

Brett H. Kirch

Education

D.V.M.	Iowa State University	Received: May, 2003
Ph.D.	University of Nebraska-Lincoln	Received: Aug., 1995
M.S.	Kansas State University	Received: May, 1989
B.S.	University of Nebraska-Lincoln	Received: May, 1984

Work Experience

Arkansas State University College of Veterinary Medicine – Jonesboro, AR– *Lead Anatomist and Teaching Associate Professor of Veterinary Anatomy* (06/26 to present)

Colorado State University - Fort Collins (10/08- 05/26)

Instructor and Advising – currently teaching multiple classes with emphasis in industry and pre-veterinary school preparation. Responsible for prospective student recruitment. Departmental representative for Food Animal Career Incentive Program and the Herd Health club.

Extension Youth Livestock and Horse Specialist - Responsible to provide leadership and to develop and administer youth extension education programs in the state of Colorado.

USDA-ARS – Forage Animal Production Research Unit – Lexington, KY – *Post-doctoral Research Associate* (8/05 – 9/08)

Research conducted on chronic laminitis in horses and cattle. Additional studies with fescue toxicosis are being carried on looking primarily at fat necrosis and Doppler-ultrasound imaging used for studying vascular changes in cattle. Directed changes to surgical and anesthesia techniques in biopsy techniques for harvesting vascular techniques in research.

Equine Medical and Surgical Associates - Associate Veterinarian - West Chester, PA (6/03 - 7/04) Associate in a three-doctor practice devoted to exclusively equine medicine.

Iowa State University Extension - NW Iowa (8/95 - 8/97)

Beef Field Specialist - Responsible to provide leadership and to conduct beef cattle and other species extension education programs for adult and youth audiences in NW Iowa.

Univ. of Nebraska Extension Service - Garden County (Summer 82-85, 8/89-8/90)

Extension Assistant - Responsible for assisting agent with 4-H and agricultural extension programs *Director of the Garden County 4-H Livestock Show* (1982-1997, 1999-2002)

Teaching Experience

Colorado State University (10/08 – Present)

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ANEQ 105 Introduction to Large Animal Anatomy (Spring, Fall, sessions 2021-Present) – Primary instructor for introductory class in anatomy to support the Animal Science curriculum. In addition, four to seven laboratories are taught to provide the skills to anatomical proficiency. Evaluations available upon request

ANEQ 551 Necropsy (Spring, Fall, and Summer sessions 2011-Present) – Primary instructor for necropsy, general pathology of disease and how it relates to post-mortem. In addition, two laboratories are taught to provide the skills to do a postmortem examination. Evaluations available upon request.

ANEQ 474 Swine Systems (Spring 2015-Fall 2025) – Instructor for the class in which is address nutrition, genetics, reproduction, health and general management of modern swine production. The laboratory addresses various businesses and activities in the swine industry.

ANEQ 293 Animal Sciences Career Exploration, (Fall 2020-Spring 2021) – Instructor for the class in which is address the discovery of potential career opportunities in the Animal industries and develops the skills of presentation and obtaining a position. Areas covered are resume, cover letter, job searching and professionalism in work and interviewing for positions.

ANEQ 103 Introduction to Animal Science (online) (Fall and Spring, 2019–present) – Strictly online format course for non-majors. Introduction to the livestock industries with an emphasis on food and fiber. Areas covered include product evaluation and factors influencing animal performance such as nutrition, genetics, management, and reproduction.

ANEQ 380 Companion Animal Science and Management (Spring and Summer sessions 2013-2015) – Primary instructor for this class which addresses the nutrition, genetics, reproduction, health, and general management of non-horse companion animals. The laboratory addresses various businesses and activities in the companion animal industry.

AGRI 300/500 Advanced Issues in Agriculture (Summer, Spring, and Fall 13 – Fall 18,) - Both online and classroom classes. Lectures and interactive discussions on various issue affecting the current agriculture industries.

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ANEQ 322 Pet Nutrition (Fall 2013 to 2016) – A class that teach is online and addresses the principals of companion animal nutrition to both students and professionals of the zoo and exotic industry.

ANEQ 323 Zoo Nutrition (Spring 2014) – Co-Teaching an online class emphasizing the principals of zoo and exotic animal nutrition.

ANEQ 384 Supervised Teaching (Spring 2011 to present) – Directing undergraduate teaching assistants.

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Teaching Experience –Guest lectures

ANeq 286 Livestock Practicum (Fall 2008 to Spring 2020) - Guest lectured on animal health practices and biosecurity in animal agricultural systems in addition to Pork Quality Assurance training. Lectures included hands on instruction in performing animal health assessment.

ANeq 102 Introduction to Equine Science (Spring and Fall 2009, to present) - Guest lecture about equine nutrition, forage management, and feeding strategies for all levels of horse production.

ANeq 472 Sheep systems (Spring 2012 to Spring 2025) - Guest lectured on sheep and goat diseases, zoonotic disease, and management of health programs.

ANeq 420 Ration Formulation (Fall 2023) - Guest lectured on the swine industry and the formulation of swine rations.

ANeq 345 Principles of Nutrition: Equine Applications (Fall 2014) - Guest lectured on forage quality and management of a forage nutritional program for horses.

ANeq 220 Feeds and Feeding (Fall 2009) - Guest lectured on pasture and forage analysis and feed quality.

AGRI 292 Transfer Seminar (Fall 2010, 2011, and 2013) – Guest lectured on goal development and attaining those goals.

CO 301B - Writing in the Disciplines-Science (Spring 2010, 2011, 2012) Technical instructor for the class writing project

ANeq 334 – Equine genetics (Spring 2012-2013) Genetic based disease seen in equine practice.

ANeq 487 Internship (Spring 2010-Present) - On-campus evaluator of 78 internships

ANeq 474 (Spring 2011) – Approached the principles of immunology and colostrum production in swine production.

SOCR 320 Forages (Spring 2016) – Lecture on Fescue Toxicosis in cattle and horses

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Iowa State University Extension (8/95 – 8/97)

National Symposium on the Nutrient Requirements of Beef Cattle (Ames, IA) - Computer instructor (6/96). I was responsible for the instruction/assistance of agricultural professionals in the usage of the new NRC Beef Nutrient Requirements Software and Handbook. Assisted agricultural professionals and nutritionists in the introduction of the methods and theories of the model developed by NRC.

Agronomy 434/534 Forage Quality and Utilization (ISU-Ames) - Guest Lecturer (11/95) Prepared and delivered lectures to undergraduate and graduate students on the subject of silage management.

Beef Home Study Course (10/95 – 5/03) Director and instructor for beef home study course which is available to producers and agribusiness professionals in Western Iowa. Two individual courses each include eleven chapters dealing with beef cow nutrition, economics, forage utilization, cow reproduction, genetics, and selection. Responsibilities include student assistance/instruction, test evaluation, and administration.

Bucket Calf Workshops Instructor (1/96 – 8/97) Developed a three-session instructional program for 4-H youth and non-traditional producers dealing with baby/orphan calf rearing. The series of workshops includes instruction dealing with baby/orphan calf nutrition, health, and management.

University of Nebraska - Agronomy (8/91-5/94)

Agronomy 101/131 Introduction to Crop Science Laboratory - (8/93 - 5/94) Responsibilities included instruction of two weekly laboratory sections and grading of tests and assignments. Areas covered included: plant structures, plant growth, agronomic calculations, and plant identification.

Agronomy 240 Forage Crops - (8/92 - 8/95). Guest lectured on silage technology including silage fermentation and the management techniques for proper silage production. Lectures included hands on evaluation of silages.

Animal Science/Agronomy 915 Forage Evaluation - Guest lectured on the use of internal markers and marker systems in the evaluation of forages in the grazing animal.

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Kansas State University - Animal Science (8/85 - 12/88)

Animal Science 320 Principles of Feeding (3 semesters) - Responsible for assisting with the instruction of the lecture and the coordination and instruction of the laboratory. Areas covered were ration formulation and feeding practices for beef, swine, sheep, dairy cattle, and horses.

