

# CURRICULUM VITAE

Henry N. Zerby

## I. PERSONAL INFORMATION

Office Address:

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## II. CURRENT POSITIONS

VICE PRESIDENT, PROTEIN PROCUREMENT AND INNOVATION - AUGUST 2018 TO PRESENT

Quality Supply Chain Co-Op, Inc. (QSCC), Dublin, OH

- Oversee the procurement processes of food animal proteins for the Wendy's System
  - Responsible for an annual spend of over \$1.5 billion
  - Products include: Beef, Chicken, Eggs, Bacon, Sausage, Fish, others as necessary
- Provide leadership to changing supply chain relationships and QSCC's desire to enhance relationships and strategies further back the supply chain
- Interact with Wendy's Quality Assurance Team and Wendy's R&D Team to augment raw material specifications and provide technical expertise and innovation for menu items
- Serve on Wendy's Animal Welfare Council which provides direction to Wendy's for the multiple social, environmental, and governmental platforms that impact the supply chain.
  - Platforms include: Animal Welfare, Animal Health, Food Safety, Antibiotics, Sustainability (environmental, economic, social, etc.)

ADJUNCT PROFESSOR - 2017 TO PRESENT

Department of Animal Sciences, The Ohio State University, Columbus, OH

- Serve on graduate student committees
- Guest lecturer in multiple courses

OWNER / OPERATOR - 2000 TO PRESENT

Meadow Crest Farm, Marengo, OH

- Family owned diversified livestock operation
- Produce animals for genetic seedstock, direct market, and commodity market channels

## III. EDUCATION

1997 to 1999 **Ph.D., Colorado State University, Fort Collins, CO**

Dissertation Title: *Microbiological Profiles of Pork Carcasses and Pork Variety Meats and Decontamination Technologies for Pork Variety Meats*

1995 to 1997 **M.S., Colorado State University, Fort Collins, CO**

Thesis Title: *Effects of Dietary Vitamin E Supplementation on Retail Display Life of Fresh Beef*

**1991 to 1995 B.S., The Pennsylvania State University, State College, PA**

MAJOR: Dairy and Animal Science

MINORS: Poultry Technology and Management  
International Agriculture

Co- and Extra-curricular involvement:

- Assistant Livestock Judging Team Coach 1994 – 1995
- Block & Bridle Club
  - President 1994 – 1995 (recognized as Outstanding Senior)
  - Vice President 1993 – 1994 (recognized as Outstanding Junior)
- College of Agriculture Student Council
  - President 1993 – 1994
  - Secretary 1992 – 1993
- National Champion NCBA Beef Quiz Bowl Team 1993
- Livestock Judging Team 1993
- University Faculty Senate 1992 – 1993
- Meat Judging Team 1992
- Poultry Judging Team 1991

**IV. PROFESSIONAL DEVELOPMENT & ADMINISTRATIVE SERVICE**

**Professor & Chair, Department of Animal Sciences – May 2014 through July 2016**

- The Department of Animal Sciences is a comprehensive department engaged in research, teaching, and outreach programs operating from two campuses (Columbus, OH and Wooster, OH) with an annual operating budget of approximately \$15M.
- The Department is home to approximately: 750 students (undergraduate and graduate), 60 staff members, and 34 faculty members.
- The Department has multiple animal facilities (Beef, Dairy, Equine, Poultry, Sheep, and Swine) and a federally inspected abattoir, which are used to support the teaching, research, and outreach Mission of the Department and the Land-Grant Mission of The Ohio State University

Programs Development

- Revised departmental organizational structure, function and governance; and provided academic leadership during a time of personnel transition and programmatic change
- Revised appointment, promotion and tenure guidelines
- Enhanced faculty search process and recruited several faculty (14), including tenure track, professional practice, and auxiliary positions to balance and fulfill departmental needs while simultaneously building on diversity
- Participated in Discovery Theme process and successfully recruited one of the first discovery theme faculty hires for the College of Food, Agriculture, and Environmental Sciences into the Department of Animal Sciences
- Established/revised faculty mentoring, onboarding, and formative peer-review of teaching programs
- Nurtured a cooperative, collegial and collaborative culture for faculty, staff and students

- Facilitated renovations to classrooms, research laboratories, and animal facilities
- Developed academic assessment plans and programs

### **Food Systems Leadership Institute (FSLI) Fellow, 2015 – 2017**

FSLI is a two-year program of the Association of Public and Land-Grant Universities (APLU) with support from the W.K. Kellogg Foundation. The program focuses on a series of core leadership competencies and three complementary threads:

- Enhance individual leadership performance
- Develop skills and knowledge required to lead organizational change
- Understanding and influencing complex, diverse, and collaborative food systems

### **CIC Department Executive Officers (DEO) Seminar, 2015**

Three-day event focusing on conflict resolution, time management, facilitating faculty development, conducting performance reviews, and group problem solving.

### **CIC Academic Leadership Program (ALP) Fellow, 2014 – 2015**

Year long program consisting of three seminars; focusing on:

- Sustainability within contexts in higher education
- Approaches for enhancing campus diversity and meeting the needs of a diverse campus
- Managing and enhancing internal and external relationships
- Topics related to faculty and university staff and their development
- Strategies for money management, and balancing academic priorities and fiscal constraints

### **OSU New Chairs Workshop, 2014 – 2015**

Year long program consisting of multiple seminars focusing on various aspects of providing leadership for a Department

### **LEAD 21, 2011**

Program goals for LEAD <sup>21</sup> are for participants to: The primary goal of LEAD <sup>21</sup> is to develop leaders in land grant institutions and their strategic partners who link research, academics, and extension in order to lead more effectively in an increasingly complex environment. The program focuses on developing ten core leadership competencies: Integrating and systems thinking; Developing self and others; Valuing diversity; Communicating effectively; Managing change; Resolving conflict; Developing and managing resources; Leading with integrity and values; Developing a deeper knowledge and appreciation of higher education.

### **University Service**

Office of Academic Affairs, Council on Academic Affairs (CAA) - The Council on Academic Affairs makes recommendations to the university senate concerning educational and academic policies and all curricula, degrees and certificates offered by colleges, departments, and schools within the university.

- CAA Chair, 2013 to 2014
- CAA Sub-committee Chair, 2012 – 2013, 2015 – 2016
- Member of CAA Committee, 2011 – 2016
- Member of CAA Sub-committee, 2010 – 2011

Ohio Board of Regents Secondary Career-Technical Alignment Initiative  
University Representative serving as Animal Sciences Lead Expert, 2012 to 2016

The Ohio State University Provost Search Committee  
Served as a member of the University's search committee, 2016

### **College Service**

- CFAES Academic Affairs Committee (AA), 2006 – 2014
- CFAES AA Petitions for Reinstatement Sub-committee, 2010 – 2014
- Ohio State ATI Re-envisioning Committee, 2013 – 2016

## **V. PREVIOUS WORK EXPERIENCE**

SENIOR DIRECTOR OF PROTEIN INNOVATION - AUGUST 2016 TO AUGUST 2018  
Quality Supply Chain Co-Op, Inc. (QSCC), Dublin, OH

Supply chain development for ground beef raw materials: coordinating interactions among patty processors, beef processing facilities, feedlots, and producers. Assisted Wendy's Quality Assurance Team with oversight and raw material specifications for ground beef and poultry products. Interacted with Wendy's Product Development Team on new menu items and strategies surrounding meat/protein products. Served on Wendy's Animal Welfare Council

PROFESSOR - 2011 TO AUGUST 2016  
Department of Animal Sciences, The Ohio State University

Appointment: Resident Instruction (71%) and Research (29%) – Provided leadership to the Meat Science program, taught multiple Animal Science courses each quarter/semester, delivered youth and adult extension programming in the area of meat science and food animal production, and conducted research in the areas of fresh meat quality, product development, and food safety. Served as an advisor to undergraduate students, provided instruction and oversight for the Meat Judging Team, and served as an advisor and mentor to graduate students.

