of normal and brown midrib sorghum x sudangrass hybrid silages in dairy cattle. *Journal of Dairy Science* 70:1220-1227.
- Atwell, D. G., E. H. Jaster, K. J. Moore and R. L. Fernando. 1988. Evaluation of feeding high-oil corn and corn silage to lactating cows. *Journal of Dairy Science* 71:2689-2698.
- do Valle, C. B., K. J. Moore and D. A. Miller. 1988. Effect of ploidy level on cell wall composition and digestibility of *Brachiaria ruziziensis* Germain et Evard. *Tropical Agriculture* 65:16-20.
- do Valle, C. B., K. J. Moore and D. A. Miller. 1988. Cell wall composition and digestibility in five species of *Brachiaria*. *Tropical Agriculture* 65:337-340.
- Fritz, J. O., K. J. Moore and E. H. Jaster. 1988. *In situ* digestion kinetics and ruminal turnover rates of normal and brown midrib mutant sorghum x sudangrass hays fed to non-lactating Holstein cows. *Journal of Dairy Science* 71:3345-3351.
- Jaster, E. H. and K. J. Moore. 1988. Fermentation characteristics and feeding value of enzyme-treated alfalfa haylage. *Journal of Dairy Science* 71:705-711.
- Kerley, M. S., K. A. Garleb, G. C. Fahey, Jr., L. L. Berger, K. J. Moore, G. N. Phillips, Jr., and J. M. Gould. 1988. Effects of alkaline hydrogen peroxide treatment of cotton and wheat straw on cellulose crystallinity and on composition and site and extent of disappearance of wheat straw cell wall phenolics and monosaccharides by sheep. *Journal of Animal Science* 66:3235-3244.
- Roberts, C. A., F. E. Barton II, and K. J. Moore. 1988. Estimation of *Acremonium coenophialum* mycelium in infected tall fescue. *Agronomy Journal* 80:737-740.
- Trott, J. O., K. J. Moore, V. L. Lechtenberg and K. D. Johnson. 1988. Light penetration through tall fescue in relation to canopy biomass. *Journal of Production Agriculture* 1:137-140.
- Wedig, C. L., E. H. Jaster and K. J. Moore. 1988. Effect of brown midrib and normal genotypes of sorghum x sudangrass on ruminal fluid and particulate rate of passage from the rumen and extent of digestion at various sites along the gastrointestinal tract in sheep. *Journal of Animal Science* 66:559-565.
- Roberts, C. A., K. J. Moore and K. D. Johnson. 1989. Forage quality and yield of wheat-vetch mixtures at different stages of maturity. *Agronomy Journal* 81:57-60.
- Wedig, C. L., E. H. Jaster and K. J. Moore. 1989. Disappearance of hemicellulosic monosaccharides and alkali-soluble phenolic compounds of normal and brown midrib sorghum x sudangrass silages fed to Holstein steers. *Journal of Dairy Science* 72:112-122.
- Wedig, C. L., E. H. Jaster and K. J. Moore. 1989. Disappearance of hemicellulosic monosaccharides and alkali-soluble phenolic compounds of normal and brown midrib sorghum x sudangrasses fed to heifers and sheep. *Journal of Dairy Science* 72:104-111.
- Fritz, J. O., K. J. Moore and E. H. Jaster. 1990. Digestion kinetics and composition of cell walls isolated from morphological components of normal and brown midrib mutant sorghum x sudangrass hybrids. *Crop Science* 30:213-219.

- Jaster, E. H. and K. J. Moore. 1990. Quality and fermentation of enzyme-treated alfalfa silages at three moisture concentrations. *Animal Feed Science and Technology* 31:261-268.
- Moore, K. J., C. A. Roberts, and J. O. Fritz. 1990. Indirect estimation of the botanical composition of alfalfa-smooth bromegrass mixtures at three stages of maturity. *Agronomy Journal* 82:287-290.
- Roberts, C. A. and K. J. Moore. 1990. Chemical regulation of tall fescue growth and quality. *Agronomy Journal* 82:523-526.
- Bullock, D. G., M. Dugarte-Fernandez, J. L. Fowler, and K. J. Moore. 1991. Growth analysis of irrigated sorghum x sudangrass. *Biotronics* 20:9-17.
- Fritz, J. O., K. J. Moore and K. P. Vogel. 1991. Ammonia-labile bonds in high and low digestibility strains of switchgrass. *Crop Science* 31:1566-1570.
- Moore, K. J., L. E. Moser, K. P. Vogel, S. S. Waller, B. E. Johnson and J. F. Pedersen. 1991. Describing and quantifying growth stages of perennial forage grasses. *Agronomy Journal* 83:1073-1077.
- Pedersen, J. F., K. J. Moore, and Edzard van Santen. 1991. An interpretive analysis for forage yield data. *Agronomy Journal* 83:774-776.
- Vogel, K. P., K. J. Moore, and B. E. Johnson. 1991. Statistical analyses of esophageal and hand-clipped samples from grazing trials. *Journal of Range Management* 44:379-382.
- Fowler, James L., James H. Hageman, Kenneth J. Moore, Margaret Suzukida, Hamid Assadian, and Mario Valenzuela. 1992. Salinity effects on forage quality of Russian thistle. *Journal Range Management* 45:559-563.
- Jaster, E. H. and K. J. Moore. 1992. Hay desiccation and preservation with potassium sorbate, potassium carbonate, sorbic acid and propionic acid. *Animal Feed Science and Technology* 38:175-176.
- Mullahey, J. J., S. S. Waller, K. J. Moore, L. E. Moser, and T. J. Klopfenstein. 1992. *In situ* ruminal protein degradation of switchgrass and smooth bromegrass. *Agronomy Journal* 84:183-188.
- Berdahl, J. D., R. E. Barker, J. F. Karn, J. M. Krupinsky, I. M. Ray, K. P. Vogel, K. J. Moore, T. J. Klopfenstein, B. E. Anderson, R. J. Haas, and D. A. Tober. 1993. Registration of 'Manska' pubescent intermediate wheatgrass. *Crop Science* 33:881.
- Graybosch, Robert, C. James Petersen, Kenneth Moore, Mark Stearns, and Dana Grant. 1993. Comparative effects of flour protein, lipid and pentosan composition in relation to hard wheat quality characteristics. *Cereal Chemistry* 70:95-101.
- Hopkins, A. A., K. P. Vogel and K. J. Moore. 1993. Predicted and realized gains from selection for *in vitro* dry matter digestibility and forage yield in switchgrass. *Crop Science* 33:253-257.
- Gerhardt, R. L., J. O. Fritz, K. J. Moore, and E. H. Jaster. 1994. Digestion kinetics and composition of normal and brown midrib sorghum morphological components. *Crop Science* 34:1353-1361.
- Mitchell, Robert B., Robert A. Masters, Steven S. Waller, Kenneth J. Moore, and Lowell E. Moser. 1994. Big bluestem production and forage quality responses to burning date and fertilizer in tallgrass prairies. *Journal of Production Agriculture* 7:355-359.
- Blanchet, K. M., J. R. George, R. M. Gettle, D. R. Buxton, and K. J. Moore. 1995. Establishment and persistence of legumes interseeded into switchgrass. *Agronomy Journal* 87:935-941.
- Blanchet, K. M., J. R. George, R. M. Gettle, D. R. Buxton, and K. J. Moore. 1995. Yield and botanical composition of legumes-interseeded vs. N-fertilized switchgrass. *Agronomy Journal* 87:1147-1153.
- Buxton, Dwayne R., David R. Mertens, and Kenneth J. Moore. 1995. Forage quality for ruminants: plant and animal considerations. *The Professional Animal Scientist* 11:121-131.
- Grant, R. J., S. G. Haddad, K. J. Moore, and J. F. Pedersen. 1995. Brown midrib sorghum silage for midlactation dairy cows. *Journal of Dairy Science* 78:1970-1980.
- Hopkins, A. A., K. P. Vogel, K. J. Moore, K. D. Johnson, and I. T. Carlson. 1995. Genotypic variability and genotype x environment interactions among switchgrass accessions from the Midwestern USA. *Crop Science* 35:565-571.
- Hopkins, A. A., K. P. Vogel, K. J. Moore, K. D. Johnson, and I. T. Carlson. 1995. Genotype effects and genotype by environment interactions for traits of elite switchgrass populations. *Crop Science* 35:125-132.
- Moore, K. J., and L. E. Moser. 1995. Quantifying developmental morphology of perennial grasses. *Crop Science* 35:37-43.
- Moore, K. J., K. P. Vogel, T. J. Klopfenstein, and B. E. Anderson. 1995. Evaluation of four intermediate wheatgrass populations under grazing. *Agronomy Journal* 87:744-747.
- Pedersen, J. F., and K. J. Moore. 1995. An automated plot harvest system for use with a commercial forage harvester. *Agronomy Journal* 87:606-607.