Animal Science 300 Fundamentals of Nutrition (1 semester) - Assisted with instruction of the course and tutoring of students. Responsibilities included assistance with lecture preparation and test and quiz preparation and grading.

University of Nebraska Extension Service

Tractor Safety Certification Program for Garden and Deuel counties (Summers 1982-84) Instructor of a five-period program leading to the certification of 13-15-year-old students to operate farm equipment. Responsibilities included instruction regarding safe operation of farm equipment, laws pertaining to farm equipment operation, and the administration of written and driving tests.

Invited Teaching Opportunities

Windsong Dressage and Equestrian Center – Edgewood, NM (2/05) Provided presentations to a Dressage Association on horse nutrition management. The presentations were based on Equine nutrition with a special emphasis on Equine feed supplements.

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Extension Experience

Colorado State University - Fort Collins (10/08- 7/15)

Youth Livestock and Horse Specialist - Responsible to provide leadership and to youth extension education programs in the state of Colorado. Extension programs are directed to livestock (cattle, swine, sheep, goat, and small animal) and equine 4-H and FFA programs. Technical assistance is provided to extension personnel, agribusiness professionals, veterinarians, and others through teaching, advising, and assisting with the solution of identified problems.

Iowa State University Extension - NW Iowa (8/95 - 8/97)

Beef Field Specialist - Responsible to provide leadership and to conduct beef cattle and other species extension education programs in NW Iowa. Extension programs are directed to cow/calf, backgrounding, and feedlot aspects of the beef industry. Technical assistance is provided to livestock producers, agribusiness professionals, veterinarians, and others through teaching, advising, and assisting with the solution of identified problems. Areas of beef production which are addressed include grazing and pasture management, nutrition, economics, reproduction, carcass and meat quality, enterprise record systems, and computer assistance. Technical assistance and educational programming is also provided to producers involved with dairy cattle, sheep and horses. Methods of information delivery include conducting meetings, workshops and satellite programming. Articles are supplied for monthly newsletters (Farming magazine and Field and Feedlot) and a monthly newspaper column (Beef Notes). Media resources utilized includes newspapers, radio, and television.

Univ. of Nebraska Extension Service - Garden County (Summer 82-85, 8/89-8/90)

Extension Assistant - Responsible for assisting agent with 4-H and agricultural extension programs. Duties included: Assisting in preparation of monthly, quarterly, and yearly reports of activities. Assisted in preparing of monthly 4-H, crop, and livestock newsletters and weekly newspaper columns and news-releases from the office. Responsible for ration formulation of beef and swine operations. Coordinator of the 4-H Livestock Judging contests and the 4-H Public Speaking & Demonstration contest. Assisted with crop demonstration plots and on farm demonstrations.

Director of the Garden County 4-H Livestock Show (1982-1997, 1999-2002)

Duties include registration of livestock, class assignments, results records, show direction, and the compiling of carcass data.

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University of Nebraska Cooperative Extension Service (6/94)

Assisted with the "Beefing it up - Making Forage and Livestock Management Complementary" program. This program was a three-part satellite conference sponsored by the University of Nebraska Institute of Agriculture and Natural Resources Cooperative Extension and the Ag*Sat Corporation directed towards producers, students, and extension staff. The subjects covered included livestock nutrition and management, grass growth and physiology, and plant/animal interactions and grazing management. Responsibilities included answering viewer's questions.

Research Experience

Colorado State University – Department of Animal Sciences (10/08- 01/10)

Research programs include surveillance of Porcine Reproductive and Respiratory Syndrome in the State of Colorado. Project to evaluate RFID health monitoring in Beagles, Research on production of grass and its affects upon laminitis in horses. Work is being done in evaluating teaching techniques in livestock and equine youth programs

USDA-ARS – Forage Animal Production Research Unit – Lexington, KY – Post-doctoral Research Associate (8/05 – 9/08)

Research is being conducted on chronic laminitis in horses and cattle. Experiments include both grass and animal-based models. Studies quantifying and qualifying sugar accumulation in cold stressed Tall fescue and Kentucky bluegrass are ongoing. Arranged cooperative agreements in collaborative carbohydrate studies with Virginia Tech University and Animal Health Foundation. Studies looking at adipose tissue influences upon laminitis are being conducted with special emphasis upon proteomic studies on cell signaling. Additional studies with fescue toxicosis are being carried on looking primarily at fat necrosis and Doppler-ultrasound imaging used for studying vascular changes in cattle. Directed changes to surgical and anesthesia techniques in biopsy techniques for harvesting vascular techniques in research. Development of GC-MS detection of plant alkanes to be utilized as an internal marker for grazing study was also performed.

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Iowa State University - Research Technician (Agronomy) (5/00 - 8/01)

Performed research on the quantification of fiber and protein in various forage crops. Lead the project responsible for the development of procedures for Gas Chromatograph analysis of silages used in biomass energy production.

Iowa State University - Biomedical Sciences Technician (8/00 - 5/01)

Lead the project responsible for the refinement of procedures for Western Blotting for various synaptic proteins analysis.

USDA-ARS, US Dairy and Forage Research Center – Madison, WI – Research Technician (4/99 – 8/99)

Conducted research on *in vitro* gas production techniques. Utilized and developed new procedures to quantify the rates of ruminal degradation of forage fiber. Involved with improving electronic sensing systems for measuring gas production.

University of Nebraska - Research Technician (Animal Science) (6/95 - 8/95)

Conducted research on the quantification of microbial augmentation of protein degradation in the rumen. Studies to compare various techniques for correcting escape protein values for microbial proteins are being performed using *in situ* techniques. The escape protein values of various feedstuffs were quantified. Responsibilities also include the training of technical staff and graduate students in purine analysis, fiber determination, and *in situ* techniques.

University of Nebraska - Range and Forage Sciences (Agronomy) (8/91 - 5/95)

Conducted research to determine the escape protein value of three grass species grazed by ruminally fistulated steers. Total rumen evacuation and omasal sampling techniques were implemented to study the protein escape ruminal degradation. Diet selection studies were conducted to compare post-evacuation grazing to clipped forage quality on grass monocultures. Laboratory procedures used to document the quality and escape protein were Kjeldahl N, neutral and acid detergent fiber, acid detergent lignin, *in vitro* dry matter disappearance, indigestible acid detergent fiber, acid detergent insoluble nitrogen, and purine N. Identification of specific plant proteins involved in the escape protein were separated by SDS-PAGE, identified using Western blotting techniques, and quantified using ELISA.

Other skills: Cryostatic sectioning techniques, microscopic evaluation, staining and photographic techniques. Chromium mordanting techniques. Internal marker studies.

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Kansas State University - Animal Science (8/85-8/89)

Investigated the feeding value of whole-plant grain sorghum silages when fed to growing cattle. The study included agronomic and ensiling characteristics of wide genetic selections of grain sorghum. Silages were fed to steers in growing trials to evaluate animal performance. Metabolism studies using sheep and marker trials using beef cattle were used to evaluate silages. Fermentation dynamics studies were conducted to evaluate silages and screen various silage inoculants. Responsible for wet chemistry to evaluate forage quality of silages and hays. Conducted a study to evaluate the effects of barley content in finishing diet upon cholesterol content of the carcass. Other skills: NIRS.

Kansas State University - Agronomy/Animal Science (1/89 - 8/89)

Assisted with a study to look at the yield and quality of genomic clones of "Pete" Eastern gamagrass space planted in a nursery. Forage yield and quality for grazing animals as measured at early maturity and at a regrowth stage. Plants were separated by leaf and stem and forage quality was determined for each component to estimate the value as grazed forage

Equine/Veterinary Medicine Experience

Equine Medical and Surgical Associates - Associate Veterinarian - West Chester, PA (6/03 - 7/04)

Associate in a three-doctor practice devoted to exclusively equine medicine. Areas of specialization include lameness, sports medicine, general medical care, and emergency services. Disciplines serviced include show horses (dressage, hunter/jumper, fox hunting, gaited horses), racehorses, combined driving, therapeutic riding animal, western disciplines, police horses, and pleasure horses. Personal areas of interest are internal medicine, nutrition, and dermatology. Licensed in Pennsylvania, Maryland, and Delaware.