ADJUNCT PROFESSOR - AUGUST 2009 TO 2016  
School of Veterinary and Biomedical Sciences, James Cook University, Townsville, QLD, Australia

Responsible for development and delivery of a Meat Science course to compliment the current curriculum of the third year students enrolled in the Veterinary Science Program. Collaborate with faculty on ongoing research projects and assist with graduate student advising and training.

ASSOCIATE PROFESSOR - 2004 TO 2011  
Department of Animal Sciences, The Ohio State University

Appointment: Resident Instruction (71%) and Research (29%) – Provided leadership to the Meat Science program, taught multiple Animal Science courses each quarter, delivered youth and adult extension programming in the area of meat science and food animal

production, and conducted research in the areas of fresh meat quality, product development, and food safety. Served as an advisor to undergraduate students, provided instruction and oversight for the Meat Judging Team, and served as an advisor and mentor to graduate students. During this time we developed and implemented a training program for the Ohio Department of Rehabilitation and Corrections Meat Processing Career Center.

VISITING ACADEMIC - JULY 2007 TO JUNE 2008

University of New England, Armidale, NSW, Australia

Collaborated with the Meat Science group at the University of New England, School of Environmental and Rural Science. Assisted with ongoing research, outreach and extension, and mentoring of honor students.

VISITING SCHOLAR - JULY 2007 TO JUNE 2008

Cooperative Research Center for Beef (BEEF CRC), Armidale, NSW, Australia

Cooperative Research Center for Sheep (SHEEP CRC), Armidale, NSW, Australia

Assisted with designing experiments, collecting and analyzing data, developing reports, and delivering presentations for the Supply Chain Management Objectives of both CRC Programs.

PRIVATE CONSULTANT - 2005 TO 2016

Wendy's International, Dublin, OH

Perform supply chain quality assurance, food safety, product production, and animal welfare audits related to beef, pork, and poultry products for the Quality Assurance Department of Wendy's International. Provide technical service consulting as needed.

PROGRAM COORDINATOR - 2000 TO 2016

The Ohio State University Meat Science Laboratory.

The Meat Science Laboratory is a federally inspected facility and is fully equipped for harvesting, fabrication, and further processing of beef, pork, and lamb meat products. The facility is utilized to support research, teaching, and extension outreach for several interdepartmental programs. It is also used as a pilot plant facility for several industry partners and collaborators. The facility is operated by a staff person, who is assisted by graduate students and undergraduate students. The facility supplies products to University Dining Services, local restaurants, and for retail sale to the general public.

ASSISTANT PROFESSOR – DECEMBER 1999 TO 2004

Department of Animal Sciences, The Ohio State University.

Appointment: Extension (50%), Resident Instruction (30%), and Research (20%) – Provided leadership to the Meat Science program, taught multiple Animal Science courses each quarter, delivered youth and adult extension programming in the area of meat science and food animal production, and conducted research in the areas of fresh meat quality, product development, and food safety. Served as an advisor to undergraduate students, provided instruction and oversight for the Meat Judging Team, and served as an advisor and mentor to graduate students. During this time we developed and implemented the HACCP plan for the Meat Science Laboratory.

#### ADDITIONAL WORK EXPERIENCE

- Graduate Research Assistant, 1997 – 1999  
Department of Animal Sciences, Colorado State University, Fort Collins, CO.
- Graduate Teaching Assistant, 1995 – 1996  
Department of Animal Sciences, Colorado State University, Fort Collins, CO.
- Hemlock Farm, Beavertown, PA 1990 – 1994  
550 sow farrow-to-finish unit. Performed all duties within the facility as needed (i.e. boar collection, artificial insemination, piglet processing, cleaning, market hog selection, and replacement gilt selection).
- Undergraduate Research, The Pennsylvania State University, State College, PA 1995  
Conducted research in the Nutrition and Skeletal Metabolism Laboratory related to tibial dyschondroplasia (project focused on determining if calbindin was present in the epiphyseal growth plate of broiler chickens).
- Poultry Research Farm, The Pennsylvania State University, State College, PA 1990 – 1994  
Performed all duties within the facility as needed (i.e. feeding, egg collection, live bird processing, and bio security).
- Rocco Farm Foods, Inc., Edinburg, VA. June 1994 – September 1994  
Internship – gained experience in all departments within the broiler processing plant including personnel management while working in a bilingual environment.
- Undergraduate Research, The Pennsylvania State University, State College, PA 1994  
Conducted research in the Nutrition and Skeletal Metabolism Laboratory related to tibial dyschondroplasia (project focused on determining the efficacy of calcinogenic plants and Vitamin D<sub>3</sub> analogs on the skeletal deformity tibial dyschondroplasia in broiler chickens).
- Arbor Acres Farm Inc., Glastonbury, CT. May 1993 – September 1993  
Internship – gained experience in servicing breeding stock and selection techniques for broiler genetics while working in a bilingual environment.
- Beef and Sheep Center, The Pennsylvania State University, State College, PA. 1990 – 1992  
Worked as student laborer to assist with college expenses (feeding, fitting, and shearing).
- Herdsman, family owned swine, beef, and sheep operation. 1984 – 1995  
Assisted with all aspects of production and marketing.
- RPM Farms, Beavertown, PA. 1977 – 1984  
General labor - assisted with swine, hay, and grain operations.

#### **VI. INTERNATIONAL EXPERIENCE**

- Consulting on behalf of Phibro for SuKarne Beef Processing, Monterrey, Mexico, 2013  
Evaluated product quality strategies (nutrition, lairage, and chill capacity) for beef processing operations from feedlot through harvest and fabrication
- Resident Director for Human and Animal Study Abroad Programs

I helped develop a program that promotes the awareness of human and animal interactions and simultaneously provides students with opportunities to engage in study abroad. Destinations have included Ireland, New Zealand, Chile, Greece, and South Africa. Serving as a resident director I traveled with students to the following destinations:

New Zealand – 2010 (2 weeks; 35 Students)

Ireland – 2012 (2 weeks; 84 Students)

South Africa – 2013 (2 weeks; organizational trip)

- Diplomado en Gestión de la Producción Animal Vivina y Ovina, Coyhaique, Chile 2010  
Delivered Invited Presentation “Improved Meat Quality for Patagonia Grass-based Beef and Sheep Branded Programs” - Sponsored by the Universidad de Chile in conjunction with INACAP, the largest higher education institution in Chile, and CORFO, the Chilean Economic Development Agency.
- Horizons in Livestock Sciences Conference, Christchurch, New Zealand 2008  
Delivered Invited Presentation "Research Directions for Meat and Allied Industries"
- Sabbatical Leave, Armidale, NSW, Australia July 2007 - June 2008  
Served as a Visiting Academic with the University of New England, School of Environmental and Rural Science; and a Visiting Scholar with the BEEF CRC and SHEEP CRC
- Evaluated Grass-Based Production and Processing Systems, France 2007  
Visited multiple beef and sheep producers and processing plants throughout Southern France evaluating market development opportunities for grass-based systems in Ohio.
- Elanco Veterinary Consultants Conference, Cabo San Lucas, Mexico 2007  
Delivered Invited Presentation “Beef Palatability and Sensory Experiences”
- Importation of Berkshire Germplasm, England 2004 and 2005  
Accompanied Dr. Steve Moeller to England to select and import germplasm for the establishment of an English-based herd of purebred Berkshires to facilitate pork quality research at the OARDC Western Branch research station. We visited multiple swine and sheep operations during both trips and successfully developed the research herd for OSU.
- International Phase of the NCBA Vitamin E Strategic Alliance Study, Japan 1996  
I served as the team leader for collecting retail sales data and conducting shelf-life trials (microbiological profiles and color stability) on various domestic beef products compared to those imported from the U.S. and Australia. The duration of the study in Japan was seven weeks and required daily travel and sampling within multiple cities. The research conducted during this travel was also a component of my M.S. Thesis.
- Participant on Rural Appraisal Team in Puerto Rico 1994  
This travel was part of a course (INTAG 481 - International and Tropical Agriculture). I was selected to interview the local farmers, served as a translator, and the College representative for Penn State University during the Participatory Rural Appraisal process.
- Rotary Exchange Student to Ecuador, South America 1986 – 1987  
Colegio Hermano Miguel and San Pio X, Latacunga, Ecuador

Repeated senior year in high school specializing in chemistry and biology; all courses were taught in Spanish. I had to learn to understand and speak Spanish during my first few months in Ecuador as my U.S. high school did not offer Spanish as a foreign language.