- Pedersen, J. F., K. J. Moore, S. Schroth, and D. T. Walters. 1995. Nitrogen accumulation and potential for biomass utilization of six groups of sorghum grown on a municipal biosolids utilization site. *Water Environ. Res.* 67:1076-1080.
- Gettle, R. M., J. R. George, K. M. Blanchet, D. R. Buxton, and K. J. Moore. 1996. Frost-seeding legumes into established switchgrass: forage yield and botanical composition of the stratified canopy. *Agronomy Journal* 88:555-560.
- Gettle, R. M., J. R. George, K. M. Blanchet, D. R. Buxton, and K. J. Moore. 1996. Frost-seeding legumes into established switchgrass: establishment, density, persistence, and sward composition. *Agronomy Journal* 88:98-103.
- Mitchell, R. B., R. A. Masters, S. S. Waller, K. J. Moore, and L. J. Young. 1996. Tallgrass prairie vegetation response to burning date, fertilizer, and atrazine. *Journal of Range Management* 49:131-136.
- Vogel, K. P., A. A. Hopkins, K. J. Moore, K. D. Johnson, and I. T. Carlson. 1996. Registration of 'Shawnee' switchgrass. *Crop Science* 36: 1713.
- Chriyaa, A., K. J. Moore, and S. S. Waller. 1997. Intake, digestion, and nitrogen balance of sheep fed shrub foliage and medic pods as a supplement to wheat straw. *Animal Feed Science and Technology* 65:183-196.
- Chriyaa, A., K. J. Moore, and S. S. Waller. 1997. Browse foliage and annual legume pods as supplements to wheat straw for sheep. *Animal Feed Science and Technology* 62:85-96.
- Harmony, K. R., K. J. Moore, J. R. George, E. C. Brummer, and J. R. Russell. 1997. Determination of pasture biomass using four indirect methods. *Agronomy Journal* 89:665-672.
- Hendrickson, J. R., L. E. Moser, K. J. Moore, and S. S. Waller. 1997. Leaf nutritive value related to tiller development in warm-season grasses. *Journal of Range Management* 50:116-122.
- Mitchell, R. B., D. D. Redfearn, L. E. Moser, K. J. Moore, R. J. Grant, and B. H. Kirch. 1997. Relationships between *in situ* protein degradability and grass developmental morphology. *Journal of Dairy Science* 80:1143-1149.
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- Porter, John R., Andrew Challinor, Frank Ewert, Pete Falloon, Tony Fischer, Peter Gregory, Martin K. Van Ittersum, Jørgen E. Olesen, Kenneth J. Moore, Cynthia Rosenzweig, and Pete Smith. 2010. Food Security: Focus on Agriculture. *Science* 328:172.
- Hill, Jason, Keri Jacobs, Anne Kinzel, Ken Moore. 2012. Fueling the future with energy crops: Energy title recommendations for 2012 farm bill. Cenus Policy Paper, Iowa State University.
<http://www.cenusa.iastate.edu/ResourceLibraryItems>
- Moore, Kenneth. 2012. Iowa View: Inspiration was one of Borlaug's gifts. Des Moines Register, Guest Essay, October 18, 2012.
- Moore, K. J., and P. M. Dixon. 2015. Analysis of combined experiments revisited. *Society Science, CSA News* 60:15.
- Collins, M., C. J. Nelson, Kenneth J. Moore and Robert F. Barnes. 2018. Preface. p. ix-x. In: M. Collins, C. J. Nelson, Kenneth J. Moore and Robert F. Barnes (eds.) *Forages Volume I - An Introduction to Grassland Agriculture* (7th ed.). Wiley, New York.
- Moore, Kenneth J. 2018. Appendix: Common and botanical names of forages. In: M. Collins, C. J. Nelson, Kenneth J. Moore and Robert F. Barnes (eds.) *Forages Volume I - An Introduction to Grassland Agriculture* (7th ed.). Wiley, New York.
- Moore, Kenneth J. 2018. Glossary. In: M. Collins, C. J. Nelson, Kenneth J. Moore and Robert F. Barnes (eds.) *Forages Volume I - An Introduction to Grassland Agriculture* (7th ed.). Wiley, New York.
- Moore, Ken. 2018. Foreword p. xviii-xix. In Barry Glaz and Kathleen M. Yeater, (eds.) *Applied Statistics in Agricultural, Biological, and Environmental Sciences*. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America, Inc., Madison WI.
- Shelley, Mack and Kenneth Moore. 2019. Iowa lawmakers' tenure debate: How to destroy a good thing. Iowa View, Des Moines Register, Guest Essay, February 15, 2019.
- Moore, K. J., M. Collins, C. J. Nelson, and D. D. Redfearn. 2020. Preface. p. xiii-xi In K. J. Moore, M. Collins, C. J. Nelson, and D. D. Redfearn (eds) *Forages Volume II - The Science of Grassland Agriculture* (7th ed.). Wiley Blackwell Publishing, Hoboken, NJ.
- Moore, Kenneth J. 2020. Appendix: Common and scientific names of forages. p. 881-889. In K. J. Moore, M. Collins, C. J. Nelson, and D. D. Redfearn (eds.) *Forages Volume II - The Science of Grassland Agriculture* (7th ed.). Wiley Blackwell Publishing, Hoboken, NJ.
- Moore, Kenneth J. 2020. Glossary. p. 891-915. In K. J. Moore, M. Collins, C. J. Nelson, and D. D. Redfearn (eds.) *Forages Volume II - The Science of Grassland Agriculture* (7th ed.). Wiley Blackwell Publishing, Hoboken, NJ.
- Moore, K.J. 2021. Crops: Bringing together a global community of crop scientists. *Crops* 1:1-2 (doi.org/10.3390/crops1010001).

Abstracts (234): Not listed.

Presentations

Professional Meetings

- Ammoniation of mature grass hay at several moisture percentages. American Society of Agronomy Annual Meetings, Atlanta, GA, 1981.
- Composition and digestibility of ammoniated grass haylage. American Society of Agronomy Annual Meetings, Anaheim, CA, 1982.
- Ammoniation systems for hay quality improvement. American Society of Agronomy Annual Meetings, Washington D.C., 1983.
- Chemical regulation of tall fescue growth and quality. American Society of Agronomy Annual Meetings, Las Vegas, NV, 1984.
- Digestion kinetics of sequentially extracted cell wall components of forages. American Society of Agronomy Annual Meetings, Chicago, IL, 1985.
- Separation and quantification of alkali labile and nitrobenzene oxidation products of lignin. American Society of Agronomy Annual Meetings, New Orleans, LA, 1986.
- Indirect estimation of the botanical composition of alfalfa-smooth brome grass mixtures. American Society of Agronomy Annual Meetings, Anaheim, CA, 1988.

- High resolution gas chromatography of lignin-derived phenolics. American Society of Animal Science Annual Meeting, Lexington, KY, 1989.
- In situ degradation of cell wall neutral sugars of normal and brown midrib sorghum x sudangrass hybrids. XVI International Grassland Congress, Nice, France, 1989.
- Performance of growing beef steers grazing four strains of intermediate wheatgrass. American Society of Animal Science Annual Meeting, Ames, IA, 1990.
- Improving the forage quality of warm-season grasses. American Forage and Grassland Conference, Columbia, MO, 1991.
- Forage Quality of intermediate wheatgrass and smooth bromegrass in relation to morphological development. American Society of Agronomy Annual Meetings, Denver, CO, 1991.
- Determining ploidy level of perennial grasses with NIRS. American Forage and Grassland Conference, Des Moines, IA, 1993.
- Improving the digestibility of warm-season perennial grasses. XVI International Grassland Congress, Palmerston North, NZ, 1993.
- Nutritive value of intermediate wheatgrass and smooth bromegrass in relation to developmental morphology. American Society of Animal Science Annual Meeting, Minneapolis, MN, 1994.
- A visual library for Forages: An Introduction to Grassland Agriculture. American Society of Agronomy Annual Meetings, St. Louis, MO, 1995.
- Hill country biodiversity, production, and quality. American Society of Agronomy Annual Meetings, St. Salt Lake City, UT, 1999.
- Performance of cattle sequentially grazing cool and warm-season pastures. American Society of Agronomy Annual Meetings, Minneapolis, MN, 2000.
- Determining pasture biodiversity with NIRS. International Grassland Congress, São Pedro, Brazil, 2001.
- Nitrogen fertilization for stockpiling tall fescue. American Society of Agronomy Annual Meetings, Charlotte, NC, 2001.
- Tiller demography within cool-season grass populations. American Society of Agronomy Annual Meetings, Salt Lake City, UT, 2021.

Invited Presentations

National and International:

- Hay quality improvement by ammonia treatment, Outstanding Young Scientist Program, American Forage and Grassland Conference, Rochester, MN, February 22, 1982.
- Hay preservation. American Farm Products Dealer Seminar, Milwaukee, WI, January 21, 1984.
- Fermentation and quality of enzyme-treated silage. American Farm Products Dealer Seminar, Minneapolis, MN, December 1, 1984.
- Hay preservation for horses. Kentucky Horse Hay Seminar, Lexington, KY, March 20, 1985.
- Hay preservatives, University of Missouri Alfalfa Conference, Columbia, MO, February 28, 1992.
- Design of on-farm grazing trials, Conference on Participatory On-Farm Research and Education for Agricultural Sustainability, University of Illinois at Urbana-Champaign, August 1, 1992.
- Improving the nutritive value and quality of forages of the Central Great Plains, Agronomy Department, Iowa State University, April 13, 1993.
- Forage analysis by NIRS. Aridoculture Center, Institut National de la Recherche Agronomique, Settat, Morocco, May 24, 1993.
- Use of the phyllochron concept in management practices of perennial forage grasses. Crop Science Society of America, Annual Meeting, Cincinnati, OH, November 10, 1993.
- Carbohydrates and quality. National Conference on Forage Quality, Evaluation, and Utilization, Lincoln, NE, April 13, 1994.
- Determining quality of perennial grasses of the Great Plains using near infrared reflectance spectroscopy. National Forage Testing Association Workshop, AOAC International Midwest Meeting and Exposition, Columbia, MO. June 14, 1994.
- Forages: The Science of Grassland Agriculture CD-ROM Visual Library. Forages Fifth Edition Authors Meeting, Seattle, WA. November 15, 1994.
- Fiber Composition and Digestion of Warm Season Grasses. Native Warm-Season Grass Conference and Expo, West Des Moines, Iowa, September 12, 1996.