Thorncroft Equestrian Center- Malvern, PA (6/03 – 12/04)

Assist with handicapped riding program events and with general horse and barn care and maintenance. Health care seminars have been provided for barn staff.

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Iowa Racing and Gaming Commission – Prairie Meadows – Altoona, IA – State Veterinary Technician (4/00 – 5/03)

Responsible for the procurement and initial processing of urine and blood samples from horses assigned to the test barn. Assist and observe lameness testing.

Schedule coordinator – responsible for personnel management of scheduling of test barn and processing laboratory.

Iowa State University – Large Animal Intensive Care Unit Volunteer (8/99 – 5/03)

Responsible for critical care of mare and foals admitted to the ICU. Around the Clock care involved includes monitoring vital signs, administration of treatments, and feedings of animals.

Other Work Experience

Horse Barn Management (assistant) – KB Stables, Lincoln, NE (3/98 - 4/99)

Assisted the owner of a horse stable operation with general barn management. Involved in health, nutrition, and maintenance of the stable.

Consultation - Horse operation – View Point Farms, Omaha, NE (8/94 - 11/95)

Assisted the owner of a horse breeding and stable operation with nutritional programs and forage programs. Programs included hay and grazing management schemes.

Information Research Assistant - Dr. J. White (Animal Nutrition Inc.) (90-91)

Compiled animal performance data for an Environmental Protection Agency database regarding herbicide/pesticide residues in animal products. Responsible for compiling information from research on animal performance when fed food industry by-products.

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Publications

Journals

Woiwode, R., T. Grandin and B.Kirch and J Paterson. 2016. Compliance of large feedyards in the northern high plains with the Beef Quality Assurance Feedyard Assessment. Professional Animal Scientist: Vol 32:6 (2016):750–757.

Kagan I.A., Brett H. Kirch, Craig D. Thatcher, Chris D. Teutsch, and R. Scott Pleasant. 2014. Chromatographic profiles of nonstructural carbohydrates contributing to the colorimetrically determined fructan, ethanol-soluble, and water-soluble carbohydrate contents of five grasses. Animal Feed Science and Technology 188 (2014) 53– 63

Kagan, I.A., B.H. Kirch, C.D. Thatcher, C. D. Teutsch, F.C. Elvinger, D.M. Shepherd, and R.S. Pleasant. 2011 Seasonal and diurnal changes in sugar profiles of bermudagrass in the Piedmont region of the United States. J of Equine Vet Sci: 31:488-497.

Kagan, I.A., B.H. Kirch, and J.R. Strickland. 2011. A chromatographic survey of methods for extracting long-chain grass fructans. Grass and Forage Sci 66:434-448

I.A. Kagan, B.H. Kirch, C.D. Thatcher, James R. Strickland, C. D. Teutsch, F.C. Elvinger, and R.S. Pleasant. 2011 Seasonal and diurnal variation in simple sugar and fructan composition of orchardgrass pasture and hay in the Piedmont region of the United States. J of Eqine Vet Sci: 31 (8) 488-497.

Kirch, B.H., L.E. Moser, S.S. Waller, T.J. Klopfenstein, and J.L. Klotz. 2011 Protein Degradation of Smooth Bromegrass, Switchgrass, and Big Bluestem in Grazing Cattle. Professional Animal Scientist: 27 (2011):422–427

Klotz, J.L., Kirch, B.H., Aiken, G.E., Bush, L.P., Strickland, J.R. 2010. Contractile Response of Fescue-Naïve Bovine Lateral Saphenous Veins to Increasing Concentrations of Tall Fescue Alkaloids. J Anim Sci. 88:408-415.

Klotz, J.L., Kirch, B.H., Aiken, G.E., Bush, L.P., Strickland, J.R. 2009. Bioaccumulation of Ergovaline in Bovine Lateral Saphenous Veins in Vitro. J Anim Sci. 2009. 87:2437-2447.

Aiken, G.E., J.L. Klotz, B.H. Kirch, J.R. Strickland and D.L. Boykin. 2009.

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Technical Note: Comparison Between Two Tracing Methods with Ultrasonography to Determine Lumen Area of the Caudal Artery in Beef Cattle. *J. of Anim Sci.* 87:371-374.

Kirch, B.H., G.E. Aiken, and D.E. Spiers. 2008. Temperature influences upon vascular dynamic in cattle measure by Doppler Ultrasonography. *J. Thermal Biol.* 33(7): 375-379.

Klotz, J.L., Kirch, B.H., Aiken, G.E., Bush, L.P., Strickland, J.R. 2008. Effects of Selected Combinations of Tall Fescue Alkaloids on the Vasoconstrictive Capacity of Fescue-Naive Bovine Lateral Saphenous Veins. *J. of Anim. Sci.* 86:1021-1028.

Aiken, G.E., L.K. McClanahan, B.H. Kirch, and F.N Schrick. 2008. Performance and Physiology of Steers Following Grazing of Toxic Tall Fescue as Influenced by Feeding Soybean Hulls on Pasture and Postgraze Steroid Implantation. *J. Prof. Anim. Sci.* 24(5): 392-398.

Kirch, B.H., L.E. Moser, S.S. Waller, T.J. Klopfenstein, G.E Aiken, and J.R. Strickland. 2007. Selection and diet quality of beef cattle grazing smooth brome grass, switchgrass, and big bluestem. *J. Prof. Anim. Sci.* 27:672-680.

Klotz, J.L, B.H. Kirch, G.E. Aiken, L.P. Bush, and J.R. Strickland. 2007. Effects of selected combinations of tall fescue alkaloids on the vasoconstrictive capacity of fescue-naïve bovine lateral saphenous veins. *J. Anim. Sci.* 86:1021-1028.

Aiken, G.E., B.H. Kirch, J.R. Strickland, L.P. Bush, M.L. Looper, and N.F. Schrick. 2007. Hemodynamic responses of the caudal artery to toxic fescue in beef heifers. *J. Anim. Sci.* 85:2337-2345.

Miller, M.S., L.E. Moser, S.S. Waller, T.J. Klopfenstein, and B.H. Kirch. 1996. Immunofluorescent localization of RuBPCase in degraded C₄ grass tissue. *Crop Sci.* 36:169-175.

Mitchell, R.B., D.D. Redfearn, L.E. Moser, R.J. Grant, K.J. Moore, and B.H. Kirch. 1997. Relationships between in situ protein degradability and grass developmental morphology. *J. Dairy Sci.* 80(6):1143-1149.

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Proceedings

Woiwode, R, T. Grandin, B. Kirch, and J. Paterson. 2015. Survey of Beef Quality Assurance Handling Practices during Routine Processing of Feedlot Cattle. Proceedings, Western Section, American Society of Animal Science Vol 66:

Kirch, B., G.E. Aiken, and D. Spiers. 2007. The influence of temperature upon vascular dynamics in cattle as measured by Doppler-image ultrasonography. *In Proceedings: International Symposium on Fungal Endophytes of Grasses.* p. 391-393.

Aiken, G.E., B. Kirch, and D. Spiers. 2007. Dynamics of peripheral bloodflow for endophyte-naïve cattle fed tall fescue seed. . *In Proceedings: International Symposium on Fungal Endophytes of Grasses.* p. 387-389.

Klotz, J.L., B.H. Kirch, G.E. Aiken, L.P. Bush, B.C. Arrington, J.R. Strickland. 2007. Individual and combinatorial assessment of vasoconstrictive capacity of tall fescue alkaloids using fescue naïve bovine lateral saphenous veins. *In Proceedings: International Symposium on Fungal Endophytes of Grasses.* p. 383-385.

Kirch, B.H., K.K. Bolsen, S.R. Hamma, and J.G. Riley. 1987. Whole-crop forage and grain sorghum silages for growing cattle. Second International Symposium on the Nutrition of Herbivores. University of Queensland - St. Lucia. Brisbane, Queensland. p 141-142.

