

CURRICULUM VITAE

University of Idaho

NAME: Michael J Colle

DATE: 12-19-2023

RANK OR TITLE: Associate Professor – Meat Science

DEPARTMENT: Animal, Veterinary and Food Sciences

OFFICE LOCATION AND CAMPUS ZIP: 218 Agricultural Science Bldg

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DATE OF FIRST EMPLOYMENT AT UI: 9-7-2017

DATE OF TENURE: 3-21-2023

DATE OF PRESENT RANK OR TITLE: 3-21-2023

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

Ph.D. University of Idaho, Moscow, ID, May 2017, Animal Physiology

M.S. University of Idaho, Moscow, ID, May 2014, Animal Science

B.S. University of Wisconsin – River Falls, River Falls, WI, May 2011, Chemistry, Biochemistry emphasis

Certificates and Licenses:

Beef Quality Assurance (2023)

Idaho Department of Health and Welfare – Division of Health Online Food Safety Exam (12/15/2021)

Basic HACCP Certification (2012)

EXPERIENCE:

Teaching, Extension and Research Appointments:

Associate Professor – Meat Science: UI, Moscow ID (3-21-23 to Present)

- 55% Teaching and Advising
- 35% Scholarship and Creative Activities
- 5% Outreach and Extension
- 5% University Service and Leadership

Assistant Professor – Meat Science; UI, Moscow, ID (1-1-2019 to 3-20-23)

- 55% Teaching and Advising
- 35% Scholarship and Creative Activities
- 5% Outreach and Extension
- 5% University Service and Leadership

Assistant Professor – Meat Science; UI, Moscow, ID (9-7-2017 to 12-31-18)

- 60% Teaching and Advising
- 40% Scholarship and Creative Activities

Graduate Research Assistant - Animal Science, UI, Moscow, ID (2011-2016)

Academic Administrative Appointments:**Non-Academic Employment including Armed Forces:**

Associate Food Technologist, Jennie-O Turkey Store, Willmar, MN (September 2016 to June 2017)
Develop new, unique products, improve existing products, and trouble shoot product quality issues.

Consulting:

County Fair Livestock Judge, Idaho, Washington, Montana (August 2017 to present)
Michael Colle Consulting, Nationwide (2021)
Consult companies across the US on ingredient and meat quality issues.

TEACHING ACCOMPLISHMENTS:**Areas of Specialization:**

Meat Science, Food Product Development, Livestock and Carcass Evaluation, Beef Science, Sheep Science, Beef Feedlot Systems, Beef Cow/Calf Production, Animal Growth

Courses Taught¹/Adjusted²/Developed³: (title, course number, date(s))

Live Animal and Carcass Evaluation^{1,2}, AVS 263, 3 cr

- Fall 2023, 100%, 31 UI students
- Fall 2022, 100%, 28 UI students
- Fall 2021, 100%, 25 UI students
- Fall 2020, 100%, 14 UI students
- Fall 2019, 100%, 2 WSU, 20 UI students
- Fall 2018, 100%, 4 WSU, 11 UI students
- Fall 2017, 100%, 4 WSU, 19 UI students

Growth and Lactation^{1,2}, AVS 463/563, 3 cr

- Fall 2023, 33% 3 M.S., 26 B.S. students
- Fall 2022, 33% 2 M.S., 24 B.S. students
- Fall 2021, 33% 3 M.S., 18 B.S. students
- Fall 2020, 33% 1 M.S., 11 B.S. students
- Fall 2019, 33% 5 M.S., 14 B.S. students
- Fall 2018, 33% (course coordinator), 5 M.S., 16 B.S. students
- Fall 2017, 33%, 3 M.S., 8 B.S. students

Beef Cow/Calf Production/Management³, AVS 499, 2 cr

- Spring 2020, 100%, 4 B.S. students
- Fall 2019, 100%, 4 B.S. students

Meat Science Lab Techniques^{1,3}, AVS 502, 2 cr

- Fall 2021, 100%, 3 M.S. students, 2 Ph.D. students
- Fall 2018, 100%, 3 M.S. students

Product Development, Cured¹, AVS 499, 2 cr

- Fall 2018, 50%, 1 B.S. student

Science of Animal Husbandry^{1,2}, AVS 110, 3 cr

- Spring 2023, 100%, 101 B.S. students
- Spring 2022, 100%, 77 B.S. students
- Spring 2021, 100%, 73 B.S. students
- Spring 2020, 100%, 80 B.S. students – **Online weeks 9-16 of the semester**
- Spring 2019, 67%, 72 B.S. students
- Spring 2018, 50%, 64 B.S. students

Dual Credit Faculty Liaison – Jerome High School – Alan Willmore

- Fall 2021, 5 students

- Fall 2019, 15 students
- *Dual Credit Faculty Liaison – Idaho Digital Learning Association (IDLA)
 - Fall 2023, 38 students
 - Spring 2023, 37 students
 - Fall 2022, 26 students