- Grazing Systems Ecology and the Role of Species Diversity on Pasture Quality and Productivity, Sixth Annual Kling L. Anderson Lecture, Kansas State University, Manhattan, KS. April 30, 1997.
- Perspectives on the Nutritive Value of Pasture: Molecules, Plants, and Landscapes. AgResearch Grasslands, Palmerston North, New Zealand. February 13, 1998.
- Hill Pasture Biodiversity Production and Quality. AgResearch Grasslands, Palmerston North, New Zealand. June 23, 1998.
- Predicting Intake from Indigestible Fibre. Herbage Intake Workshop. Massey University, Palmerston North, New Zealand. June 25, 1998.
- Impact of Lignin on Fiber Digestion: Anti-Quality Considerations. Symposium on Anti-Quality Components in Rangeland and Pastureland Forages. Omaha, NE. Feb. 23-24, 1999.
- Positioning Crop Science for the 21st Century. Crop Science Department, North Carolina State University, August 3, 1999.
- Forage Quality and Utilization. Department of Crop and Soil Sciences, Michigan State University, August 26, 1999.
- The Iowa State University Master of Science in Agronomy Distance Education Program. Colegio de Postgraduados, Montecillo, Mexico, November 13, 2000.
- The Iowa State University Master of Science in Agronomy Distance Education Program. Colegio de Postgraduados, Puebla, Mexico, November 16, 2000.
- The Iowa State University Master of Science in Agronomy Distance Education Program. El Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Querétaro, Mexico, November 17, 2000.
- The Iowa State University Master of Science in Agronomy Distance Education Program - Teaching and Learning at a Distance. Agronomy and Horticulture Seminar Series, University of Nebraska, Lincoln, NE. September 28, 2001.
- The Iowa State University Master of Science in Agronomy Distance Education Program - Going the Distance. Agronomy Seminar, Purdue University, West Lafayette, IN. November 5, 2001.
- Forages - The Lost Crop? Symposium on the Future of Agriculture Honoring Don Holt. Urbana, IL. November 15, 2002.
- Looking Back, Moving Forward. President's Message, Annual Meeting of the Crop Science Society of America. Seattle, WA. November 2, 2004.
- Going the Distance: The ISU Agronomy M.S. Program. Horticulture and Crop Science Departmental Lecture Series, Ohio State University, Columbus, OH. November 18, 2004.
- Species Diversity of Iowa Pastures: Temporal and Spatial Adaptation of Legumes, Plant Science Seminar Series, University of Missouri, Columbia. October 12, 2005.
- Asynchronous Learning: The ISU Master of Science in Agronomy Program. Teaching Technology Symposium, Annual Meeting of the American Society of Agronomy. Indianapolis, IN. November 13, 2006.
- Biomass Cropping Systems: Alternative Crops and Cultural Practices, CERES, Thousand Oaks, CA. February 12, 2007.
- Cellulose Based Energy: Dedicated Energy Crops. Agronomic Aspects of Biofuel Crop Production Symposium, Annual Meeting of the American Society of Agronomy. New Orleans, LA. November 6, 2007.
- Biomass Cropping Systems: Alternative Crops and Cultural Practices. Faculty of Land and Food Resources, University of Melbourne, Australia. May 14, 2008.
- Biomass Cropping Systems: Alternative Crops and Cultural Practices. CSIRO, Brisbane, Australia. May 21, 2008.
- Biomass Cropping Systems: Alternative Crops and Cultural Practices. Topics in Plant Science Seminar Series, University of Queensland, Brisbane, Australia. May 22, 2008.
- Biorenewable Energy: New Opportunities for Grassland Agriculture. XXI International Grassland Congress, Hohhot, China. July 3, 2008.
- Herbaceous Biomass: Dedicated Energy Crops. Short Rotation Crops International Conference: Biofuels, Bioenergy and Bioproducts from Sustainable Agricultural & Forest Crops. Bloomington, MN. August 20, 2008.
- Agronomy 101. President's Message, Annual Meeting of the American Society of Agronomy. Houston, TX. November 2, 2004.
- Overview of the American Society of Agronomy. Alliance of American Agricultural Science Societies Meeting. Indianapolis, IN. November 6, 2008.
- Agronomy 101: Learning in the Second Century of ASA. National Workshop on the Future of Education in Plant Pathology and Related Disciplines, Washington, D.C., March 19, 2009.

- Biofuel Crops for the Midwest USA. International Conference on Bio-fuel Crop Production and Development, Zamorano University, Yeguaré Valle, Honduras, August 24, 2010.
- Sustainable Production and Distribution of Bioenergy for the Central USA. USDA-NIFA-CAP Reverse Site Visit, Washington DC, March 8, 2011.
- Sustainable Production and Distribution of Bioenergy for the Central USA. National Institute of Food & Agriculture: Institute of Bioenergy, Climate and Environment, Sustainable Bioenergy Project Directors Meeting, Arlington, VA, October 24, 2011.
- CenUSA Overview. LSU AgCenter USDA-AFRI-CAP Annual Meeting, Baton Rouge, LA, January 24, 2012.
- Panel Report, Onsite Expert Review, USDA-ARS Northern Great Plains Research Laboratory, March 29, 2012.
- Sustainable Production and Distribution of Bioenergy for the Central USA. 3rd Pan American Congress on Plants and Bioenergy, Urbana-Champaign, IL, July 15-18.
- Sustainable Production and Distribution of Bioenergy for the Central USA: An Agro-Ecosystem Approach to Sustainable Biofuels Production via the Pyrolysis-Biochar Platform (USDA-NIFA AFRI CAP, Project #2010-05073). Regional Approaches to Sustainable Bioenergy Systems, ASA, CSSA and SSSA Annual Meetings, Cincinnati, OH, October 21, 2012.
- Perennial Cover Crops for Sustainable Production of Corn Grown for Biomass. Building Soils for Better Crops Conference, Washington State University Extension, Moses Lake, WA, November 28, 2012.
- Leveraging Distance Education Programs to Train the Next Generation of Agronomists. Business of the Seed Business- Building Human Capital, American Seed Trade Association Annual Meeting, Chicago, IL, December 6, 2012.
- Sustainable Cropping Systems for Harvesting Corn Stover for Biomass. Cover Crops Conference, Soil and Water Conservation Society, Altoona, IA, December, 14, 2012.
- Sustainable Cropping Systems for Harvesting Corn Stover for Biomass. Plant and Soil Sciences Seminar, University of Kentucky, Lexington, KY, March 1, 2013.
- A Vision for Sustainable Midwest Agricultural Landscapes: Perennial grasses for Bioenergy and Ecosystem Services. Enhancing Mississippi Watershed Ecosystems with Perennial Bioenergy Crops Workshop, Minneapolis, MN, September 23, 2013.
- CENUSA: An Agro-Ecosystem Approach to Sustainable Biofuels Production Via the Pyrolysis-Biochar Platform (USDA-NIFA AFRI CAP, PROJECT #2010-05073). 25th Annual AAIC Meeting, Industrial Crops: Developing Sustainable Solutions, Washington DC, October 16, 2013.
- Managing perennial cover crops for sustainable corn stover biomass production. Integration of Perennials to Enhance Agroecosystem Services and Provide Renewable Energy Sources, Symposium. ASA, CSSA and SSSA Annual Meetings, Tampa, FL, November 6, 2013.
- CenUSA Bioenergy. Southeastern Partnership for Integrated Supply Systems, Knoxville, TN, October 9, 2014.
- Agro-ecosystem Approach to Sustainable Biofuels Production via the Pyrolysis-Biochar Platform (AFRI-CAP). National Institute of Food & Agriculture: Institute of Bioenergy, Climate and Environment, Sustainable Bioenergy Project Directors Meeting, Arlington, VA, October 30, 2014.
- Perennial biomass crops on environmentally sensitive land in the US. Examples of Positive Bioenergy and Water Relationships Workshop, Global Bioenergy Partnership Working Group on Capacity Building for Sustainable Bioenergy, Activity Group 6 - Bioenergy and Water, Royal Swedish Academy of Agriculture and Science, Stockholm, 25-26 August, 2015.
- Sustainable Production and Distribution of Bioenergy for the Central USA (AFRI-CAP). USDA National Institute of Food & Agriculture AFRI Sustainable Bioenergy Annual Project Director Meeting, Denver, CO, 3-5 November 2015.
- Evaluating Distance Learning: Quality Indicators from a learner's perspective. Transforming the teaching & learning environment: The 2016 Virtual Conference, February 22, 2016. Webcast (with Mina Valai and Denise Crawford).
- A Regional Program for Production of Multiple Agricultural Feedstocks and Processing to Biofuels and Biobased Chemicals. USDA National Institute of Food & Agriculture AFRI Sustainable Bioenergy Annual Project Director Meeting, New Orleans, LA, October 18, 2016.
- Lessons Learned from Participation in USDA-NIFA-AFRI Bioenergy CAP, USDA National Institute of Food & Agriculture AFRI Sustainable Bioenergy Annual Project Director Meeting, New Orleans, LA, October 18, 2016.
- Designing Resilient Cropping Systems. Martin and Ruth Massengale Lecture, Crop Science Society of America International Annual Meeting, Phoenix, AZ, November 7, 2016.
- CenUSA Bioenergy: Accomplishments and Reflections on the CAP Program, USDA National Institute of Food & Agriculture, Washington DC, May 16, 2019.