Kirch, B., D. DeWitt, and T. Harvey. 1997. Surfing the World Wide Web for grazing information. Management Intensive Grazing Symposium III. Iowa State University Extension, Newton, IA. p 40-42.

Guidebooks

Colorado 4-H Horse Manual (2014) – Pastures and Grazing chapter, Health Chapters, Terminology Chapter and Co-authored Nutrition chapter.

B. Kirch. Pasture Vegetation. In: Guide for preparing Resource Stewardship Plans for Equestrian Operations. p. 13-15. August 2010. 2010 Published

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Reports and Bulletins

S. LeValley and B. Kirch. Urinary calculi in wether lambs/kids. no 1.627.. CSU extension bulletin. 2010 Published

B. Kirch, G.E. Aiken, and D. Spiers. 2008. Temperature influences on vascular dynamics in cattle as measured by Doppler ultrasonography. KY experimental station beef publication.

Aiken, G.E., B.H. Kirch, and J.R. Strickland. 2008. Body weight gain and dry matter consumption of steers following grazing of tall fescue. KY experimental station beef publication (accepted awaiting publication).

Aiken, G.E., M.L. Looper, S.F. Tabler, and B.H. Kirch. 2008. Changes in symptoms of toxicosis of pregnant and open heifers following grazing of tall fescue. KY experimental station beef publication (accepted awaiting publication).

Strickland, J.R., R.D. Dinkins, G.E. Aiken, J.L. Klotz, B.H. Kirch, L.L. Smith, A.J. Barnes, W.J. Waters, L.P. Bush, K.R., Brown, J.C. Matthew, and J.A. Bolling. 2006. USDA-Kentucky Report. *In: SERAIEG-8 Tall Fescue Toxicosis/Endophyte Workshop.*

Strickland, J.R., G.E. Aiken, R.D. Dinkins, J.L. Klotz, B.H. Kirch, L.L. Smith, M.L. Looper, L.P. Bush, B.C. Arrington, D.L. Smith, W.D. Shafer, C. Schardl, and H. Uljana. 2006. USDA-Kentucky Report: Forage-Animal Production Unit (FAPRU) investigations: Tall fescue alkaloids and toxicosis. *In: SERAIEG-8 Tall Fescue Toxicosis/Endophyte Workshop.*

Hamma, S., B. Kirch, B. Downey, J. White, and K. Bolsen. 1987. Effect of maturity at harvest on yield, composition, and feeding value of forage and grain sorghum silages. KSU Agric. Exp. Stn. Rep. of Pro. 514, p. 134-141.

Hamma, S., B. Kirch, B. Downey, J. White, K. Bolsen, and T. Walter. 1987. Effect of maturity at harvest on yield, composition, and feeding value of forage and grain sorghum silages. KSU Agric. Exp. Stn. Rep. of Pro. 515, p. 29-37.

Kirch, B., S. Hamma, K. Bolsen, H. Ilg, and J. Hoover. 1987. Whole-plant forage and grain sorghum silages for growing cattle. KSU Agric. Exp. Stn. Rep. of Pro. 514, p. 129-133.

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Bolsen, K., B. Kirch, A. Laytimi, J. Hoover, and H. Ilg. 1988. Inoculant treated corn silages for growing cattle. KSU Agric. Exp. Stn. Rep. of Pro. 539, p. 160-166.

Kirch, B., S. Hamma, K. Bolsen, J. Riley, and J. Hoover. 1988. Whole-plant forage and grain sorghum and corn silages for growing cattle. KSU Agric. Exp. Stn. Rep. of Pro. 539, p. 167-171.

White, J., B. Kirch, K. Bolsen, and L. Pfaff. 1989. Selecting forage sorghum cultivars for silage: a 3-year summary. KSU Agri Exp. Stn. Rep. of Pro. 568, p.12-19.

Co-author on nine additional KSU Agric. Exp. Stn. Rep. of Pro.

Abstracts

Wiowode, R., T. Grandin, and B. Kirch. 2014. Beef Quality Assurance: Handling of Feedlot Cattle. Fourth International Beef Cattle Welfare Symposium. Iowa State Univ., Ames IA.

Wiowode, R., T. Grandin, and B. Kirch. 2014. Survey of BQA Handling Practices That Occurred During Processing of Feedlot Cattle. JAM/ASAS/ADSA joint meetings.xx:xxx

Bengochea, D., B Kirch, LV Kendall. 2013. Use of radio-frequency identification to monitor internal temperatures of beagles in variable environmental conditions. Journal of the American Association for Laboratory Animal Science: 52(5):635-36

Kagan, I., B.H. Kirch, and J.R. Strickland. 2008. Profiles of nonstructural carbohydrates, as a function of species and extraction method in four cool-season forage grasses. SRM/AFGC Joint Annual Meetings (CD only at present).

Strickland, J.R, B.H. Kirch, J.L Klotz, L.L. Smith, G.E. Aiken, and M.D. Flythe. 2008. Ergot alkaloid effects on animal physiology. SRM/AFGC Joint Annual Meetings (CD only at present).

Klotz, J.L., B.H. Kirch, G.E. Aiken, B.C. Arrington, L.P. Bush, and J.R. Strickland. 2007. Ergocryptine and Ergovaline induced contractile responses in fescue naïve bovine lateral saphenous veins. J. Anim. Sci. (Suppl.1) 85:13.

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Strickland, J.R., Dinkins, R.D., Aiken, G.E., Klotz, J.L., Kirch, B.H., Smith, L.L., Barnes, A.J., Waters, W.J., Bush, L.P., Brown, K.R., Matthews, J.C., Boling, J.A. 2007. USDA Kentucky report. SERA-IEG 8. p 159-178.

Kirch, B.H., G. E. Aiken, and D. E. Spiers. 2006. Temperature influences upon vascular dynamics as measured by Doppler ultrasonography. *J. Anim. Sci. (Suppl.1)* 84:212.

G.E. Aiken, L. McClanahan, and B.H. Kirch. 2006. Post-graze performance and recovery from heat stress for yearling steers grazed on toxic tall fescue. *J. of Agron. (Suppl.)* 98:265.

G. E. Aiken, M. L. Looper, and B.H. Kirch. 2006. Physiological changes in heifers following grazing of toxic or non-toxic tall fescue. *J. Anim. Sci. (Suppl.1)* 84:101.

J. L. Klotz, B.H. Kirch, G. E. Aiken, L. P. Bush, B. C. Arrington, and J. R. Strickland. 2006. Evaluation of the vasoconstrictive capacity of tall fescue alkaloids using fescue naïve bovine lateral saphenous veins. *Anim. Sci. (Suppl.1)* 84:54.

Hamma, S.R., B.H. Kirch, B.A. Downey, and K.K. Bolsen. 1987. Effect of hybrid and maturity at harvest on yield and feeding value of forage sorghum silages. *J. Anim. Sci. (Suppl.1)* 65:144.

Kirch, B.H., S.R. Hamma, K.K. Bolsen, and J.D. Hoover. 1987. Hybrid and harvest stage effects on agronomic and ensiling traits of grain and forage sorghum. *J. Anim. Sci. (Suppl. 1)* 65:330.

Kirch, B.H., S.R. Hamma, K.K. Bolsen, and J.G. Riley. 1987. Whole-plant grain and forage sorghum silages for growing cattle. *J. Anim. Sci. (Suppl. 1)* 65:498.

Kirch, B.H., L.E. Moser, S.S. Waller, and T.J. Klopfenstein. 1993. Selection and diet quality of beef cattle grazing smooth brome grass, switchgrass, and big bluestem. *Agronomy Abstracts* p. 169.

Kirch, B.H., L.E. Moser, S.S. Waller, and T.J. Klopfenstein. 1994. Utilization of forage escape protein by grazing steers. *National Conference on Forage Quality, Evaluation, and Utilization*, p. 20.

Kirch, B.H., L.E. Moser, S.S. Waller, and T.J. Klopfenstein. 1994. Escape protein of cool- and warm-season grasses utilized by grazing cattle. *J. Anim. Sci. (Suppl. 1)* 72:114.