## **VII. SCIENTIFIC, ACADEMIC AND INDUSTRY HONORS AND AWARDS**

- Honored as the Dedicatee for the 2016 College of Food, Agricultural, and Environmental Sciences Recognition Program; award was voted on by all the students within the college
- Selected as a Fellow for, and completed, the Food Systems Leadership Institute, 2015 Association of Public and Land-Grant Universities (APLU)
- Graduate of CIC Academic Leadership Program, 2015 Committee on Institutional Cooperation, Champaign, IL
- CFAES Outstanding Academic Mentor Award, 2014 The Ohio State University
- Industry Leadership Award, 2012 National Lamb Feeders Association
- Industry Service Award, 2011 Ohio Beef Council / Ohio Cattlemen’s Association
- Graduate of LEAD21, Leadership Development for the 21st. Century, 2011 Fanning Institute at the University of Georgia
- Sigma Gamma Delta Teaching Award of Merit, 2010 Gamma Sigma Delta, The Ohio State University
- Young Animal/Dairy Science Leader Outstanding Teaching Award, 2008 Mid-West Section, American Society of Animal Science
- College of Food, Agricultural, and Environmental Sciences Price Advising Award, 2004 The Ohio State University
- College of Food, Agricultural, and Environmental Sciences Teaching Award, 2003 The Ohio State University
- Rodney F. Plimpton Outstanding Teacher Award, 2002 The Ohio State University
- Charles N. Shepardson Graduate Teaching Award, 1999 Colorado State University
- Colorado State University Graduate Fellowship, 1997 Colorado State University
- Outstanding Senior for Northeastern Student Affiliate, 1994 American Society of Animal Sciences

## **VIII. PROFESSIONAL AFFILIATIONS**

American Society of Animal Science (ASAS)



American Meat Science Association (AMSA)  
National Cattlemen’s Beef Association (NCBA)  
National Pork Board (NPB)  
American Sheep Industry (ASI)  
Ohio Association of Meat Processors (OAMP)  
Ohio Cattlemen’s Association (OCA)  
Ohio Sheep Improvement Association (OSIA)  
Ohio Sheep and Wool Program (OSWP)  
Intercollegiate Meat Coaches Association (IMCA)  
Professional Animal Auditor Certification Organization (PAACO)

**IX. NATIONAL AND STATE SCIENTIFIC AND INDUSTRY COMMITTEES**

American Sheep Industry – Research, Extension, and Education Committee, 2011 to 2016  
American Sheep Industry – Product Characteristics Committee, Co-chair 2014  
American Lamb Board – Industry Roadmaps Committee, 2013  
Ohio Livestock Standards Care Board, Technical Advisory Committee, 2009 – 2010  
Ohio Sheep and Wool Growers Board, 2009 to 2016  
NCERA 190 – Increased Efficiency of Sheep Production, Secretary 2008  
NCERA 214 – Increased Efficiency of Sheep Production, Chair 2010; Vice- Chair 2009  
National Pork Board Quality Solutions Committee, 2005 – 2009  
Ohio Sheep Improvement Association Symposium and Conference Committee, 2002 – 2008  
Ohio Beef Quality Assurance Program Development Team Member, 2001

**X. PAST DEPARTMENTAL COMMITTEE ASSIGNMENTS & RESPONSIBILITIES**

Department of Animal Sciences Chairs Advisory Committee, 2009 – 2012  
Department of Animal Sciences Quarter-to-Semester Conversion Committee (chair), 2009 – 2012  
Department of Animal Sciences Academic Affairs Committee (chair), 2007 – 2014  
Department of Animal Sciences Standing Search Committee, 2006 – 2014  
Department of Animal Sciences Coordinator of Training Program for the Meat Processing and Career Center, Ohio Department of Rehabilitation and Correction, Orient, OH, 2006 – 2011  
College of Food, Agricultural, and Environmental Sciences Vice-Presidents Advisory Council, 2005 – 2008  
College Honors Committee, 2004 – 2009  
Department of Animal Sciences Academic Affairs Committee, 2004 – 2006  
Supervisor of Meat Science Research Associate, Department of Animal Sciences, 2002 – 2010  
Supervisor of Meat Science Extension Associate, Department of Animal Sciences, 2002 – 2008

Department of Animal Sciences Scholarship Committee, 2002 – 2016  
Coordinator of Columbus Sheep Program, Department of Animal Sciences, 2002 – 2016  
Supervisor of Sheep Extension Associate, Department of Animal Sciences, 2001 – 2016  
Animal Sciences Graduate Student Council Advisor, 2000 – 2016  
Supervisor of Meat Science Laboratory Manager, Department of Animal Sciences, 2000 – 2016  
Faculty Supervisor of Meat Judging Team, Department of Animal Sciences, 2000 – 2015  
Department of Animal Sciences New Faculty Hire Ad Hoc Committee, 2001  
Department of Animal Sciences Learning Outcome and Curricular Integrations Team, 2001  
Department of Animal Sciences Academic Affairs Committee, 2000 – 2003  
Department of Animal Sciences Quadrathlon Committee (chair – 2001), 2000 – 2001  
Department of Animal Sciences Vision Team; chair of species sub-committee, 2000

## **XI. TEACHING & INSTRUCTION (majority appointment)**

I have a strong passion for teaching. I have received various awards associated with teaching and resident instruction, which I believe are a reflection of my communication skills and my work ethic. I utilize a few simple philosophies as I engage in my teaching activities both inside and outside the classroom. I believe that to be a successful teacher you must possess an inherent interest in the future of your students/audience; and rather than trying to impress people with how much you know, instead, find ways to pass along what you know. I believe successful education requires successful communication. To communicate successfully you must first gain the attention of your target audience. You can gain people's attention by simply using friendly, direct mannerisms and conveying a positive attitude. If you have a sincere passion or desire to teach, it will show. Conversely, if you lack that level of commitment, it will be equally apparent in your students' attitudes and their success (or lack thereof). I use humor as a tool in the classroom, and although I expend a lot of effort to make learning an enjoyable process, I am very sincere about my targeted goals and expected outcomes. I try to engage my students and audiences; after all, you generally don't seek out boring and pessimistic people to listen to. My success and reputation as an effective instructor and/or presenter has not come about because I teach or present different material than others do, it is because I teach and present material differently.

I recognize that students are changing (backgrounds, knowledge base and skill sets). More and more, classes and classrooms are becoming a place where they compete for points and status, not necessarily for reasons related to learning. There is a constant need to create a passion for understanding, and the desire to solve or find answers to the unknown. As an educator, I see my role as a very challenging one; when it begins to seem insurmountable I reflect on the stories of my grandmother who taught in a one-room schoolhouse, and realize that the challenges I deal with pale in comparison. For me, a successful day in the classroom is not necessarily when a student answers a question correctly, but rather, when a student asks and ponders – "Why?"