Learnings from our CAP Experience, Plenary Presentation, IPREFER 2019 Science Meeting, USDA National Institute of Food & Agriculture, Normal, IL, August 12, 2019.

Welcome and Introduction, Growing Food Crops with Perennial Groundcover Workshop, ASA-CSSA-SSSA Annual Meeting, November 11, 2020.

Greening the Agricultural Landscape: Using Perennial Groundcover to Enhance Ecosystem Services, W.A. Albrecht Earth Day Lectureship, School of Natural Resources, University of Missouri, Columbia, MO. April 25, 2022.

State and Regional:

Forage production and management, New Extension Advisor Orientation, University of Illinois, Urbana, IL, November 15, 1983.

Hay preservation and quality improvement by ammoniation. Annual Conference Advisor Update, University of Illinois, Urbana, IL, December 6, 1983.

Hay preservation and quality improvement by ammoniation. Illinois Forage and Grassland Institute, Sterling, IL, January 5, 1984.

Hay and silage quality improvement by ammoniation. Ruminant Nutrition Seminar, Department of Animal Sciences, Univ. of Illinois, February 13, 1984.

Hay preservation. Southern Illinois Forage Day, Mount Vernon, IL, February 23, 1984.

Hay quality and preservation. Greene County Hay Seminar, Carrollton, IL, August 7, 1984.

Interpreting NIR forage tests. Illinois Forage and Grassland Council Institute, Belleville, IL, March 14, 1985.

Hay preservatives and drying agents. Northwestern Illinois Forage and Grassland Council Forage Day, Sterling, IL, August 21, 1985.

Forage testing and interpretation. University of Illinois Dairy Cattle Forage School, Champaign, IL, March 12, 1986.

Small grain production and double cropping. University of Illinois Dairy Cattle Forage School, Champaign, IL, March 12, 1986.

Mold detection in hay using NIRS. Illinois Hay Marketing Conference, Springfield, IL, March 21, 1986.

Identification of quality standards in hay. Extension Fall Conference, University of Illinois, Urbana, IL, November 6, 1986.

Hay conditioning and preservation. Annual Extension Conference, University of Illinois, Urbana, IL, November 6, 1986.

Alfalfa production and preservation. Second Annual Mason County Ag Day, Easton, IL, February 12, 1987.

Harvesting skills for high quality hay production. Western Illinois Cash Hay Workshop, Perry, IL, July 27, 1987.

Forage quality. Alfalfa Workshop, New Mexico Hay Association, Albuquerque, NM, February 4, 1988.

Hay quality and storage. Alfalfa Short Course, Bernalillo, NM, May 17, 1988.

Unique Applications of NIRS. Nutrition Seminar, Animal Science Department, University of Nebraska, February 23, 1989.

The Nebraska system for staging perennial grasses, Range and Forage Seminar, Agronomy Department, University of Nebraska, Lincoln, April 9, 1991.

Breeding switchgrass for improved in vitro dry matter digestibility, NCR-144/155 Regional Committee Meeting, Lincoln, NE, November 21, 1991.

Using scavenger crops to remove residual nitrate-N from the soil, MSEA Research Review and Planning Meeting, Lincoln, NE, January 9, 1992.

Biomass crops for recycling nitrogen from municipal sludge. Thirty-Seventh Great Plains Waste Management Conference, Omaha, NE, March 25, 1993.

Research activities in forage production and utilization. Forage Seminar, Agronomy Department, Iowa State University, Ames, IA. November 16, 1993.

Identifying Iowa forage production and utilization research priorities. Forage Seminar, Agronomy Department, Iowa State University, Ames, IA. February 22, 1994.

Forage production and utilization research. Crop Specialist In Service Training, Iowa State University, Ames, IA. March 30, 1994.

Forage production and utilization research. Livestock Specialist In Service Training, Iowa State University, Ames, IA. April 25, 1994.

Cropping systems research for beef cattle production. Leopold Center for Sustainable Agriculture, Board of Directors Meeting, Ames, IA. November 22, 1994.

- Forages: The Science of Grassland Agriculture CD-ROM Visual Library. Iowa State University Press, Ames, IA. December 16, 1994.
- Watching grass grow - the key to successful grazing. Management Intensive Grazing Symposium, Des Moines, IA. January 24, 1995.
- Forages: The Science of Grassland Agriculture CD-ROM Visual Library. Agronomy Department, Iowa State University, Ames, IA. February 21, 1995.
- Forage production and utilization research. Crop Specialist in Service Training, Iowa State University, Ames, IA. March 29, 1995.
- Developing CD-ROM Visual Libraries. CICET Workshop on Multimedia Development, Iowa State University, Ames, IA. July 20, 1995.
- Alfalfa Quality Testing. Alfalfa Clinic. Iowa State University Extension, Ames, IA. September 7, 1995.
- Master of Science in Agronomy Professional Degree Program Proposal. Baker Council Meeting, Iowa State University, Ames, IA. September 26, 1995.
- Forage Research at Iowa State University: An Overview. Forage-Livestock Systems Seminar, University of Missouri, Columbia, MO. October 2, 1995.
- Alfalfa Quality Testing. Alfalfa Clinic. Iowa State University Extension, Ames, IA. September 4 1996.
- Forages: CD-ROM Companion. Iowa State University Press, Ames, IA. December 17, 1996.
- Growing Alfalfa in Iowa. Iowa State University Extension Workshop, Ames, IA. June 19, 1997.
- Forage Management Research at Iowa State University. Four-State Forage-Livestock Meeting, University of Nebraska, Lincoln, NE. August 14, 1997.
- Master of Science in Agronomy Professional Degree Program Update. Baker Council Meeting, Iowa State University, Ames, IA. September 19, 1997.
- Introduction to the Master of Science in Agronomy Professional Degree Program. Student Orientation Program, Iowa State University, Ames, IA. August 19, 1998.
- Master of Science in Agronomy Professional Degree Program Update. Baker Council Meeting, Iowa State University, Ames, IA. September 11, 1998.
- The Agronomy M.S. Distance Education Program. Osborn Research Club, Iowa State University, October 11, 1999.
- Biomass Cropping Systems Research. Chariton Valley Biomass Partners Meeting, West Des Moines, IA, January 26, 2000.
- Introduction to the Master of Science in Agronomy Professional Degree Program. Student Orientation Program, Iowa State University, Ames, IA. August 14, 2000.
- Delivering Courses at a Distance: The Master of Science in Agronomy. Design of On-line Courses Workshop, Iowa State University, August 14, 2000.
- An Overview of the Master of Science in Agronomy Distance Education Program. International Higher Education Loan Program Seminar, Iowa State University, September 15, 2000.
- Multiplying Success - The Crop Advisor Institute. Fathom Marketing Workshop, Continuing Education and Communications, Iowa State University, Ames, IA. June 7, 2001.
- Working with your program of study (POS) committee. Agronomy Graduate Club Panel Discussion, Iowa State University, Ames, IA. October 5, 2001.
- The Iowa State Master of Science in Agronomy Distance Education Program. International Higher Education Loan Program Seminar, Iowa State University, November 2, 2001.
- Continuing Education In Agronomy. Pioneer Hi-Bred International, Des Moines, IA. February 27, 2002.
- Master of Science in Agronomy Professional Degree Program Update. Baker Council Meeting, Iowa State University, Ames, IA. March 26, 2002.
- Design and Evaluation of Asynchronously Delivered Courses. Asynchronous Learning Academy, College of Agriculture, Iowa State University, Ames, IA. April 26, 2002.
- Master of Science in Agronomy Distance Education Program. Brenton Center for Agricultural Instruction & Technology, University of Missouri Delegation, Iowa State University, Ames, IA. May 21, 2002.
- Master of Science in Agronomy Distance Education Program. Brenton Center for Agricultural Instruction & Technology, FIPSE Delegation, Iowa State University, Ames, IA. October 11, 2002.
- Creating Interactives with Excel. Asynchronous Learning Academy, College of Agriculture, Iowa State University, Ames, IA. January 27, 2003.
- From Spreadsheets to Interactives. Asynchronous Learning Academy, College of Agriculture, Iowa State University, Ames, IA. February 25, 2003.
- Master of Science in Agronomy Professional Degree Program Update. Baker Council Meeting, Iowa State University, Ames, IA. March 25, 2003.