Brett H. Kirch

Kirch, B.H., L.E. Moser, S.S. Waller, and T.J. Klopfenstein. 1994. Evaluation of selection on escape protein and diet quality of cattle grazing smooth brome grass, switchgrass, and big bluestem. *Agronomy Abstracts* p. 196.

Presentations

Professional Meetings

OMS Pork presentation – Swine Careers. University of Idaho, April 15, 2021

Forage quality and analysis. Alfalfa U. High Plains Journal Conference. Loveland, CO February 8, 2018

Profiles of nonstructural carbohydrates, as a function of species and extraction method in four cool-seasons forage grasses. American Forage and Grassland Council and Society for Range Management Conference. Louisville, KY January 21-26, 2008.

Temperature influences on vascular dynamics in cattle as measured by Doppler ultrasonography. The 2006 Annual Joint American Dairy Science Assoc.-American Society of Animal Science Meeting, Minneapolis MN, July 9-13, 2006.

Whole-crop forage and grain sorghum silages for growing cattle. Second International Symposium on the Nutrition of Herbivores, Brisbane, Queensland, July 6-10, 1987.

Hybrid and harvest stage effects on agronomic and ensiling traits of grain and forage sorghum. 79th Annual Meeting of American Society of Animal Science, Logan, UT, July 28-31, 1987.

Whole-plant grain and forage sorghum silages for growing cattle. 79th Annual Meeting of American Society of Animal Science, Logan, UT, July 28-31, 1987.

Selection and diet quality of beef cattle grazing smooth brome grass, switchgrass, and big bluestem. American Society of Agronomy Annual Meetings, Cincinnati, OH, November 7-12, 1993.

Utilization of forage escape protein by grazing steers. National Conference on Forage Quality, Evaluation, and Utilization, Lincoln, NE, April 13-15, 1994.

Brett H. Kirch

Escape protein of cool- and warm-season grasses utilized by grazing cattle. The 86th Annual Meeting of American Society of Animal Science, Minneapolis MN, July 11-15, 1994.

Selection and diet quality of beef cattle grazing smooth brome grass, switchgrass, and big bluestem. Joint Meeting of Nebraska, South Dakota, Wyoming Sections of the Society for Range Management, Hot Springs, SD, Sep. 29-Oct. 1, 1994.

Utilization of forage escape protein by grazing steers. Joint Meeting of Nebraska, South Dakota, Wyoming Sections of the Society for Range Management, Hot Springs, SD, September 29-October 1, 1994.

Utilization of warm-season grass by grazing livestock. Native Warm-season Grass Conference and Expo. Des Moines, IA, September 12-13, 1996.

Surfing the World Wide Web for grazing information. Management Intensive Grazing Symposium III. Newton, IA, January 22-23, 1997.

Field Days

Pork Quality Assurance training for Smithfield Foods. Colorado State University, Fort Collins, CO October 5, 2021

Colorado 4-H Horse Judges Clinic and Certification. Colorado State University, Fort Collins, CO. June 18-19, 2014

JBS Marketing Staff Education Program. Pork Quality Assurance Training Program. Greeley, CO, May 28, 2014.

Colorado Swine Producers Meeting. Porcine Epidemic Diarrhea Virus. (Held in conjunction with Colorado Pork Producers and Colorado Department of Agriculture. Brighton CO, April 2014.

Pork Youth Academy – Conception to Consumption. Colorado State University, Fort Collins, CO. October 2012, 2013, 2014.

Retinal Scanning Training. Colorado Extension Service and 4-H Volunteers training. ARDEC, Fort Collins, CO. October 2010

Feeds Module Training 4-H MQA. Colorado Extension Service, Loveland, CO. February 2010

Brett H. Kirch

Whole-plant grain sorghum silages for growing cattle. Kansas State University Cattlemen's Day, March 1986.

Whole-plant forage and grain sorghum silages for growing cattle. Kansas State University Cattlemen's Day, March 1987.

Performance of calves fed corn and sorghum silage. Kansas State University Dairy Day, October 1987.

Whole-plant forage and grain sorghum and corn silages for growing cattle. Kansas State University Cattlemen's Day, March 1988.

Extension Presentations

Additional 15 presentations 2015 -2016

Weld county Catch it Program – I caught it now what? Greeley, CO. December 2014 to December 2025.

JBS Marketing Department - PQA training overview – Greeley, CO May 28, 2014

Elbert County 4-H Livestock/Equine Day – 4-H Animal Health. Kiowa, CO. April 12, 2014

First Responders Training Workshop – Equine Nutrition. Fort Collins, CO. March 25, 2014

Morgan County Youth Beef 4-H Field Day – Beef Nutrition and Computer Diet Formulation. Brush, CO. March 15, 2014

Morgan County Youth Swine 4-H Field Day - PEDV What Does I Mean to Me? Brush, CO. March 8, 2014

Larimer County 4-H Field Day – Beef Nutrition. Loveland, CO. March 1, 2014.

Larimer County 4-H Field Day – Swine Selection. Loveland, CO. March 1, 2014.

Weld county Catch it Program – I caught it now what? Greeley CO. December 10, 2013.

Brett H. Kirch

Calhan Beef Producers meeting. Zoonotic diseases in cattle. Calhan Veterinary Clinic, Calhan, CO. November 2, 2013.

Weld County Small Acreage Conference. Livestock Nutrition and Feed Analysis. Greeley, CO. November 2, 2013.

American Association of Laboratory Animal Science. Use of radio-frequency identification to monitor temperature of beagles in variable environments. (Poster). Baltimore, MD. October 27, 2013

2013 Pork Academy. Swine Health. Fort Collins, CO. October 19, 2013.

2013 Pre-vet day. Necropsy in Livestock Practice. Sponsored by the CSU Pre-vet Club. Fort Collins CO October 12, 2013.

2013 Pre-vet day. Joint injections in horses. Sponsored by the CSU Pre-vet Club. Fort Collins CO. October 12, 2013.

2013 Colorado Association of Animal Control Officers annual meeting. Equine Nutrition. Blackhawk, CO October 11, 2013.

2013 Colorado Association of Animal Control Officers annual meeting. The Geriatric and Abused Horse. Blackhawk, CO October 11, 2013

Colorado 4-H Beef Field Day. Zoonotic Disease in 4-H Cattle. Brush, CO. March 27, 2013.

Colorado 4-H Swine Field Day. Zoonotic Disease. Brush, CO. March 9, 2013

Northeast Regional MQA/PQA training. Livestock Biosecurity (poster). Loveland, CO. March 2, 2013.

Calhan Beef Producers meeting. Marketing Beef for small producers. Calhan Veterinary Clinic, Calhan, CO. February 9, 2013.

Elbert County 4-H Program. Horse Nutrition and Management. Kiowa, CO. February 2, 2013. Calhan

Colorado's Meat Quality Assurance Western 4-H Volunteers meetings, Cheyenne, WY January 14, 2012

Brett H. Kirch

Animal Health - El Paso County 4-H training. Colorado Springs, CO February 4, 2012

Equine Nutrition - Kiowa 4-H program, March 3, 2012, Kiowa, Co

Drug Residues in Swine - Swine 4-H field day, March 10, 2012, Brush, CO

Parasites in Sheep and Goats, 4-H Sheep Field Day, March 17, 2012, Brighton, CO

Zoonotic Disease in Cattle, 4-H Beef Field Day, March 24, 2012, Brush, CO

Livestock First Aid - March 31, 2012, Falcon, CO

Colorado 4-H Horse Judges recertification - April 22, 2012, Brighton, CO

Youth 4-H Meat Quality Assurance - May 24, 2012, Fort Collins, CO

Body changes in the malnourished horse - First Responders Training - Dumb Friends League - September 28, 2012 Franktown, CO

Equine Nutrition - First Responders Training - Dumb Friends League - September 28, 2012 Franktown, CO

Heading for Greener Pastures - First Responders Training - Dumb Friends League - September 28, 2012 Franktown, CO

CSU Prevet Club - Skills to become a veterinarian - October 13, 2012. Fort Collins, CO

Beef Producers Meeting - Calhan Veterinary Clinic - Beef Show and Tell - Livestock Health - November 17, 2012, Calhan, CO

Producer's meeting - Livestock Health - Calhan Veterinary Clinic - November 17, 2012, Calhan, CO

Beef Producers meeting - Zoonotic Diseases in Cattle - Calhan Veterinary Clinic - November 17, 2012, Calhan, CO

Pork Academy - Colorado State University Department of Animal Sciences overview - December 1, 2012, Fort Collins, CO

I caught my animal - now what? - Weld County Catch-it-program, December 10, 2012, Greeley, CO

Brett H. Kirch

Catch-a-pig, lamb, goat project: I caught my animal now what? Weld County Catch-it program, Greeley, CO. December 13, 2011.