Teaching Responsibilities

Course Numbers quarters/semesters - *I have served as the lead instructor in 14 different courses*

**MEAT SCI 2010** – “Bar-B-Q Science”. This is an introductory level course designed to provide students with the hands-on opportunity to learn proper preparation and grilling techniques for beef, pork, lamb, and poultry. This course also serves as a recruiting opportunity to showcase the meat science major and minor to students from across campus. I developed the concept and the curriculum and Webber Stephen Grills has donated > 20 grills to the program to facilitate the teaching of this course. I have taught this course on both the Columbus campus and the Wooster campus (Ohio State ATI).

**ANIM SCI 200/2200.01 & 2200.02** – “Introductory Animal Science”. This is a required introductory level course that focuses on the various species and disciplines associated with food and companion animal production – this course includes a laboratory component. I taught it in place of the normal instructor who was on maternity leave.

**ANIM SCI 248/2400.05** – “Human and Animal Interactions in the U.S.”. This is an introductory course taught in conjunction with ANIM SCI 697/3797.03 (see below) designed to provide students with an appreciation for how history, government, geography, and infrastructure impact the use of animals within our society. This is a team taught course offered once a year with an average enrollment of 50 students per year. I co-designed and developed this course.

**ANIM SCI 250/2100** – “Food Animal Products”. This is a team-taught, required introductory level course; I teach the first half of the course which focuses on the role and use of food animal products (meat, milk, eggs, and wool). This course is offered twice a year with an average enrollment in excess of 225 students per academic year. I co-designed and developed this course.

**ANIM SCI 355.01/MEAT SCI 3110** – “Principles of Meat Science”. This course is designed to teach students about the science, technology and business of processing and marketing muscle foods. This course is currently offered twice a year with an average enrollment of 60 students per academic year. I designed and developed this course.

**ANIM SCI 355.02/MEAT SCI 3210** – “Meat Science Products Laboratory”. This course focuses on understanding the procedures associated with wholesome and humane harvest and fabrication of meat animals. This course is offered once a year with an average enrollment of 12 students per academic year. This course contains a combination of lecture and hands-on laboratory components. I designed and developed this course.

**ANIM SCI 3300** – “Livestock Selection and Evaluation” – This course focuses on live animal evaluation (structural correctness, growth performance, and composition) with an emphasis on public speaking. This course is offered once a year with an average enrollment of 20 students per academic year. This course contains a combination of lecture and hands-on laboratory components.

**ANIM SCI 305/MEAT SCI 3310** – “Meat Animal and Carcass Evaluation”. This course focuses on developing an understanding of anatomy, factors that influence the value of meat animals, and terminology associated with the meats industry with an emphasis on writing. This

course is offered once a year with an average enrollment of 20 students per academic year. This course contains a combination of lecture and hands-on laboratory components. I designed and developed this course.

**ANIM SCI 400/3100** – “Growth and Development”. This course focuses on tissue and cellular growth mechanisms of embryonic growth and development, general post-natal growth and development, and skeletal growth and development. This course is team-taught and has an enrollment of 45 students per academic year. I co-designed and developed this course.

**ANIM SCI 555.02/MEAT SCI 4510** – “Processed Meats”. This course focuses on the combination of meat and non-meat ingredients to enhance quality and value of processed meat products. This course is team-taught and has an enrollment of 15 students per academic year. This course contains a combination of lecture and hands-on laboratory components.

**ANIM SCI 555.03/MEAT SCI 5810** – “Branded Food Animal Products”. This is a senior/graduate level course that addresses the critical thought processes and decisions involved in the development of meat-based value-added products, especially products for niche markets. This course is offered once a year with an average enrollment of 20 students per year. I co-designed and developed this course.

**ANIM SCI 697/3797.03** – “Human and Animal Interactions”. This is a 12-day travel study course taught in conjunction with ANIM SCI 248/2400.05 to allow students to compare the use of animals in other societies (Ireland, New Zealand, Chile, or South Africa) with that of the U.S. I co-designed and developed this course.

**ANIM SCI 890.05/8885** – “Seminar: Meat Quality and Products” – This is a graduate level seminar that focuses on pre- and post-mortem factors that influence wholesomeness and palatability of meat products. This course is offered once a year with an average enrollment of eight students per academic year.

**ANIM SCI 6000** – “Introduction to Graduate Studies in Animal Science” – An introduction to the discipline and scholarly activities required to pursue a graduate degree in Animal Sciences.

*Curriculum responsibilities:*

I served as the Chair of the Department’s Academic Affairs Committee and also served as coordinator of the following Major and Minor Programs:

Animal Science Major

Meat Science Major (I developed this major in 2012)

Animal Science Minor

Meat Science Minor (I developed this minor in 2005)

Animal Pre-Veterinary Medicine Minor (I co-developed this minor in 2012)

Human and Animal Interactions Minor (I co-developed this minor in 2013)

**Transition from Quarters-to-Semesters** – During 2012, The Ohio State University made the transition from a quarter-based system to a semester-based system. I provided the leadership for reorganizing the curriculum in the Department of Animal Sciences, as well as serving on the College and University level committees that were providing oversight for the transition. This

was a multi-year process involving countless hours of work, and as a result, we developed a completely restructured curriculum. We developed a new major (Meat Science), new specializations within the Animal Science major, new minor programs, and several new classes to enhance the overall effectiveness of the curriculum. In addition, we developed a curriculum assessment plan to evaluate and continuously improve the effectiveness of the curriculum. The Animal Sciences Department now has two B.S. degree programs that encompass three majors and six minors:

*B.S. in Agriculture*

Majors: 1. Animal Sciences

Specializations: Bioscience

Animal Industries

Veterinary Technology

2. Meat Science

Minors:

- Animal Science
- Animal Nutrition
- Animal Pre-veterinary Medicine
- Dairy Science
- Equine Science
- Human and Animal Interactions
- Meat Science

*B.S. in Nutrition*

Major: Animal Science

*Graduate Students*

I have been able to establish a strong graduate training program in Meat Science, however, I must recognize that this is in part due to my strong collaborative relationship with other faculty members. For the betterment of our graduate program, and in order to provide our students with greater mentoring, we have opted to co-advise several of the students. Thus, Dr. Steven Moeller and I share the responsibilities of major professor for our M.S. graduate students and Dr. Steven Loerch served as the co-advisor for Amy Radunz during her Ph.D. program. I have served as the major professor or co-major professor for 18 graduate students and have served on the graduate committee of an additional 26 graduate students during my tenure at Ohio State. Additionally, I have served as a reviewer for M.S. Thesis (1) and Ph.D. Dissertations (2) for graduate students completing their programs at University New England, Armidale, NSW, Australia, and Murdoch University, Perth, WA, Australia.