- Coupled Biological and Physical Systems Panel. Environmental Research Frontiers 2003-2012: Shaping the ISU Agenda, A Workshop on Complexity in the Environment. Iowa State Center, Ames, IA. July 16, 2003.
- Biomass Production. Biobasics Course: Understanding Issues and Opportunities for Each Link of the Value Chain. Bioconference, Iowa State University, University Extension, Iowa State Center, Ames, IA. March 8, 2004.
- Analysis of Multiple Environment Experiments. Practical Statistics Seminar Series. Graduate Student Horticulture Society. Iowa State University, Ames, IA. March 23, 2004.
- Endowment Impacts: Professional/Off-Campus Graduate Programs. Baker Council Meeting, Iowa State University, Ames, IA. March 30, 2004.
- Spatial and Temporal Diversity in Iowa Cropping Systems (poster presentation). Water Quality Initiative Symposium, College of Agriculture, Iowa State University, August 9, 2004.
- Forage Analysis by NIRS. Nutrition Journal Club, Department of Animal Sciences, Iowa State University. September 15, 2004.
- Growing Kura Clover Forage in Iowa. Grower Workshop: Using kura clover living mulch systems for grain crop production, North Iowa Area Community College, Mason City, IA. January 26, 2005.
- Kenaf Fiber Production. AMRCC Biomass Working Group, Old Glove Factory, Grinnell, IA. March 30, 2005.
- Fertilizing Stockpiled Tall Fescue with HLF-6 Improves Yield and Quality. Technology & Engineering Center, Ajinomoto USA, Inc. Eddyville, IA. August 16, 2005.
- Statistical Considerations for Publishing. Publishing Research Results Workshop, Interdepartmental Plant Physiology Major, Iowa State University, October 5, 2005.
- Biomass Cropping Systems: Alternative Crops and Cultural Practices, British Petroleum Bioeconomy Meeting. Iowa State University, Ames, August 29, 2006.
- Biomass Cropping Systems: Alternative Crops and Cultural Practices, Archer Daniels Midland Bioeconomy Meeting. Iowa State University, Ames, September 7, 2006.
- Biomass Cropping Systems. Organic Agriculture Development Association, North Korean Delegation, Iowa State University, Ames, IA. October 13, 2006.
- Biomass Production: How Do We Develop a Reliable Supply of Biomass Feedstock? A Call to Action Summit: Ensuring Iowa's Leadership in the Bioeconomy, Iowa State University, Ames, IA. November 28, 2006.
- New Lignocellulose Crop Alternatives. Pioneer Bioeconomy Meeting, Iowa State University, Ames, IA. December 18, 2006.
- Biomass Cropping Systems: Alternative Crops and Cultural Practices. ICM Bioeconomy Meeting. Ames, IA. December 19, 2006.
- Biomass Cropping Systems: Alternative Crops and Cultural Practices. College of Agriculture Biomass Meeting. Ames, IA. January 22, 2007.
- Challenges Associated with Growing Energy Crops. British Petroleum Bioeconomy Meeting. Iowa State University, Ames, February 8, 2007.
- The Iowa State Master of Science in Agronomy Distance Education Program. International Agronomists, Pioneer Hi-Bred International, Ames, IA. July 10, 2007.
- Biomass Cropping Systems: Alternative Crops and Cultural Practices. Crop Production and Protection Professional Development program. Iowa State University Extension, Ames, IA. March 27, 2008.
- Temporal and Spatial Variation in Cropping Systems. Farm of the Future Meeting, Deere & Company, Moline Technology Innovation Center. July 17, 2008.
- Biorenewable Energy: Bioenergy Crops and Cropping Systems in Iowa. Argentine Agronomists. Iowa State University Extension, Ames, IA. August 22, 2008.
- Producing a Stable Supply of Biomass Feedstock. Biofuels Producer Workshop, Iowa Water Center, Iowa State University, Ames, IA. September 10, 2008.
- On-Farm Research: Planning an Experiment. On-Farm Research Conference. Iowa State University Extension, Ames, IA. December 18, 2008.
- Forages as a Biomass Crop. 2009 Alfalfa Workshop – Making Every \$\$ Count. University of Illinois Extension. Webinar. February 9, 2009.
- Biomass Production: Potential and Challenges (with Matt Liebman). Intensive Program in Biorenewables. Bioeconomy Institute. Iowa State University, Ames, IA. June 10, 2009.
- Biomass Energy Crops. Sundrop Fuels, Inc. Bioeconomy Institute. Iowa State University, Ames, August 21, 2009.
- Biorenewable Energy: Bioenergy Crops and Cropping Systems in Iowa. Argentine Agronomists. Iowa State University Extension, Ames, IA. August 28, 2009.
- The Agronomy MS Distance Education Program. Syngenta, Slater, IA, September 16, 2009.

- The Agronomy MS Distance Education Program. Dow AgroSciences, Indianapolis, IN, September 25, 2009.
- Biorenewable Energy: Alternative Uses of Forages. Annual Conference, Iowa Forage and Grassland Council, Des Moines, IA, November 24, 2009.
- Sustainable Cropping Systems for Harvesting Corn Stover for Biomass. Sun Grant Annual Meeting, Reno, NV, January 12, 2010.
- An Overview of Master of Science in Agronomy DE Program. Monsanto-ISU Relationship Meeting, Ames, IA, Wednesday, February 17, 2010.
- Biorenewable Energy: Bioenergy Crops and Cropping Systems in Iowa. Argentine Agronomists. Iowa State University Extension, Ames, IA. August 27, 2010.
- Bioenergy Crops and Cropping Systems in Iowa. Argentine No-Till Farmers Association. Iowa State University Extension, Ames, IA. August 30, 2010.
- Biomass Cropping Systems: Alternative Crops and Cultural Practices. Agronomy and Horticulture 2010 Fall Seminar Series, University of Nebraska, Lincoln, NE. November 12, 2010.
- Biomass Crops and Cropping Systems. Midwest Biomass Conference, Dubuque, IA. November 17, 2010.
- Sustainable Cropping Systems for Harvesting Corn Stover for Biomass. North Central Regional Sun Grant Center Annual Meeting, Orlando, FL. January 12, 2011.
- Bioenergy Cropping Systems. Pioneer Hi-Bred Meeting, Bioeconomy Institute, Iowa State University, Ames, IA. March 30, 2011.
- CenUSA BioENERGY Project. Dupont Chemical Meeting, Bioeconomy Institute, Iowa State University, Ames, IA. April 20, 2011.
- Affiliate Opportunities. Bioeconomy Institute Annual Affiliate Meeting, Iowa State University, Ames, IA. April 28, 2011
- Twelve Years of Experience In Post-Graduate Distance Education. Syngenta Academy for Continuing Education in Plant Breeding Meeting. Iowa State University, Ames, IA. April 28, 2011.
- Preparing Multi-Institutional Proposals for USDA AFRI Challenge Areas (panel presentation with Lois Wright Morton, John Patience, Alison Robertson). College of Agriculture and Life Sciences Workshop. Ames, IA. May 9, 2011.
- Sustainable Corn Biomass Production Systems. DuPont Meeting, Bioeconomy Institute, Iowa State University, Ames, IA. June 21, 2011.
- Advances in Bioenergy Production. Argentine No-Till Farmers Association. Iowa State University Extension, Ames, IA. August 24, 2011.
- Sustainable Cropping Systems for Harvesting Corn Stover for Biomass. North Central Regional Sun Grant Center Annual Meeting, Indianapolis, IN. January 10, 2012.
- Sustainable Cropping Systems for Harvesting Corn Stover for Biomass. Agricultural and Biosystems Engineering Graduate Organization Seminar Series, Iowa State University, Ames, IA. February 17, 2012.
- Sustainable Cropping Systems for Harvesting Corn Stover for Biomass. Iowa Learning Farms Webinar, Iowa State University, Ames, IA. June 20, 2012.
- An Overview of CenUSA Bioenergy (Webcast), CenUSA Intern Team Meeting, Ames, IA, July 25, 2012.
- An Overview of CenUSA Bioenergy, Farm Bureau Meeting, September 17, 2012.
- An Overview of CenUSA Bioenergy, Phillips 66 Workshop, Bioeconomy Institute, Iowa State University, Ames, IA. September 25, 2012.
- CenUSA USDA NIFA Bioenergy CAP Project - Preparing the Midwest to Supply biomass Feedstocks for Thermochemical Processing. Roadmap to Commercialize Thermochemical Biofuels and Bio-products Processing in the Midwest Workshop, ISU Bioeconomy Institute, CenUSA Bioenergy, USDA Central-East Regional Biomass Research Center, Iowa EPSCoR, Iowa Energy Center, Ames, IA. December 11, 2012.
- Sustainable Cropping Systems for Harvesting Corn Stover for Biomass. Soil and Water Conservation Club, Iowa State University, Ames, IA. March 25, 2013.
- An Overview of CenUSA Bioenergy, University Corporation for Atmospheric Research and National Center for Atmospheric Research briefing, Iowa State University, Ames, IA. November 20, 2013.
- Nutrient Management PLUS with Perennial Grass STRIPS. Integrated Crop Management Conference, Iowa State University Extension, Ames, IA. December 3, 2014.
- What is the most realistic scenario for the adoption of switchgrass (or other perennials) on marginal land, and what policy changes would be needed to make this happen? CenUSA Panel Discussion Webcast, January 30, 2015.
- An Overview of CenUSA Bioenergy, French Consulate Attaché Briefing, Iowa State University, Ames, IA. May 7, 2015.

Going the Distance: Lessons in Teaching and Learning. Natural Resources, Ecology and Management. Iowa State University. February 22, 2016.

Distance Education/Online Courses. Tuskegee Faculty Visit, College of Agriculture and Life Sciences, Ames, IA. February 21-24, 2016.

Overview of CenUSA (A NIFA CAP Project). GAO Review. Bioeconomy Institute, Iowa State University, Ames, IA. April 13, 2016.

Iowa Crop Production: Land Use and Developing Trends. Northcrest Community Enrichment Program, Ames, IA. May 20, 2016.

CenUSA: Sustainable Production and Distribution of Bioenergy for the Central USA. CenUSA /CBiRC REU Research Seminar, Iowa State University, Ames, IA. June 13, 2016.