State of the 4-H Livestock and Horse Projects in Colorado, Three county Commissioner's meeting, Brush CO. November 24, 2011.

Feed Additives and Supplements, Colorado Fair and Show Association, Pueblo, CO. November 5, 2011

Pork Stress Syndrome, Colorado Fair and Show Association, Pueblo, CO. November 4, 2011

Beef Project Selection and Nutrition. Adams Co. 4-H Club trainings, Brighton, CO. November 1, 2011

Equine Nutrition. First Responders Workshop, CSU, September 20, 2011

Managing your 4-H Calf Project. 4-H Beef Field Day. Brush Co., March 26, 2011.

Headed for Greener Pastures, Equine Pasture Management. Arapahoe Co. Horseman's Day, Aurora, CO. March 19, 2011.

Equine Nutrition and Pasture Management. First Responders Workshop, CSU, March 15, 2011

Swine Feed Additives and Supplements, 4-H Swine Field Day, Brush, CO. March 12, 2011.

Zoonotic diseases. Meat Quality Assurance trainings – Poster, Multiple locations, March 5 – June 30, 2011

Swine Selection. NE regional 4-H livestock day, Loveland, CO. March 5, 2011

Ruminant Nutrition. NE regional 4-H livestock day, Loveland, CO. March 5, 2011

Equine Safety. 4-H Club Day. El Paso Co., Colorado Spring, CO. February 5, 2011.

Brett H. Kirch

Meat Quality Assurance training. Regional Leaders training, Akron, CO January 27, 2011

COOL Requirements for 4-H Livestock. Jefferson Co., Golden CO. January 24, 2010

Swine Health. Morgan County Jr. Swine Field Day. Fort Morgan, CO. March 13, 2010

Showring Ethics. Jr. Sheep, Goat, and Wool Field Day. Adams Co., Brighton, CO. March 20, 2010.

Showring Ethics for Beef Showman. Jr. Beef Field Day. Morgan Co. Fort Morgan, CO. March 27, 2010.

Equine Nutrition. Steamboat Springs - Equine Educational Series. Steamboat Springs, CO. July 19, 2010.

Carbohydrates and Laminitis- discussion group. Steamboat Springs - Equine Educational Series. Steamboat Springs, CO. July 19, 2010

COOL and what it means to you (Poster). MQA training - NE Colorado. Feb-June 2010.

Feeds and Ration Balancing. MQA trainings (Poster). Northeast CO. Feb-June 2010

Dairy Safety Module. MQA trainings (Poster). Northeast CO. Feb-June 2010

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Animal Science Careers. Jr Sheep, Goat, and Wool Day. Adams Co., Brighton, CO. March 20, 2010

Zoonotic Diseases in Cattle. Pre-vet Club Day. Colorado State Univ. October 9, 2010.

So, you want to be a large animal vet. Pre-vet Club Day. Colorado State Univ. October 9, 2010

Zoonotic Disease in Cattle. Extension Agents Training - Pueblo, CO. November 4, 2010

Brett H. Kirch

Sheep Diseases. Extension Agents Training - Pueblo, CO. November 4, 2010

Selecting a 4-H Project: picking your lamb and pig. Elbert County Selection Seminar. Kiowa, CO. February 17, 2009.

Colorado Horse Judging Short Course Rules seminar. Colorado State University. February 21, 2009.

Ruminant Nutrition: How to keep all four-compartment ticking. Youth Livestock Field Day. Loveland, CO. February 28, 2009. Presented two times.

Heading for greener pastures: Managing the horse and the plant for a positive grazing experience. Rocky Mountain Horse Expo. Denver, CO. March 13-15, 2009. Presented four times.

Douglas County MQA Training. Injection station presentations. Castle Rock, CO. March 18, 2009.

Feed Safety Module. MQA trainings (Poster). Northeast CO. Feb-June 2010

Selecting a 4-H Project: picking your lamb, goat, and pig. Calhan 4-H Livestock Youth Day. Calhan, CO. March 19, 2009.

I got my animal now what? Calhan 4-H Livestock Youth Day. Calhan, CO. March 19, 2009.

Agriculture careers. Calhan 4-H Livestock Youth Day. Calhan, CO. March 19, 2009.

Heading for greener pastures: Managing the horse and the plant for a positive grazing experience. Cortez Agricultural Expo. March 20-22, 2009. Presented three times.

Ask a Vet: Roundtable Discussions. American Youth Horse Council Annual Meeting. Lincoln, NE. March 27, 2009.

Ten tips to prepare for a career in the equine industry. American Youth Horse Council Annual Meeting, Lincoln, NE. March 29, 2009.

I've got my animal now what? El Paso County Volunteers Training Clinic. Colorado Springs, CO. April 4, 2009.

Brett H. Kirch

Ten tips to prepare for a career in Animal Science. El Paso County Volunteers Training Clinic. Colorado Springs, CO. April 4, 2009.

I got my animal now what? Moffat County 4-H Livestock meeting. Craig, CO. April 22, 2009.

Heading for greener pastures: Managing the horse and the plant for a positive grazing experience. Colorado Springs Rocky Mountain Horse Expo. Colorado Springs, CO. July 3-5, 2009. Presented six times.

Equine Safety. Regional 4-H Volunteer Training. Burlington, CO. October 16-17, 2009.

Equine First Aid. Regional 4-H Volunteer Training. Burlington, CO. October 16-17, 2009.

Catch-a-project: I caught my animal now what? Weld county catch-a-animal project meeting. Greeley, CO. December 5, 2009.

Catch-a-calf project: I caught my calf now what? Weld county catch-a-calf project meeting. November 2008.

Catch-a-pig, lamb goat project: I caught my animal now what? Weld county catch-it project meeting. December 2008.

Brett H. Kirch

Service

University and Departmental Committees

Colorado State University - College of Veterinary Medicine DVM Admission Committee 2019 to present

College of Agriculture Non-Tenure Track Faculty Committee 2018 to 2024

Department of Animal Sciences Non-Tenure Track Promotion Committee 2024 to present

Department of Animal Science Student Scholarship Committee 2017 to 2019

College of Veterinary Medicine Interview Committee 2017-2019

Food Animal Veterinary Career Incentive Program coordinator 2016 to present

Department of Animal Science Student Awards Committee 2015 to present

Department of Animal Science Student Success Team 2014 to 2019

Department of Animal Sciences Coordinating Committee 2009-2014

4-H Curriculum Committee/ Work Group 2009-2015

Beef and Small Ruminant Extension Committee/Work Groups 2009-2015

WSASAS Beef Symposium Committee 2011-2015

Aksarben Livestock Quiz Bowl Committee 2008-2015

Colorado State 4-H Livestock Bowl Superintendent 2010 -2013

Youth 4-H Shooting sports and Livestock Agent Search Committee 2014

Weld County Livestock Agent Search Committee 2011-2012

Jefferson County Equine Extension Search Committee. 2010-2012

Brett H. Kirch

Colorado State University – Department Head Search – Soils and Crops Sciences.
2010-2011

Department of Animal Sciences Academic Success Coordinator Search
Committee 2018-2019

Boulder County 4-H Equine Agent Search Committee. 2010-11

Jefferson County Equine Extension Search Committee. 2010

Adams County 4-H Livestock agent Search Committee 2010

Phillips/ Sedgwick 4-H Livestock Agent Search Committee. 2010

Jefferson County 4-H Livestock/Equine Agent Search Committee. 2010

Brett H. Kirch

Consulting and Industry Involvement

Pork Quality Assurance educator and certification site evaluator for the state of Colorado – Pork Board – 2010-2024

Farm Animal Care Evaluator (certification through National Dairy Farm Program) 2019 - present

Denver University MBA program (developing canine dietary supplement) – 2014-2016.