**Doctoral students who have completed their degree (dissertation advisor)**

Amy Radunz (2009) (Co- Advisor)	<i>Effects of dietary energy source preparturum on skeletal muscle growth and development off offspring in cattle and sheep.</i>
Michael Cressman (2014)	<i>Effects of Litter Reuse on Performance, Welfare, and the Microbiome within the Gastrointestinal Track of Commercial Broiler Chickens</i>

**Masters students who have completed their degree (thesis advisor).**

- Michele Murphy (2002) *Improving the tenderness of lamb by pre-mortem and post-mortem means: the effects of monensin and pre-rigor infusion on lamb tenderness.*
- Deanna Bapst (2003) *The effects of dietary vitamin A on intramuscular fat deposition in lambs.*
- Leslie Wickersham (2005) *Effects of dietary manipulation on conjugated linoleic acid in lambs.*
- Gary Dunlap (2005) *Impact of phosphate type and cooking method on the water holding capacity and texture of reheated pre-cooked turkey breast rolls.*
- Jaime Bard (2006) *Evaluation of natural feed supplements in ruminant animals: the effects on feedlot performance, carcass traits, and the fecal excretion of Escherichia coli O157:H7 and Salmonella spp.*
- Kevin Brueggemeier (2007) *Fat and muscle deposition in swine.*  
(Co-advisor)
- Aaron Naber (2007) *Impact of postmortem aging of Longissimus muscle derived from Berkshire, Landrace, and reciprocal crossbred swine for pigs harvested at five ages in the finishing phase of production.*  
(Co-advisor)
- Jill Gevin (2007) *Relationship between calpastatin activity and lamb carcass characteristics.*  
(Co-advisor)
- Katie Logan (2008) *Effects of pork quality attributes, end-point cooking temperature and phosphate enhancement levels on consumer and trained sensory palatability.*  
(Co-advisor)
- Stacey Johnson (2009) *The Influence of early postmortem enhancement and the inclusion of dextrose on lamb longissimus tenderness.*  
(Co-advisor)
- David O'Diam (2009) *Comparison of slice shear force with Warner-Bratzler shear force as predictors of consumer panel palatability measures in non-enhanced and enhanced pork loin chops.*  
(Co-advisor)
- Michael Cressman (2009) *A molecular approach to understanding the interrelation between the microbiomes in the litter and intestines of commercial broiler chickens.*  
(Co-advisor)
- Megan Bishop (2011) *Influence of a low energy diet within Berkshire genetics on associated affects of growth, composition, and quality.*  
(Co-advisor)
- Katie Betts (2011) *Influence of the addition of ractopamine on behavior, growth, efficiency, carcass merit and fresh pork quality of Berkshire pigs.*  
(Co-advisor)
- Alexandra Gress (2012) *Effects of genetics, chilling rate, and cooking methodology on ham quality.*  
(Co-advisor)

**Doctoral Students (dissertation committee member)**

- Rebecca Emnet (2000)
- Jen-hua Cheng (2002)
- James C. Peters (2005)
- Tim Leeds (2005)
- Milton Gorocicia Buenfil (2006)
- M. Scott Updike (2007)

Xuehui Li (2008)  
Carrie Pickworth (2009)  
Lopa Basu (2011)  
Sara Crawford (2012)  
Jeff McCutcheon (2014)  
Caitlyn Mullins (2016)  
Jerad Jaborek (2019)

### **Masters Students (thesis committee member)**

Gabe Stoeller (2002)  
Sarah Graham (2004)  
Sarah Still (2005)  
Marie Antoniewski (2007)  
Emily Arnett (2010)  
Benjamin Wenner (2012)  
Daniel Gowanlock (2012)  
Katie Esselburn (2012)  
Steven Waineright (2012, James Cook University, QLD, Australia)  
Joshua Kyle (2013)  
Benjamin Bohrer (2013)  
Jerad Jaborek (2016)  
Allison Pullins (2017)  
Garth Ruff (2017)

### **Honors Undergraduate Students**

Ashley Lepper (2007)	Hemoglobin Concentration as an Indicator of Fresh Pork Quality (subsequently completed a M.S. and Ph.D. in the North Dakota State University Meat Science Program)
Tara Fraley (2007)	Development of Value-based System for Purchasing Meat Goats (1 <sup>st</sup> Place CFAES Undergraduate Research Forum; subsequently completed a DVM at The Ohio State University)
Marranda Suaerland (2008)	Effect of pH and Temperature on Myoglobin in Fresh Meat (1 <sup>st</sup> Place CFAES Undergraduate Research Forum; subsequently completed a DVM at The Ohio State University)
Sara Wells (2008)	Effect of Breed on Palatability of Dry-cured Ham (subsequently completed a M.S. in Meat Science at South Dakota State University, then served as a lecturer at Michigan state University, currently leading beef quality assurance at Wendy's International)
Curtis Pittman (2009)	Influence of Intramuscular Fat and Degree of Doneness on Resulting Tenderness in Fresh Pork loin Chops (1 <sup>st</sup> Place CFAES Undergraduate Research Forum; 4 <sup>th</sup> Place Denman Undergraduate Research Forum;

	subsequently completed a M.S. in Meat Science at Colorado State University, currently leading QA program at Harris Ranch, CA)
Katie Schircliff (2011)	Maternal Line Genetics Influence Fresh Pork Quality and Palatability (1 <sup>st</sup> Place CFAES Undergraduate Research Forum; 3 <sup>rd</sup> Place Denman Undergraduate Research Forum; subsequently completed a M.S. and Ph.D. in Meat Science at University of Missouri; currently employed with Cargill)
Sandra DePue (2013)	Identifying Gaps in Ohio's Beef Supply Chain. (Honorable Mention Denman Undergraduate Research Forum; completed an MS at Oklahoma State University, a PhD at Penn State University, and currently employed with Clemmons Family Foods)
Caitlin Mullins (2014)	Small Heat Shock Protein 27: a small protein with great potential (presented research at the Denman and also at Harvard University; completed a MS at The Ohio State University; currently completing her DVM at North Carolina State University)

### **Undergraduate Advising**

I was actively been engaged as an undergraduate advisor throughout my career at Ohio State University. I served approximately 50 undergraduate advisees each year, as well as several students who I visited with via co- and extra-curricular activities. In my role as chair of the Academic Affairs Committee I reviewed and guided petitions from students in special circumstances to facilitate their degree programs. I also conduct the advising for students with unique circumstances and review petitions for augmenting degree program requirements.

## **XII. EXTENSION RESPONSIBILITIES**

Although in latter years I had a 0% extension appointment, I maintained an active outreach program for adult stakeholders, industry partners, and youth organizations (4-H & FFA activities).

### **Mission Statement**

My Extension and Outreach Program will function to:

- enhance the discovery and dissemination of knowledge of food animals,
- educate and provide service to our clientele,
- help ensure future successes of our stakeholders and students, and
- deliver a positive impact on the future.

Extension is a service in which the University provides basic consulting and education to producers and stakeholders. I interacted on a daily basis with livestock producers, packers and processors helping trouble shoot problems, providing technical assistance, and developing educational programs. My responsibilities upon hire were to develop an outreach program for both adult and youth audiences focusing on pre- and post-harvest management systems and their resulting impact on fresh meat quality (appearance, palatability and food safety). As our food animal industries and commodities continue to evolve and shift towards a philosophy of "food production" there is a greater need for understanding how animal products function as



food products and how their inherent quality as a raw material impacts resulting food products. Therefore, the goals of my extension program have been to:

- 1) **work** with those people/organizations who are open to change, and are willing to adopt new technologies and information,
- 2) **assist** them in becoming more efficient in producing a wholesome, consumer-desired, high quality product, and
- 3) **enhance** their ability to survive a rigorous market place.

I either developed or was involved with several (in excess of 50) adult and youth short course programs/workshops. I also presented numerous (in excess of 100) invited presentations on this subject matter. The underlying themes of these workshops and presentations were to:

- 1) **investigate** the characteristics and demographics of your targeted consumer,
- 2) **understand** the components and dynamics of the product you are producing (with the mindset that you can not manage something you do not measure, or do not know how to measure), and
- 3) **manage** these components to produce food products more efficiently and/or of higher quality (with regard to palatability and wholesomeness).

I have continued to work with stakeholders who are pursuing the continued development of niche or value-added products and marketing to promote sustainable systems for small and/or independent farmers (includes beef, pork, and lamb producers). Our efforts have included product development and securing grant funding to enhance the infrastructure of production and marketing channels.