Iowa Crop Production: Land Use and Developing Trends. Green Hills Retirement Community, Ames, IA. October 5, 2016.

Sustainable Intensification of Crop Production Using Perennial Cover to Enhance Ecosystem Services. Agronomy Department Seminar, Iowa State University, Ames, IA. September 7, 2017.

Growing Row Crops with Perennial Groundcover. Agronomy Leadership Conference, Corteva, online conference. January 27, 2021.

Panelist, Perennial Groundcover Farmer Workshop, Iowa State University, Online, February 2, 2021.

Workshops:

Analysis of Multi-Environment Field Trials. Croplan Genetics, Fort Dodge, IA. Jul 19, 2007.

Statistics Workshop – Introduction to Statistics and Experimental Design. Noble Foundation, Ardmore, OK. December 17, 2012.

Statistics Workshop – Statistical Concepts and Tools. Noble Foundation, Ardmore, OK. December 18, 2012.

Statistics Workshop – Experimental Designs. Noble Foundation, Ardmore, OK. December 19, 2012.

Statistics Workshop – Review of Statistical Concepts. Noble Foundation, Ardmore, OK. December 5, 2016.

Statistics Workshop – Basic Statistical Methods. Noble Foundation, Ardmore, OK. December 5, 2016.

Statistics Workshop – Common Experimental Designs. Noble Foundation, Ardmore, OK. December 6, 2016.

Statistics Workshop – Less Common Experimental Designs (and how to analyze results from them). Noble Foundation, Ardmore, OK. December 6, 2016.

Guest Lectures:

Forage Analysis by NIRS, Animal Science 924 guest lecture, University of Nebraska, Lincoln, March 12, 1990.

Grazing systems. Agronomy 340 guest lecture, University of Nebraska, Lincoln, March 29, 1993.

Publishing in Agronomy Journal. Horticulture 529x guest lecture. Iowa State University, Ames, IA. March 31, 1994.

Publishing in Agronomy Journal. Horticulture 529 guest lecture. Iowa State University, Ames, IA. April 11, 1995.

Publishing in Agronomy Journal. Horticulture 529 guest lecture. Iowa State University, Ames, IA. April 4, 1996.

Publishing in Agronomy Journal. Horticulture 529 guest lecture. Iowa State University, Ames, IA. April 3, 1997.

Forage Preservation. Agronomy 334 guest lecture. Iowa State University, Ames, IA, April 18, 1997.

Publishing in Agronomy Journal. Horticulture 529 guest lecture. Iowa State University, Ames, IA. March 23, 1999.

Pasture Management. Agronomy 494X guest lecture. Iowa State University, Ames, IA, January 31, 2000.

Publishing in Agronomy Journal. Horticulture 529 guest lecture. Iowa State University, Ames, IA. March 21, 2000.

Agricultural Diversity in Costa Rica. FSHN 496A guest lecture. Iowa State University, Ames, IA. April 4, 2001.

Publishing in Plant Science Journals - An Editor's Perspective. Horticulture 529 guest lecture/panel discussion. Iowa State University, Ames, IA. April 2, 2002.

Publishing in Plant Science Journals - An Editor's Perspective. Horticulture 529 guest lecture/panel discussion. Iowa State University, Ames, IA. April 1, 2003.

Publishing in Plant Science Journals - A Technical Editor's Perspective. Horticulture 529 guest lecture/panel discussion. Iowa State University, Ames, IA. March 23, 2004.

- Spatial Relationships in Species Diversity of Iowa Pastures. HCS612: Principles of Grassland Management guest lecture, Ohio State University, Columbus, OH. November 18, 2004.
- Lifelong Learning Opportunities. Agronomy 410 guest lecture. Iowa State University, Ames, IA. April 12, 2005.
- Lifelong Learning Opportunities. Agronomy 410 guest lecture. Iowa State University, Ames, IA. November 1, 2005.
- Lifelong Learning Opportunities. Agronomy 410 guest lecture. Iowa State University, Ames, IA. April 11, 2006.
- Lifelong Learning Opportunities. Agronomy 410 guest lecture. Iowa State University, Ames, IA. October 10, 2006.
- Statistical Considerations for the Creative Component. Agronomy 594 guest lecture. Iowa State University, Ames, IA. July 25, 2007.
- The Value of Belonging to a Professional Society. Agronomy 410 guest lecture. Iowa State University, Ames, IA. September 11, 2007.
- Lifelong Learning Opportunities. Agronomy 410 guest lecture. Iowa State University, Ames, IA. October 2, 2007.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. March 11, 2008.
- Publishing in Plant Science Journals - A Technical Editor's Perspective. Horticulture 529 guest lecture/panel discussion. Iowa State University, Ames, IA. March 25, 2008.
- Statistical Considerations for the Creative Component. Agronomy 594 guest lecture. Iowa State University, Ames, IA. July 24, 2008.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. September 16, 2008.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. January 20, 2009.
- Introduction to APSIM: Agricultural Production Systems sIMulator. Agronomy 594 guest lecture. Iowa State University, Ames, IA. July 21, 2009.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. September 1, 2009.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. January 26, 2010.
- Publishing in Plant Science Journals - A Technical Editor's Perspective. Horticulture 529 guest lecture/panel discussion. Iowa State University, Ames, IA. April 13, 2010.
- Introduction to APSIM: Agricultural Production Systems sIMulator. Agronomy 594 guest lecture. Iowa State University, Ames, IA. August 3, 2010.
- Statistical Considerations for the Creative Component. Agronomy 594 guest lecture. Iowa State University, Ames, IA. August 6, 2010.
- Introduction to APSIM: Agricultural Production Systems sIMulator. Agronomy 594 guest lecture. Iowa State University, Ames, IA. July 19, 2011.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. October 9, 2012.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. March 12, 2013.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. February 18, 2014.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. November 18, 2014.
- Preparing Publishable Thesis Chapters – An Editor's Perspective. GRSTX 529 guest lecture/panel discussion. Iowa State University, Ames, IA. December 11, 2014.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. April 7, 2015.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. December 1, 2015.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. March 8, 2016.
- Lifelong Learning. Agronomy 410 guest lecture. Iowa State University, Ames, IA. November 29, 2016.
- Preparing Publishable Thesis Chapters – An Editor's Perspective on Editing and Reviewing Manuscripts for Refereed Journals. GRSTX 529 guest lecture/panel discussion. Iowa State University, Ames, IA. April 19, 2017.
- Publishing Experiences as an Author, Reviewer and Editor. GRSTX 529 guest lecture/panel discussion. Iowa State University, Ames, IA. April 3, 2018.
- An Overview of Crop Production and Physiology. New Agronomy Graduate Student Orientation. Iowa State University, Ames, IA. August 16, 2018.
- Distance Education. Horticulture 698 (Horticulture Teaching Practicum) guest lecture. Iowa State University, Ames, IA. April 2, 2019.
- Publishing Experiences as an Author, Reviewer and Editor. GRST 536X guest lecture/panel discussion. Iowa State University, Ames, IA. December 12, 2019.
- Going the Distance. Horticulture 698 (Horticulture Teaching Practicum) guest lecture. Iowa State University, Ames, IA. March 31, 2020.

Past, Present, & Future of Agronomy. Agronomy 110 (Professional Development in Agronomy) guest panelist. Iowa State University, Ames, IA. April 1, 2021.

Sustainable Intensification of Crop Production. Agronomy 594 (Agronomy MS Practicum) guest lecture. Iowa State University, Ames, IA. July 14, 2021.

Sustainable Intensification of Crop Production with Perennial Groundcover. Agronomy 410 (Agronomy Senior Seminar) guest lecture. Iowa State University, Ames, IA. March 29, 2022.

Research Ethics. Panel discussion, Research Experiences for Teachers Program. Iowa State University, Ames, IA. June 20, 2022.

Field Day Presentations:

Ammoniation of forages and crop residues. Dixon Springs Agricultural Center Beef Cattle and Forage Day, June 28, 1984.

Hay preservation. Illinois Forage and Grassland Council Forage Expo, Okawville, IL, July 12, 1984.

Forage testing and interpretation. Henry County Conservation Tour, August 22, 1984.

Wheat-vetch mixtures for forage. UIUC Agronomy Day, June 20, 1985.

Hay preservatives and drying agents. Illinois Forage and Grassland Council Forage Expo, Jerseyville, IL, July 17, 1985.

Hay preservatives and drying agents. Dixon Springs Agricultural Center Agronomy Day, August 1, 1985.

Set aside management. UIUC Agronomy Day, September 11, 1986.

Hay Preservation. UIUC Agronomy Day, June 16, 1987.

Dairy forage feeding systems. Central Alfalfa Improvement Conference Tour, Urbana, IL, June 23, 1987.

Winter annual forages. NMSU Field Day, Clovis, NM, May 27, 1988.

Eastern gamagrass. Andrew Jackson Demonstration Farm Summer Field Day. Andrew, IA, June 30, 1994.

Forage production research. Iowa Lakes Controlled Grazing Project Tour. ISU Agronomy Farm, Ames, IA, August 31, 1994.

Grass-legume mixtures. Agronomy Day '95. ISU Agronomy Farm, Ames, IA, September 14, 1995.

Growing kenaf in Iowa. Kenaf field tour. ISU Agronomy Farm, Ames, IA, September 13, 2004.

Biobased Field Research Tour, Biobased Industry Outlook Conference, ISU Sorenson Research Farm, Ames, IA, August 30, 2005.