Colorado Forage Testing Consultant – 2011 to present.

Colorado Horse Council Board of Directors member term 2010 - 2013

Larimer County Land use and Stewardship Committee. Involved in putting together a recommended best practice for commercial horse operations in Larimer County. I was specifically responsible for the grazing management and part of the pasture management. 2010-11.

Colorado 4-H Livestock Task Force. Department of Animal Sciences representative with responsibility for implementing decisions and aiding the processes of managing the 4-H Livestock program in Colorado. 2008-2014.

Colorado 4-H Horse Council Senior staff representative for the Department of Equine Science and responsible for implementing decisions and aiding the processes of managing the 4-H Equine program in Colorado. 2008-14.

4-H Extension Agent Mentoring Program (5 new agents) 2010-14.

Brett H. Kirch

Grants and Money Awards

Colorado 4-H Foundation. 2014, B. Kirch. Funding for 4-H judging and national competition teams. \$5,900.00

Colorado Pork Producers Council. 2014-2015. B.Kirch and B.Kaysen. Surveillance of PRRS in Colorado. \$35, 000.

Colorado Pork Producers Council. 2013-2014. B.Kirch and B.Kaysen. Surveillance of PRRS in Colorado. \$30, 000.

Colorado Pork Producers Council. 2013 B.Kaysen and B. Kirch. Pork Academy. Conception to Consumption - teaching the non-rural student about the swine industry. \$15,000.00 (includes internship funding)

Colorado 4-H Foundation. 2013, B. Kirch. Funding for 4-H judging and national competition teams. \$5,900.00

Allflex Inc. USA. 2012. B. Kirch, L Kendall, and D. Bengochea. Study of the LifeChip Bio-thermal Microtransponder for small animal use. \$74,990.00.

Colorado 4-H Foundation. 2011. B. Kirch, M. Livingston, M. Eisenach, K. Maxey, and T. Taylor. Advancement of Science in 4-H for Thermal imaging equipment. \$7400.00

Colorado Pork Producers Council. 2012. B. Kaysen and B. Kirch. Conception to Consumption - teaching the non-rural student about the swine industry \$15,000.00

Colorado 4-H Foundation. 2012, B. Kirch. Funding for 4-H judging and national competition teams. \$5,900.00

Colorado 4-H Foundation. 2011. B. Kirch. Funding for 4-H judging and national competition teams. \$5,900.00

4-H Foundation grants. Thermal imaging in the early detection of malignant hyperthermia in show swine. 2011. B. Kirch, M. Livingston, M. Eisenach, K. Maxey, T. Taylor. \$7,120.00.

Lamm, A. et.al. USDA-AFRI grants. A System Approach to Addressing Food Security Policy: Identifying Impact and Developing Human Capital. 2012. \$7,000,000 – CSU \$300,000. Not funded.

Brett H. Kirch

Computer based education in Meat Quality Assurance Training. 2011. B. Kirch, M. Livingston, M. Eisenach, K. Maxey. \$5,000.00. Not funded.

Denise Miller Innovation award. 2010. B. Kirch, M. Livingston, M. Eisenach, W. Woerner, P. Brewer, M. Fischer, E. Fischer. \$1,500.00

Travel funds grant. Colorado State 4-H Fund. 2010. Brett Kirch, \$2,500.00

Colorado 4-H Foundation. Funding for 4-H judging and national competition teams. 2010, B. Kirch. \$5,900.00

Interaction of Copper Source, Bile Composition on Microbial Growth, and Cu Protein Homeostasis. 2009. Primary PI: Terry Engle, Co-PIs: Brett H Kirch, Kendra Nightingale Hyunchul Han, John J Wagner, David B Anderson, Shawn Archibeque, Dale Woerner, Keith Belk, Novus International Inc., \$21,000.00.

4-H Innovation Grant. 2009. MQA training program. B. Kirch, M. Livingston, M. Eisenach, W. Woerner, P. Brewer, M. Fischer, E. Fischer. \$5,000.00

Krehbiel, CR et al. Optimal Nutrition and Management in Integrated Production Systems to Improve Feed Efficiency of Growing and Finishing Beef Cattle. 2010. Not funded

Colorado 4-H Foundation. Funding for 4-H judging and national competition teams. 2011, B. Kirch. \$4,400.00

Whittier, J. et al. My Own Piece of Colorado. 2009. Not Funded

John, G et al. Advancing Quality Educational for Agriculture Students. 2017. Not funded, but resubmitted for 2018 with revisions

Brett H. Kirch

Student Services

College of Veterinary Medicine Student Mentor – 2021-2025

Pre-vet discussion panel – 2021 (spring and fall) to present

Student Success Team – 2014-2020

U-turn advisor – 2018

Faculty advisor for four student organizations 2017-Present

Herd Health Club

CSU 4x4 club

CSU Agility club

Graduate Student Committees:

Primary Advisor (MS) – 2

PhD. Committee member – 2

M.S. Committee member -10

Recruiting meetings with prospective students and families – 200 +
prospective students (2008 – 2021)

Preview program for incoming freshman for Equine and Animal Science
students – 87 sessions (2009- 2019)

Student academic advising – 200+ students annually (2008 – Present (140
students in 2019))

Brett H. Kirch

National and State Associations (current and past membership)

American Veterinary Medical Association
National Academic Advising Association
American Society of Animal Science
Society for Range Management
Equine Science Society
Colorado Horse Council
American Youth Horse Council
National Association of 4-H Agents
Colorado Association of 4-H Agents

Awards and Honors

Nomination for Teacher of the Year sponsored by CSU Alumni Association –
Dec 2021, 2024, 2025

Department of Animal Science – Spurring Them to Excellence Teaching Award -
2019

Nomination for Advisor of the Month sponsored by National Residence Hall
Honorary – Dec 2019

Nominated for NAE4-HA Educational Technology Award (2013) - Team - MQA
Team

Nominated for NAE4-HA Excellence in Teamwork Award (2013) - MQA
Trainings/Trailer

Undergraduate Advisors award, (November 2012) CASA monthly faculty award.

Excellence in Animal Science programing (2011) National Association of Extension
4-H Agents

Denise Miller 4-H Innovations in 4-H Education (National Award Winner 2010)

Denise Miller 4-H Innovator Award (Western Regional Award Winner 2010)
National Association of Extension 4-H Agents.

Colorado State University Extension Service Five years of service recognition (2010)
Excellence in Teamwork award (Western Regional Award Winner 2009) National
Association of Extension 4-H Agents.

Brett H. Kirch

Denise Miller 4-H Innovator Award (Western Regional Award Winner 2009)
National Association of Extension 4-H Agents.

2009 CSU Extension Team Award. Colorado State University.

Search for Excellence in Teamwork Award. Colorado Association Extension 4-H
Agents. 2009.

Extension Team Award. Colorado Association Extension 4-H Agents. 2009.

Quality Step Increase for sustained superior performance (2008) – USDA-ARS-
FAPRU, Lexington, KY.

Grade Increase Promotion (2007) – USDA-ARS-FAPRU, Lexington, KY.

USDA Certificate of Merit (2006, 2007) – USDA-ARS-FAPRU, Lexington, KY.