I have also assisted with the development of a producer owned branded beef program – Ohio Signature Beef™. Ohio Signature Beef is a process verified program that is designated by schedule G55 by the USDA Agricultural Marketing Service. This program has continued to grow and evolve over the years.

In addition to the adult outreach programming, I worked with various 4-H and FFA groups, activities, and contests. I helped develop and facilitate skillathon stations, develop quality assurance materials, assist with up-dating 4-H resource materials, and coordinate the officiating for county and state carcass shows (excess of 20 carcass shows per year) throughout Ohio.

In 2005 I developed and supervised a training program for the Ohio Department of Rehabilitation and Corrections. This program remained in existence until 2012 due to State budget cuts. The program focused on basic food safety, carcass fabrication, carcass grading, and HACCP training. At the successful completion of modules, inmates received certificates which enabled them to apply for jobs upon their release. Inmates who completed this program and were released had a significantly lower reincarceration rate.

### **XIII. RESEARCH RESPONSIBILITIES**

The research responsibilities of my position included:

- 1) **actively** seek funding and resources from outside the University to support a research program, and

- 2) **work** as a team member to help guide and/or support research efforts of other research programs within our Department and across the University, as well as the research programs of other universities and research stations in the U.S. and abroad, and
- 3) **pursue** answers to questions and challenges that face our producers and industry partners, while simultaneously instilling the use of the scientific method in our graduate students, and practicing the overarching research concept of refine, reduce, and recycle.

My research has focused on treatments and technologies that can impact not merely the efficiencies of production, but also the inherent qualities of resulting meat products or muscle foods such as: tenderness, water holding capacity, intra-muscular fat development, color, connective tissue development and wholesomeness. The nature of my position and appointment allowed me to work across many species and with several collaborators. This has been very rewarding and has provided me with the opportunity to gain additional experience, and develop multiple professional relationships with experts in a wide range of disciplines.

Due to the inherent nature of my position ( $\approx$  30% research appointment, coupled with the responsibility of overseeing the Meat Science Laboratory, and the Department's Undergraduate Curriculum), I looked to collaborative efforts and relationships to keep active and up to date in areas of research outside my specific interests. The collaborative relationships I developed both nationally and internationally have been very symbiotic in nature; they allowed me to work with some very distinguished scientists and learn about their programs and new approaches or methodologies. At the same time, I was able to contribute to discussions on experimental design, interpreting results, and allowed my colleagues to extend their projects past the impacts of nutrition and genetics on growth performance and into resulting effects on product quality. My experience in the Meat Science area has allowed me to bring new insight and direction into some of the existing and successful research programs in the Department as well as those at James Cook University, QLD, Australia. These collaborative relationships have helped provide mentoring experiences for me in my research program, have enhanced my knowledge, impacted my teaching and outreach programs, and I believe they have had the same reciprocating impact for those that have collaborated with me.

*Research grants or funding where I served as the PI or Co-PI (>\$2.3MM)*

- 2015 Zerby, H.N., F.L. Fluharty, S.J. Moeller, J.Jaborek, K.E Belk, and J.D. Tatum. Effects of Energy Source, Sex, and Maturity on Carcass and Meat Characteristics. \$75,000. American Lamb Board.
- 2014 Fluharty, F.L. and H.N. Zerby. Evaluation of Jersey Crossbreeding Opportunities for a New, High-value Beef Market Product for Domestic and Export Markets. \$50,000. OARDC SEEDS Matching Grant.
- 2013 Belk, K.E., T.W. Hoffman, D.R. Woerner, J.D. Tatum, R.J. Delmore, R.K. Peel, S.B. LeValley, H.N. Zerby, S.J. Moeller, and F.L. Fluharty. Preferences & Complaints Associated With American Lamb Quality In Retail & Foodservice Markets. \$150,000 (\$73,000 to OSU). Joint funding from the American lamb Board and the National Sheep Industry Improvement Center.

- 2013 Fluharty, F.L. and H.N. Zerby. Evaluation of Jersey Crossbreeding Opportunities for a New, High-value Beef Market Product for Domestic and Export Markets. American Jersey Cattle Association and American All-Jersey Foundations. \$102,000
- 2011 Osborne, J.M. and H.N. Zerby. Active student engagement in learning anytime/anywhere; ANIMS SCI 2367. OSU Office of the CIO Learning Technology Impact Grant. \$15,000.
- 2010 Fluharty, F., L. Miller, H. Zerby, P. Kuber, J. McCucheon, and S. Loerch. Assessing Production, Economics, Marketing, Producer and Processor Perceptions, and Characteristics of Meat. USDA/Agriculture and Food Research Initiative. \$397,492.
- 2008 Zerby, H.N. and S.J. Moeller. Meat quality of pasture-finished lambs and goats. Research Contract with USDA ARS Beaver, WV \$35,000 Funded for a period of three years
- 2007 Zerby, H.N., J.M. Osborne, and J.E. Kinder. OSU Department of Animal Sciences Human and Animal Interactions Cluster Program. Colleges of the Arts and Sciences ASC Cluster Pilot Program. \$22,500
- 2007 Zerby, H.N. and S.J. Moeller. Evaluation of carcass composition and meat quality in terminal sired lambs. Research Contract with USDA Sheep Experiment Station, Dubois, ID. \$36,000
- 2007 Kuber, P., and H. Zerby. Enhancing the value of lamb carcasses via value-added processed products from lamb legs and shoulders. Ohio Sheep Improvement Association. \$10,000
- 2007 Fluharty, F.L., H.N. Zerby, and P.Kuber. Creation of a Grass-Based Beef Research, Processing, and Marketing Initiative for the High-Value, Health Conscious Consumer Market Segment. OARDC Competitive Grants Program: SEEDS Matching Grants Competition. \$39,376
- 2006 Sporleder, T., H.N. Zerby, S.J. Moeller, and B. Roe. Business Plan Development for Multi-species Livestock Harvest and Processing Facilities. Southern Ohio Agricultural and Community Development Foundation. \$15,000
- 2005 Zerby H.N., P. Kuber, F. Fluharty, S. Loerch, J. Funk, J. LeJeune. Development of pre-harvest nutritional management strategies to reduce *E. coli* O157:H7 and *Salmonella* spp. gastrointestinal survival and shedding. The National Cattlemen's, Beef Association. \$82,121
- 2004 Zerby H.N., and L. Knipe. Equipment competitive grant, Department of Animal Sciences, The Ohio State University. \$3000.
- 2003 Zerby, H.N., and S. Moeller. Equipment competitive grant, Department of Animal Sciences, The Ohio State University. \$17,000.
- 2003 Zerby. H.N., S.J. Moeller, F.L. Fluharty and R.A. High. Use of realtime ultrasonography technology to enhance genetic selection for improved carcass quality and cutability in lambs. USDA, National Sheep Improvement Industry Center. \$30,000. Funded for a period of two years.
- 2002 Zerby, H.N., and F.L. Fluharty. Family Farm Beef Industry Network – Value Added Product Development. Sponsor: USDA CSREES. \$1,317,120. Funded for a period of three years.

- 2002 Zerby, H.N., and G.R. Dunlap. Enhancing further processed turkey food products. Sponsor: Department of Animal Sciences JAAP Endowment, The Ohio State University. \$6,890.
- 2002 Zerby, H.N. Equipment competitive grant, Department of Animal Sciences, The Ohio State University. \$5,100.
- 2000 Zerby, H.N. Processed and cooked chicken breast tenderness. Case Farms. \$1,140.