Biomass Crops and Cropping Systems Field Tour. Biobased Industry Outlook Conference, ISU Sorenson Research Farm, Ames, IA, August 29, 2006.

Biomass Cropping Systems Field Tour. Natural Resources Conservation Service Bioenergy Crop Tour, ISU Sorenson Research Farm, Ames, IA, August 8, 2007.

Biomass Research Field Tour. Agronomy 594, Workshop in Agronomy, ISU Sorenson Research Farm, Ames, IA, July 22, 2008.

Biofuels, Bioenergy, and Bioproducts from Sustainable Agricultural and Forest Crops. Pre-conference tour, Short Rotation Crops International Conference, ISU Sorenson Research Farm, Ames, IA, August 18, 2008.

Biomass Cropping Systems. Kellogg Biological Station Bioenergy Tour, ISU Sorenson Research Farm, Ames, IA, August 26, 2008.

Annual Biomass Crop Production. Biomass Crops and Cropping Systems Tour, 2008 Biobased Industry Outlook Conference, Ames, IA, September 8, 2008.

BioCentury Research Farm and Field Plot Tours: Herbaceous Biomass Crops Research. Intensive Program in Biorenewables. Bioeconomy Institute. Iowa State University, Ames, IA. June 10, 2009.

Biomass Research. NC7 Regional Technical Advisory Committee Meeting, North Central Regional Plant Introduction Station, Iowa State University, Ames, IA. July 1-2, 2009.

Biofuels Cropping Systems: Agronomic and Environmental Issues. Agriculture Based Renewable Energy Professional Development Workshop. Uthe and South Reynoldson Research Farms, June 22, 2011.

BioCentury Research Farm and Sorenson Field Plot Tours. 3rd Annual Biofuels: Science & Sustainability Tour, Iowa State University Bioeconomy Institute and College of Agriculture and Life Sciences. August 17, 2011.

BioCentury Research Farm and Sorenson Field Plot Tours: Bioenergy Crops and Cropping Systems. Argentine Agronomists. Iowa State University Extension, Ames, IA. August 24, 2011.

Uthe Farm Agro-Ecosystem Studies. Korean RDA Delegation, USDA National Laboratory for Agriculture and the Environment (NLAE), Uthe Research Farm. June 20, 2012.

BioCentury Research Farm and Sorenson Field Plot Tours. 4th Annual Biofuels: Science & Sustainability Tour Iowa State University Bioeconomy Institute and College of Agriculture and Life Sciences. August 13-16, 2012.

- Cover Crop Strategies. Cropping Systems Field Day. Corteva Agriscience, Johnston, IA. July 12, 2019.
- Water Quality Plot Cover Crop Treatments – Perennial Groundcover. ISU Northeast Research Farm, Nashua, IA. August 3, 2021.
- Shade Avoidance in Perennial Groundcover Crop Production. Transfer Student “Field Trip”, Agronomy Department, Iowa State University, Ames, IA. November 4, 2021

Grants, Contracts, and Gifts Received

- Moore, K. J. 1983. Structure and utilization of forage fiber. \$9,000. Campus Research Board, University of Illinois, Urbana, IL.
- Moore, K. J. 1983. Evaluation of an 80:20 blend of propionic and acetic acid as a hay preservative. \$1200. American Farm Products, Inc., Ypsilanti, MI.
- Moore, K. J and E. H. Jaster. Fermentation characteristics and feeding value of enzyme-treated alfalfa haylage. 1984. \$7,000. American Farm Products, Inc., Ypsilanti, MI.
- Moore, K. J. 1984. Cooperative cool-season forage grass PGR research. \$1000. Monsanto Agricultural Research Co., St. Louis, MO.
- Moore, K. J and E. H. Jaster. 1984. Hay preservation and desiccation with sorbic acid. \$6,000. Monsanto Agricultural Research Co., St. Louis, MO.
- Graffis, D. W., K. J. Moore and W. H. Kirby. 1985. Adaptation of near infrared reflectance spectrophotometer for mold detection in hay in Illinois. \$72,867. USDA, Agricultural Marketing Service, Washington, DC.
- Moore, K. J. 1985. Chemical regulation of tall fescue growth and quality with Amidochlor. \$8,250. Monsanto Agricultural Research Co., St. Louis, MO.
- Moore, K. J. 1985. Chemical regulation of composition of alfalfa-grass mixtures with Mefluidide. \$2000. 3M Co., St. Paul, MN.
- Moore, K. J. and E. H. Jaster. 1985. Fermentation and storage losses of untreated and enzyme-treated alfalfa haylage. \$12,000. American Farm Products, Inc., Ypsilanti, MI.
- Moore, K. J. 1986. Feasibility of low-rate, early-application technology for chemical regulation of tall fescue growth and quality with Amidochlor. \$5,000. Monsanto Agricultural Research Co., St. Louis, MO.
- Moore, K. J. 1986. Chemical regulation of botanical composition and quality of grass-legume mixtures with ACP1900. \$5000. American Cyanamid Co., Princeton, NJ.
- Moore, K. J and E. H. Jaster. 1987. Hay preservation with Mertect. \$2,220. Merck & Co., Rahway, NJ.
- Jaster, E. H. and K. J. Moore. 1987. Quality, fermentation and utilization of alfalfa haylage treated with a microbial inoculant. \$12,000. Bio Techniques Laboratories, Inc., Redmond, WA.
- Smith, R. M., P. D. George, K. J. Moore, G. C. Petersen and G. M. Zinn. 1987. The interaction between copper and selenium in growing beef steers grazing *Acremonium coenophialum* infected and non-infected tall fescue. \$21,850. Illinois Department of Agriculture, Springfield, IL.
- Moore, K. J. and K. P. Vogel. 1989. Determining quality in forages of the Great Plains using Near Infrared Reflectance Spectroscopy. \$85,803. Bran+Luebbe Analyzing Technologies, Inc., Elmsford, NY.
- Moore, K. J. and J. F. Pedersen. 1990. Management of forage sorghum for nitrogen removal and prevention of groundwater contamination. \$49,500. USDA/SAES Midwest Water Quality Research Initiative.
- Moser, L. E., Dennis Bauer, K. P. Vogel, S. S. Waller, K. J. Moore, I. G. Rush, and G. F. Pfeiffer. 1990. Grazing evaluation of cool-season grasses in the Nebraska Sandhills. \$19,950. Sampson Range and Pasture Management Endowment, University of Nebraska.
- Vogel, K. P. and K. J. Moore. 1990. Genetic variation among switchgrass for agronomic traits, forage quality and biomass fuel production. \$106,700. U.S. Department of Energy.
- Britton, R. A., R. A. Stock, J. F. Pedersen, K. J. Moore, and D. J. Andrews. 1992. Feed quality improvement of sorghum grain. \$20,000. Interdisciplinary Research Grant, University of Nebraska.
- Grant, R. J. and K. J. Moore. 1991. Modeling in vitro fiber digestion at pH levels representative of the ruminant digestive system. \$8,500. Layman Trust.
- Britton, R. A., R. A. Stock, J. F. Pedersen, K. J. Moore. 1992. Enhancing sorghum starch utilization by genetic selection. \$18,000. Nebraska Grain Sorghum Board.
- Moore, K. J., J. R. George, S. K. Barnhart, and M. Ghaffarzadeh. 1994. Yield and quality of oats grown with berseem clover or sweetclover as an early season forage crop and as a stockpiled forage. \$16,000. Leopold Center for Sustainable Agriculture.
- George, J. R., D. R. Buxton, S. K. Barnhart, and K. J. Moore. 1994. Animal and plant responses for steers grazing switchgrass and big bluestem pastures. \$70,172. Leopold Center for Sustainable Agriculture.