College of Veterinary Science Service Award (2003)–Iowa State University-Ames

Salsbury Veterinary Medicine Scholarship (2001)–Iowa State University – Ames

Hill's Science Diet Nutrition Scholarship. (2001) – Iowa State University – Ames

H. Geddes Stanway Scholarship (1999) – Iowa State University – Ames

Widamen Trust Distinguished Graduate Assistant Award (8/93) – Univ. of Nebraska
- Lincoln

Gamma Sigma Delta, Honor Society of Agriculture (11/93)

Stuart Memorial Scholarship (8/83) - University of Nebraska - Lincoln

College of Agriculture Scholarship (8/82) - University of Nebraska - Lincoln

Mitchell - Gantz Scholarship (8/80) - University of Nebraska - Lincoln

Brett H. Kirch

Other Activities

Volunteer for Rocky Mountain Raptor Rescue – Fort Collins, CO

Volunteer for Rolex Equestrian Championship – Lexington KY – 2006-2008

St. Luke's UMC Small Groups Coordinator – 2007-2008

Student Representative to the College of Veterinary Medicine Curriculum Committee – 2000-2003, Iowa State University – Ames

Executive Committee of the Student Chapter of the American Association of Equine Practitioners - Fund Raising Chair – 2001

Student Coordinator of the SCAVMA Symposium Equine Aging Contest – 2001

Society for Theriogenology Wet labs Coordinator – 2001

Treasurer – Christian Veterinary Fellowship Student Chapter – 2001

Student Contributor to the “ISU Veterinarian” – Articles in 2000 and 2001 issues

Member of AAEP, AABP, AASP, Society for Theriogenology Clubs - 1999-2003, Iowa State University - Ames

Vice-President of the Agronomy Graduate Student Association - 1993, University of Nebraska-Lincoln

Range and Forage Panel editor for the Agronomy Graduate Student Association Newsletter - 1992-93, University of Nebraska-Lincoln

4-H Club Leader for marketing and animal science projects - 1985-88, Blue Creek 4-H Club, Lewellen, NE

Youth Baseball coach - 1978-91

Manhattan Parks and Recreation Youth Baseball Coach of the Year - 1986

Brett H. Kirch

OTHER ACTIVITIES/ACCOMPLISHMENTS – Professional Development

(Spring 2021) Continuing Education Program, "Inclusive Pedagogy," Colorado State University TILT, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 10

(Spring 2021) Continuing Education Program, "Best Practices in Teaching - Student Motivation," Colorado State University TILT, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 10

(2021) DEI Discussions – May 18, 2021, November 17, 2021, and December 9, 2021

(October 8, 2020). Professional Meeting, "Unconscious Bias training," College of Veterinary Medicine, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 3.

(August 19, 2020 - September 6, 2020). Continuing Education Program, "Creative Assignments," Colorado State University TILT, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 10.

(August 11, 2020). Staff Retreat, "Unconscious Bias Training," Colorado State University, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 2.

(July 20, 2020 - July 24, 2020). Continuing Education Program, "Teaching Online," Colorado State University TILT, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 10.

(June 18, 2020 - June 30, 2020). Continuing Education Program, "Designing your online course," Colorado State University, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 10.

(February 5, 2020 - April 26, 2020). Continuing Education Program, "Best Practices for Teaching 2," Colorado State University, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 20.

(January 2020 - March 31, 2020). Continuing Education Program, "Teaching Squares," CSU- TILT, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 20.

(January 15, 2020). Continuing Education Program, "Canvas: What A Student Wants," Colorado State University, Fort Collins, CO, United States.

Brett H. Kirch

Approximate Number of Hours Spent Per Year: 1.

(January 14, 2020). Continuing Education Program, "Introduction to the Best Practices in Teaching Online Modules," Colorado State University TILT, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 1.

(January 13, 2020). Continuing Education Program, "Feedback and Assessment: Integrating Formative Feedback into your Teaching," Colorado State University TILT, Fort Collins, CO, United States. Approximate Number of Hours Spent Per Year: 2.

EVIDENCE OF TEACHING AND ADVISING EFFECTIVENESS

TEACHING: (Report Run Date minus 2 year(s))

<u>Year</u>	<u>Semester</u>	<u>Course No./Title</u>	<u>Cr. Hrs.</u>	<u>Enrolled</u>
2021	Fall	ANEQ105 –Introduction to Large Animal anatomy	1	23
2021	Fall	ANEQ105 - Introduction to Large Animal anatomy	1	21
2021	Fall	ANEQ105 - Introduction to Large Animal anatomy	1	20
2021	Fall	ANEQ105 - Introduction to Large Animal anatomy	1	24
2021	Fall	ANEQ551 - Field Necropsy	2	26
2021	Fall	ANEQ551 - Field Necropsy - Lab	0	13
2021	Fall	ANEQ551 - Field Necropsy-Lab	0	13
2021	Fall	ANEQ103 - Introduction to Animal Science	3	6
2021	Fall	ANEQ103 - Introduction to Animal Science	3	3
2021	Summer	ANEQ551 - Field Necropsy	2	11
2021	Summer	ANEQ551 - Field Necropsy - Lab	0	11
2021	Summer	ANEQ487A - Internship: Animal	6	15
2021	Summer	ANEQ103 - Introduction to Animal Science	3	6
2021	Summer	ANEQ103 - Introduction to Animal Science	3	3
2021	Summer	ANEQ384 - Supervised College Teaching	5	1
2021	Spring	ANEQ551 - Field Necropsy	2	26
2021	Spring	ANEQ551 - Field Necropsy - Lab	0	13
2021	Spring	ANEQ551 - Field Necropsy - Lab	0	13
2021	Spring	ANEQ487A - Internship: Animal	6	16
2021	Spring	ANEQ487B - Internship: Equine	6	19
2021	Spring	ANEQ103 - Introduction to Animal Science	3	17
2021	Spring	ANEQ384 - Supervised College Teaching	5	35
2021	Spring	ANEQ474 - Swine Systems	3	13
2021	Spring	ANEQ474 - Swine Systems - Lab	0	13
2020	Fall	ANEQ293 - Animal Science Career Exploration	1	30

Brett H. Kirch

		Seminar		
2020	Fall	ANeq293 - Animal Science Career Exploration	1	30
		Seminar		
2020	Fall	ANeq293 - Animal Science Career Exploration	1	19
		Seminar		
2020	Fall	ANeq551 - Field Necropsy	2	25
2020	Fall	ANeq551 - Field Necropsy - Lab	0	13
2020	Fall	ANeq551 - Field Necropsy-Lab	0	12
2020	Fall	ANeq487B - Internship: Equine	6	13
2020	Fall	ANeq103 - Introduction to Animal Science	3	14
2020	Fall	ANeq103 - Introduction to Animal Science	3	2
2020	Summer	ANeq551 - Field Necropsy	2	4
2020	Summer	ANeq551 - Field Necropsy - Lab	0	4
2020	Summer	ANeq487A - Internship: Animal	6	15
2020	Summer	ANeq103 - Introduction to Animal Science	3	1
2020	Summer	ANeq103 - Introduction to Animal Science	3	9
2020	Summer	ANeq103 - Introduction to Animal Science	3	2
2020	Summer	ANeq384 - Supervised College Teaching	5	1
2020	Spring	ANeq551 - Field Necropsy	2	26
2020	Spring	ANeq551 - Field Necropsy - Lab	0	13
2020	Spring	ANeq551 - Field Necropsy - Lab	0	13
2020	Spring	ANeq487A - Internship: Animal	6	16
2020	Spring	ANeq487B - Internship: Equine	6	19
2020	Spring	ANeq103 - Introduction to Animal Science	3	17
2020	Spring	ANeq384 - Supervised College Teaching	5	35
2020	Spring	ANeq474 - Swine Systems	3	13
2020	Spring	ANeq474 - Swine Systems - Lab	0	13

Brett H. Kirch

Guest Lectures:

<u>Year</u>	<u>Semester</u>	<u>Course No./Title</u>	<u># of Guest Lecture</u>	<u>Delivery Mode</u>
2021	Fall	Animal Sciences-ANEQ102 - ANEQ 102 Introduction to Equine Science	5	Face to Face
2021	Spring	Animal Sciences-ANEQ472 - Sheep Systems	2	Face to Face
2020	Fall	Animal Sciences-ANEQ102 - ANEQ 102 Introduction to Equine Science	5	Mixed (Hybrid) Face to Face
2020	Spring	Animal Sciences-ANEQ472 - Sheep Systems	1	Face to Face
2020	Spring	Animal Sciences-ANEQ286 - Livestock Practicum	2	Face to Face