Research where I served as a Co-PI or collaborator (>\$4.1MM)

- 2009 Fluharty, F.L., H.N. Zerby, M.L. Eastridge, and S.L. Boyles. RFID Active Tag. National Animal Identification Service. \$75,000. Funded for a period of two years.
- 2006 Moeller, S.J., H.N. Zerby, and R. Miller. Pork Quality Benchmark Project. National Pork Board. \$1,302,951. Funded for a period of two years.
- 2004 Moeller, S.J., H.N. Zerby, M. Belury, D. Mangione, and F.L. Fluharty. Ohio Family Farm Value-Based Marketing Initiative. USDA CSREES. \$1,090,057. Funded for a period of three years.
- 2003 Ottobre, J.S., D.R. Danforth, P.T.P. Kaumaya, H.N. Zerby. Manipulation of vascular endothelial growth factor (VEGF) to regulate reproductive efficiency. OARDC Interdisciplinary Team Research. \$91,700 for a period of three years.
- 2003 Fluharty, F.L. and H.N. Zerby. Family Farm Beef Industry Network – Antibiotic Use in Beef Production Systems and Consumption of Beef in Elderly Americans. USDA CSREES. \$1,317,120. Funded for a period of three years.
- 2002 Mahan, D., H.N. Zerby and M. Wick. Equipment competitive grant, Department of Animal Sciences, The Ohio State University. \$42,000.
- 2001 Fluharty, F.L., H.N. Zerby, and B.E. Roe. Develop value-added marketing channels for a vertically coordinated beef production and processing system in Ohio. Sponsor USDA:Federal State Marketing Improvement Program. \$60,000.
- 2001 Roe, B.E., H.N. Zerby, F.L. Fluharty, and S.C. Loerch. Developing stochastic feedlot stimulation software to better understand, manage and value beef cattle quality traits in a vertically coordinated beef system. Ohio Agricultural Research and Development Center, Research Enhancement Competitive Grants Program. \$97,462.
- 2000 Moeller, S.J., H.N. Zerby and T.J. Baas. Investigation of the impact of feeding Ractopamine (Paylean™) on the growth, performance, efficiency and muscle quality of Duroc, Berkshire and a high-lean genetic line of swine. Sponsor: Elanco Animal Health, A Division of Eli Lilly and Company. \$96,555 Grant split \$48,000 in 2000 and \$48,555 in 2001.
- 2000 Knipe, L.C., and H.N. Zerby. Supporting documentation for hazard analysis: Materials for assisting small and very small inspected meat plants. Sponsor: Food Safety and Inspection Service. \$20,548.

## XIV. PUBLICATIONS

### Refereed Publications

- Jaborek, J.R., A.E. Relling, S.J. Moeller, and H.N. Zerby. 2019. Prediction of retail yield for purebred and crossbred Jersey cattle raised for natural markets. *J. Anim .Sci.*, 97 (Suppl. 3):335-336.
- Jaborek, J.R., H.N. Zerby, S.J. Moeller, F.L. Fluharty, and A.E. Relling. 2019. Evaluation of feedlot performance, carcass characteristics, carcass retail cut distribution, Warner-Bratzler shear force, and fatty acid composition of crossbred Jersey steers and heifers. *Appl. Anim. Sci.* 35(6):615-627.
- Jaborek, J.R., H.N. Zerby, S.J. Moeller, and Fluharty. 2018. Effect of energy source, level, and sex on growth performance, and carcass characteristics of long-fed lambs. *Small Rum. Res.*, 167:61-69.
- Jaborek, J.R., H.N. Zerby, S.J. Moeller, M.P. Wick, F.L. Fluharty, H. Garza III, L.G. Garcia, and E.M. England. 2018. Effect of energy source, level, and animal age and sex on meat characteristics of sheep. *Small Rum. Res.*, 166:53-60.
- Jaborek, J.R., H.N. Zerby, S.J. Moeller, and Fluharty. 2017. Effect of energy source, level, and sex and carcass characteristics of lambs. *Small Rum. Res.*, 151:117-123.
- Mullins, C.R., H.N. Zerby, L.A. Fitzpatrick, and T.P. Parker. 2016. *Bos indicus* cattle possess greater basal concentrations of HSP27, alpha B-crystallin, and HSP70 in skeletal muscle in vivo compared with *Bos Taurus* cattle. *J. Anim .Sci.*, 94(1):424-429.
- McCutcheon, J. S., L.W. Morton, H.N. Zerby, S.C. Loerch, L. Miller and F.L. Fluharty. 2014. Ohio livestock producers' perceptions of producing and marketing grass-based beef and lamb. *Agroecology and Sustainable Food Systems.* (Online; DOI: 10.1080/21683565.2014.986598).
- Turner K.E., K.A. Cassida, H.N. Zerby, and M.A. Brown. 2015. Carcass parameters and meat quality in meat-goat kids finished on chicory, birdsfoot trefoil, or red clover pastures. *Meat Science*, Jul;105:68-74.
- Turner K.E., D.P. Belesky, K.A. Cassida, and H.N. Zerby. 2014. Carcass merit and meat quality in Suffolk lambs, Katahdin lambs, and meat-goat kids finished on a grass-legume pasture with and without supplementation. *Meat Science*, 98(2):211-119.
- Mousel, M.R., D.R. Notter, T.D. Leeds, H.N. Zerby, S.J. Moeller, T.J. Bret, G.S. Lewis. 2014. Evaluation of Columbia, USMARC-Composite, Suffolk, and Texel rams as terminal sires in an extensive rangeland production system: VIII. Quality measures of lamb *longissimus dorsi*. *J. Anim Sci.*, 92(7):2861-2868.
- Turner K.E., K.A. Cassida, and H.N. Zerby. 2014. Meat goat kids finished on alfalfa, red clover or orchardgrass pastures: carcass merit and meat quality. *Meat Science*, 98(4):629-636.
- Notter, D.R., M.R. Mousel, T.D. Leeds, H.N. Zerby, S.J. Moeller, G.S. Lewis, J.B. Taylor, 2014. Evaluation of Columbia, USMARC-Composite, Suffolk, and Texel rams as terminal sires in an extensive rangeland production system: VII. Accuracy of ultrasound predictors and their association with carcass weight yield and value. *J. Anim. Sci.*, 92(6):2402-2414.
- Shin, S., Y. Suh, H.N. Zerby, K. Lee. 2014. Membrane-bound delta-like 1 homolog (Dlk1) promotes while soluble Dlk1 inhibits myogenesis in C2C12 cells. *FEBS*, 588(7):1100-1108.