- Barnhart, S. K., and K. J. Moore. 1994. Iowa pasture management guide. \$16,000. Leopold Center for Sustainable Agriculture.
- Brummer, E.C. and K. Moore. 1995. Genetic improvement of tropical forage grasses for sustainable pasture production. \$2,000. Council on International Programs.
- Brummer, E.C. and K. Moore. 1995. Improving forage quality in eastern gamagrass using molecular markers. \$7,500. University Research Grant, Fall 1995.
- Harmoney, K. R., K. J. Moore, E. C. Brummer, J. R. George, and S. F. Barnhart. 1995. Establishment and persistence of legumes on sites varying in aspect, landscape position, and soil type. \$58,776. Leopold Center for Sustainable Agriculture.
- Brummer, E. C., and K. J. Moore. 1996. Genetic improvement of tropical forage grasses for sustainable pasture production. \$2,000. Dean of Agriculture's International Competitiveness and Sustainability Grant, Iowa State University.
- Holtkamp, J. M., and K. J. Moore. 1996. Development of seminar and study abroad course. \$2,000. Group Study Abroad Program, Iowa State University.
- Moore, K. J. 1997. Foreign travel grant. \$1,342. Iowa State University Office of International Students and Scholars.
- Barker, D. J., and K. J. Moore. 1997. Pasture Quality, productivity, and biodiversity. \$NZ 24,000. New Zealand Pastoral Agriculture Research Institute, Ltd.
- Brummer, E. C., L. Burras, and K. J. Moore. 1997. Impact of soil characteristics and genetic variability on biomass production. \$117,188. Chariton Valley Resource Conservation and Development, Inc.
- Brummer, E. C. and K. J. Moore. 1997. Evaluation of reed canarygrass germplasm for biofuel traits. \$20,140. USDA National Plant Germplasm System, Forage and Turf Grass Germplasm Committee.
- Knapp, A. D., E. C. Brummer, and K. J. Moore. 1997. Eastern gamagrass seed dormancy. \$34,400. Leopold Center for Sustainable Agriculture.
- Moore, Ken, Dick Shibles, Lee Burras, Arden Campbell, Rick Cruse, Elaine Hall, Randy Killorn, Allen Knapp, Mike Owen, Elwynn Taylor. 1997. Master of science in agronomy professional degree program. \$209,886. Raymond and Mary Baker Trust.
- Brummer, E. C., and K. J. Moore. 1998. Evaluation of reed canarygrass germplasm for biofuel traits. \$18,000. National Plant Germplasm System.
- Moore, K. J., and D. J. Barker. 1998. Site-specific pasture management. \$2,000. Dean of Agriculture's International Competitiveness and Sustainability Grant, Iowa State University.
- Moore, Ken, Mary Wiedenhoeft, Lee Burras, and Charlie Brummer. 1998. Site-specific pasture management using a spatially-oriented database. \$3,000. Iowa Beef Center.
- Brummer, E. Charles, and Kenneth J. Moore. 1999. A simple method to increase alfalfa yields in the establishment year. \$6,000. Leopold Center for Sustainable Agriculture.
- Moore, K. J., B. A. Brueland, M. H. Wiedenhoeft, J. R. George, E. C. Brummer, J. R. Russell, and S. K. Barnhart. 1999. Complementary grazing systems for beef cattle production. \$61,983. Leopold Center for Sustainable Agriculture.
- Moore, K. J., A. D. Knapp, S. K. Barnhart, E. C. Brummer, and M. Z. Liebman. 1999. Cropping systems research for biomass energy production. \$123,000. Chariton Valley Resource Conservation and Development, Inc.
- Moore, K. J., M. H. Wiedenhoeft, A. D. Knapp, C. L. Burras, E. C. Brummer, J. R. Russell, and S. K. Barnhart 2000. Improving productivity of warm-season pastures by interseeding legumes. \$73,983. Leopold Center for Sustainable Agriculture.
- Brummer, E. C., J. J. Volenec, M. Paul Scott, and K. J. Moore. 2000. The genetic basis of winter hardiness in alfalfa. \$549,816. USDA/CSREES Initiative for Future Agriculture and Food Systems.
- Moore, K. J., M. H. Wiedenhoeft, L. R. Gibson, and S. K. Barnhart. 2001. Forage harvester. \$47,795. Agronomy Endowment Equipment Grant.
- Edwards, W. M. and K. J. Moore. 2001. Study Abroad Program Grant. \$1,200. Iowa State University.
- Moore, K. J. 2001. Foreign travel grant. \$782. Iowa State University Office of International Students and Scholars.
- Moore, Ken, Arden Campbell, Rick Cruse, Dale Farnham, Allen Knapp, Deborah Muenchrath, Elwynn Taylor, Mark Westgate. 2001. Master of science in agronomy distance education program renewal. \$446,812. Agronomy Endowment Fund.
- Wiedenhoeft, M. H., and K. J. Moore. 2001. Portable computer laboratory. \$60,311. Agronomy Endowment Fund.
- Moore, K. J., R. L. Hintz, S. J. Birrell, E. C. Brummer. 2002. Site-specific management for biomass production. \$57,673. Chariton Valley Resource Conservation and Development, Inc.

- Moore, K. J., R. L. Hintz, M. L. Braster. 2002. Fuel Quality assessment of cool-season grasslands in southern Iowa. \$52,696. Chariton Valley Resource Conservation and Development, Inc.
- Moore, K. J., M. H. Wiedenhoef, L. R. Gibson, R. Mullen. 2002. Instructional technology laboratory. \$19,000. Excellence in Agronomic Education and Extension Project Proposal, Agronomy Endowment Fund.
- Richard, T. L., K. J. Moore, B. H. Shanks, M. Kuo. 2002. Corn stover recovery for chemicals and fiber composites. \$145,000. Biotechnology Byproducts Consortium.
- Moore, K. J., and R. L. Hintz. 2003. Evaluating the effects of high lysine fertilizer (hlf-6) on the yield, quality, and chemical analysis of stockpiled tall fescue. \$19,758. Ajinomoto USA, Inc.
- Moore, K. J. 2003. Foreign travel grant. \$688. Iowa State University Office of International Students and Scholars.
- Moore, K. J. 2004. An International travel abroad experience for agronomy graduate students. \$7,200. Excellence in Agronomic Education and Extension Project Proposal, Agronomy Endowment Fund.
- Moore, K. J., R. L. Hintz. 2004. Evaluating The effects of Nitamin 30L (GP 4350 Controlled Release Liquid Fertilizer) on the yield and quality of tall fescue. \$47,916. Georgia-Pacific Resins, Inc. Georgia-Pacific Corporation.
- Richard, T. L. and K.J. Moore. 2004. Ensiled storage and conversion of biotechnology byproducts. \$99,100. Iowa Biotechnology Byproducts Consortium.
- Richard, T. L. and K. J. Moore. 2004. Ensiled pretreatment and bioconversion of corn stover and swine manure. \$25,400. Iowa Energy Center.
- Moore, K. J., R. L. Hintz. 2004. Evaluating The Effects of high lysine fertilizer (HLF-6) (6-0-0-6) on the yield, quality and chemical analysis of stockpiled tall fescue. \$24,071. Ajinomoto USA, Inc.
- Anex, Robert P., Kenneth J. Moore. 2005. Evaluation of scenarios for the industrial use of sweet sorghum. \$110,573. Iowa Energy Center.
- Hall, Marvin, Ken Moore, Mary Wiedenhoef, Jeff Volenec, Craig Sheaffer, Rich Leap, Ken Albrecht, and Rama Radhakrishna. 2005. Development of interactive, computer-based teaching modules for undergraduate forage courses. \$365,009. USDA-CSREES Higher Education Challenge Grant.
- Moore, K. J., R. L. Hintz. 2005. Evaluating the effects of high lysine fertilizer (HLF-6) (6-0-0-6) on the yield, quality and chemical analysis of stockpiled tall fescue. \$24,420. Ajinomoto USA, Inc.
- Moore, Ken, Doug Stokke, Rob Anex, Mike Duffy, Robert Brown, and Jill Euken. 2005-07. Kenaf production, processing and utilization in Iowa. \$203,687. ISU Agronomy Endowment Fund.
- Richard, T. L., R. P. Anex, K. Lamkey, K. Shinnors, S. Birrell, R. Coors, K. J. Moore, R. Muck, P. Scott, J. Euken, and S Greenhaugh. 2005. Integrated feedstock supply systems for corn stover biomass. \$1,999,724. USDA-DOE Biomass R&D Program.
- Scott, Paul, Ken Moore, and Kendall Lamkey. 2005. Development of an assay to determine the bioavailability of lignocellulose in corn stover. \$57,625. ISU Agronomy Endowment Fund.
- Liebman, Matthew Z., Andrew H. Heggenstaller, Kenneth J. Moore, and Robert P. Anex. 2006. Development of sustainable biomass production systems through new crop rotations and the integration of perennial crops with advanced biofuel conversion technologies. \$27,836. Leopold Center for Sustainable Agriculture.
- Anex, Robert P., Robert C. Brown, Matthew Z. Liebman, and Kenneth J. Moore. 2006. Ecological intensification of the industrial bioeconomy: Sustainable biofuel production through the integration of perennial crops with advanced biomass conversion technologies. \$18,074. Center for Global and Regional Environmental Research, University of Iowa.
- Moore, K. J. 2007. Using association mapping to identify markers for cell wall constituents and biomass yield in alfalfa. \$45,000. University of Georgia (Subcontract, USDA-DOE Biomass Genomics).
- Liebman, Matthew Z., Robert P. Anex, Andrew H. Heggenstaller, and Kenneth J. Moore. 2007. Development of sustainable cropping systems for biofuel feedstock production and environmental protection. \$43,571. Leopold Center for Sustainable Agriculture.
- Liebman, Matthew Z., Robert P. Anex, and Kenneth J. Moore. 2007-08. Development of sustainable cropping systems for biofuel feedstock production and environmental protection. \$40,000. Plant Sciences Institute, Iowa State University.
- Moore, K. J. 2007-09. Sorghum Biomass Cropping Systems. \$60,531. Iowa Energy Center.
- Moore, Ken, Jeremy Singer, and Kendall Lamkey. Sustainable cropping systems for harvesting corn stover for biomass. 2007-10. \$728,074. SunGrant Initiative, US Department of Transportation.
- Moore, Ken. 2007-10. Switchgrass variety evaluation trial. \$19,318. Ceres, Inc.
- Moore, Ken. 2007-10. Evaluation of multiple plant species for biomass production in Iowa. \$41,188. Ceres, Inc.
- Moore, Ken. 2007-10. Cool season grass-legume study. \$17,703. Dow AgroSciences.

- Schulte, Lisa A., Ken Moore, Rick Hall, Arne Hallam, and Matt Helmers. 2007-10. Agronomic, environmental, and economic performance of alternative biomass cropping systems. \$136,737. College of Agriculture and Life Sciences, Iowa State University.
- Gibson, Lance, Ken Moore, and Pam White. 2008-11. Association genetics of β -glucan metabolism to enhance oat and barley germplasm for food and nutritional function. \$305,040. USDA-NRI.
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