- Notter, D.R., M.R. Mousel, T.D. Leeds, H.N. Zerby, S.J. Moeller, G.S. Lewis, J.B. Taylor. 2014. Evaluation of Columbia, USMARC-Composite, Suffolk, and Texel rams as terminal sires in an extensive rangeland production system: VI. Measurements of live-lamb and carcass shape and their relationship to carcass yield and value. *J. Anim.Sci.*, 92(5):1980-1994.
- Bohrer B.M., J.M. Kyle, K.L. Little, H.N. Zerby and D.D. Boler. 2013. The effects of a step-up ractopamine feeding program on growth performance and low-sodium ham characteristics of purebred Berkshire pigs. *J. Anim. Sci.*, 91(11):5535-5543.
- Wenner, B.A., H.N. Zerby, D.D. Boler, W.A. Gebreyes, and S.J. Moeller. 2013. Effect of mannan oligosaccharides (Bio-Mos) and outdoor access housing on pig growth, feed efficiency and carcass composition. *J. Anim. Sci.* 91(10):4936-4944.
- Mousel, M.R., D.R. Notter, T.D. Leeds, H.N. Zerby, S.J. Moeller, G.S. Lewis. 2013. Evaluation of Columbia, USMARC-Composite, Suffolk, and Texel rams as terminal sires in an extensive rangeland production system: IV. Postfabrication carcass component weights. *J. Anim. Sci.*, 91(5):2012-2020.
- Radunz, A.E, F.L. Fluharty, A.E. Relling, T.L. Felix, L.M. Shoup, H.N. Zerby, S.C. Loerch. 2012. Prepartem dietary energy source fed to beef cows: II. Effects on progeny postnatal growth, glucose tolerance, and carcass composition. *J. Anim. Sci.*, 90(9):4962-4974.
- Rohrer, G.A., D.J. Nonneman, R.K. Miller, H. Zerby, S.J. Moeller. 2012. Association of single nucleotide polymorphism (SNP) markers in candidate genes and QTL regions with pork quality traits in commercial pigs. *Meat Science*, 92(4):511-518.
- Mousel, M.R., D.R. Notter, T.D. Leeds, H.N. Zerby, S.J. Moeller, G.S. Lewis. 2012. Evaluation of Columbia, USMARC-Composite, Suffolk, and Texel rams as terminal sires in an extensive rangeland production system: III. Prefabrication carcass traits and organ weights. *J. Anim. Sci.* 90(9):2953-2962.
- Felix, T.L., H.N. Zerby, S.J. Moeller, and S.C. Loerch. 2012. Effects of increasing dried distillers grains with solubles on performance, carcass characteristics, and digestibility of feedlot lambs. *J. Anim. Sci.* 90(4):1356-1363
- Abley, M.J., T.E. Wittum, H.N. Zerby, and J.A. Funk. 2012. Quantification of campylobacter and salmonella in cattle before, during, and after the slaughter process. *Foodborne Pathog. Dis.* 9(2):113-119.
- Abley, M.J., T.E. Wittum, S.J. Moeller, H.N. Zerby, and J.A. Funk. 2012. Quantification of campylobacter in swine before, during, and after the slaughter process. *J. Food Prot.* 75(1):139-143.
- Arnett, E.J., F.L. Fluharty, S.C. Loerch, H.N. Zerby, R.A. Zinn and P.S. Kuber. 2012. Effects of forage level in feedlot finishing diets on carcass characteristics and palatability of Jersey beef. *J. Anim. Sci.* 90(3):960-972.
- Zerby, H.N., J.L. Bard, S.C. Loerch, P.S. Kuber, A.E. Radunz, and F.L. Fluharty. 2011. Effect of diet and *Aspergillus oryzae* extract or *Saccharomyces cerevisiae* on growth characteristics of lambs and steers fed to meet requirements of natural markets. *J. Anim. Sci.* 89(7):2257-2264.

- Wainewright, S.A., A.J. Parker, W.E. Holmes, H. Zerby, and L.A. Fitzpatrick. 2011. An economic case study of entire male grain-fed beef from a north-western Queensland production system. *Animal Production Science* 51(6):570-574
- Nonneman, D.J., A.K. Lindholm-Perry, S.D. Shackelford, T.L. Wheeler, G.A. Rohrer, C.D. Bierman, J.F. Schneider, R.K. Miller, H. Zerby, and S.J. Moeller. 2011. Predictive markers in calpastatin for tenderness in commercial pig populations. *J. Anim. Sci.* 89(3):2663-2672.
- Radunz, A.E., F.L. Fluharty, I. Susin, T.L. Felix, H.N. Zerby, and S.C. Loerch. 2011. Winter-feeding systems for gestating sheep II. Effects on feedlot performance, glucose tolerance, and carcass composition of and lamb progeny. *J. Anim. Sci.* 89(2):478-488.
- Radunz, A.E., F.L. Fluharty, H.N. Zerby, and S.C. Loerch. 2011. Winter-feeding systems for gestating sheep I. Effects on pre- and postpartum ewe performance and lamb progeny preweaning performance. *J. Anim. Sci.* 89(2):467-477.
- Cressman, M.D., Z. Yu, M.C. Nelson, S.J. Moeller, M.S. Lilburn, and H.N. Zerby. 2010. Interrelations between the microbiotas in the litter and in the intestines of commercial broiler chickens. *Appl. Environ. Microbiol.* 76(19):6572-6582.
- Cernicchiaro, N., D.L. Pearl, S.A. McEwen, H.N. Zerby, F.L. Fluharty, S.C. Loerch, M.D. Kauffman, J.L. Bard, and J.T. LeJeune. 2010. A randomized controlled trial to assess the impact of dietary energy sources, feed supplements, and the presence of super-shedders on the detection of *Escherichia coli* O157:H7 in feedlot cattle using different diagnostic procedures. *Foodborne Pathog. Dis.* 7(9):1071-1081.
- Radunz, A.E., F.L. Fluharty, M.L. Day, H.N. Zerby, and S.C. Loerch. 2010. Prepartum dietary energy source fed to beef cows: I. Effects on pre- and postpartum cow performance. *J. Anim. Sci.* 88(8):2717-2728.
- Crawford, S.M., S.J. Moeller, H.N. Zerby, K.M. Irvin, P.S. Kuber, S.G. Velleman, and T.D. Leeds. 2010. Effects of cooked temperature on pork tenderness and relationships among muscle physiology and pork quality traits in loins from Landrace and Berkshire swine. *Meat Science* 84(4):607-612.
- Cannata, S., T.E. Engle, S.J. Moeller, H.N. Zerby, A. Radunz, M.D. Green, P.D. Bass, and K.E. Belk. 2010. Effect of visual marbling on sensory properties and quality traits of pork loin. *Meat Science* 85(3):428.
- Moeller, S.J., R.K. Miller, T.L. Aldrege, K.E. Logan, K.K. Edwards, H.N. Zerby, M. Boggess, J.M. Box-Steffensmeier, C.A. and Stahl. 2010. Trained sensory perceptions of pork eating quality as affected by fresh and cooked pork quality attributes and endpoint cooked temperature. *Meat Science* 85(1): 96-103
- Moeller, S. J., R.K. Miller, K.K. Edwards, H.N. Zerby, K.E. Logan, T.L. Aldrege, C.A. Stahl, M. Boggess, and J.M. Box-Steffensmeier, J. M. 2010. Consumer perceptions of pork eating quality as affected by pork quality attributes and end-point cooked temperature. *Meat Science* 84(1):14-22.

- Radunz, A.E., L.A. Wickersham, S.C. Loerch, F.L. Fluharty, C.K. Reynolds, and H.N. Zerby. 2009. Effects of dietary polyunsaturated fatty acid supplementation on fatty acid composition in muscle and subcutaneous adipose tissue of lambs. *J. Anim. Sci.* 87(12):4082-4091.
- Radunz A. E., S.C. Loerch, G.D. Lowe, F.L. Fluharty, and H.N. Zerby. 2009. Effect of Wagyu-versus Angus-sired calves on feedlot performance, carcass characteristic, and tenderness. *J. Anim. Sci.* 87(9):2971-2976.
- Zapata, I., H.N. Zerby, and M. Wick. 2009. Functional proteomic analysis predicts beef tenderness and the tenderness differential. *J. Agri. Food Chem.* 57(11):4956-63.
- Leeds, T.D., M.R. Mousel, D.R. Notter, H.N. Zerby, C.A. Moffet, and G.S. Lewis. 2008. B-mode, real-time ultrasound for estimating carcass composition in live sheep: Accuracy of ultrasound measures and their relationships with carcass composition. *J. Anim Sci.* 86(11):3203-14.
- Grimes, J.F., F.L. Fluharty, T.B. Turner, H.N. Zerby, and G.D. Lowe. 2008. Effect of age at weaning and post-weaning management on performance and carcass characteristics of Charolais-Angus Cross Steers. *Journal of Extension* 46: Article 5RIB8. <http://www.joe.org/joe/2008october/rb8.shtml>.
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