Science of Animal Husbandry Lab^{1,3}, AVS 110L, 1 cr

- Spring 2023, 100%
 - Section 01 – 23 B.S. students
 - Section 02 – 23 B.S. students
 - Section 03 – 23 B.S. students
 - Section 04 – 27 B.S. students
- Spring 2022, 100%
 - Section 01 – 24 B.S. students
 - Section 02 – 13 B.S. students
 - Section 03 – 25 B.S. students
 - Section 04 – 15 B.S. students
- Spring 2021, 100%
 - Section 01 – 13 B.S. students
 - Section 02 – 19 B.S. students
 - Section 03 – 21 B.S. students
 - Section 04 – 14 B.S. students
- Spring 2020, 100% – **Online weeks 9-16 of the semester**
 - Section 01 – 22 B.S. students
 - Section 02 – 23 B.S. students
 - Section 03 – 25 B.S. students
 - Section 04 – 9 B.S. students
- Spring 2019, 100%
 - Section 01 – 22 B.S. students
 - Section 02 – 24 B.S. students
 - Section 03 – 14 B.S. students
 - Section 04 – 10 B.S. students
- Spring 2018, 50%
 - Section 01 – 25 B.S. students
 - Section 02 – 19 B.S. students
 - Section 03 – 14 B.S. students
 - Section 04 – 6 B.S. students

Dual Credit Faculty Liaison – Jerome High School – Alan Willmore

- Fall 2021, 5 students
- Fall 2019, 15 students

Advanced Livestock Evaluation^{1,3}, AVS 204 or 299, 1 or 2 cr

- Spring 2023, 100% 4 students
- Fall 2022, 100% 1 student
- Spring 2022, 100% 5 students
- Fall 2021, 100% 1 student
- Spring 2021, 100% 5 students
- Fall 2020, 100% 1 student
- Spring 2020, 100% 4 students – **Online weeks 9-16 of the semester**
- Spring 2019, 100%, 1 WSU, 4 UI students
- Spring 2018, 100%, 3 WSU, 7 UI students

Intro to Animal Production^{1,2}, AVS 299, 3 cr

- Spring 2021, 100% 1 B.S. student
- Beef Feedlot Systems^{1,3}, AVS 274, 2 cr
- Spring 2023, 100% 30 B.S. students
 - Spring 2022, 100% 23 B.S. students
 - Spring 2021, 100% 8 B.S. students
 - Spring 2020, 100% 16 B.S. students – **Online weeks 9-16 of the semester**
 - Spring 2019, 100% 14 B.S. students
 - Spring 2018, 100%, 6 B.S. students
- Food Product Development, FS 489, 3 cr
- Spring 2023, 33% 7 students
 - Spring 2022, 50% 17 students
- Livestock Tissue Growth, AVS 502, 3 cr
- Spring 2022, coordinator, 1 graduate student
 - Spring 2021, coordinator, 4 graduate students
- Beef Science¹, AVS 474, 3 cr
- Spring 2015, 50%, 33 B.S. students
- Sheep Science^{1,3}, AVS 476, 3 cr
- Spring 2014, 100%, 2 WSU, 36 UI students

Student acknowledgement of teaching ability: <https://www.uidaho.edu/cals/news-and-events/features/2022/abram-ramirez-avfs>

Clubs Advised:

Block & Bridle (2017-present)

Livestock Judging Club (2017-2021)

Students Advised:

Undergraduate Students: (advised to completion of degree, number per year)

- 2023 – 56 current undergraduate student advisees: 11 completed (Kayla Hurl, Katelyn Hutchinson, Raquel Dimond, Krystal Conley Natividad, Cole Garland, Mackie Griggs, Apryl Peterson, Cable Ricker, Madison Sotin, Elisha Wade, Elizabeth Worley)
- 2022 – 44 current undergraduate student advisees: 7 completed (Austin Baker, Siera Horton, Diana Lewis, Nicole Nance, Hannah Reggear, Bailey Dempster, Cecilia Viebrock)
- 2021 – 38 current undergraduate student advisees: 11 completed (Kendra Gady, Nicole Poxleitner, Bailey Strange-Covey, Cherie Weeks, Conor Wiley, Flora Williams, Makayla Proett, Megan Hufford, Catherine Debasitis, Abigail Runge, Hailey Wilson)
- 2020 – 46 current undergraduate student advisees; 4 completed (Michael Cook, Alex Kelly, Jessica Riley, Rachael Roever)
- 2019 – Advised 14 Freshman, 10 Sophomore, 9 Junior, 4 Senior standing students
- 2018 – Advised 10 Freshman, 12 Sophomore, 6 Junior standing students
- 2017 – Mentored 14 Freshman and 4 Sophomore standing students

Graduate Students: (advised to completion of degree-major professor (student name, degree, and date))

Mikayla Heimbuch, AVS, M.S., December 7, 2022; Evaluation of growth, meat quality, and sensory characteristics of wool, hair, and composite lambs.

- *AVFS 2022 Outstanding Teaching Assistant*
- 2022 University of Idaho Alumni Award for Excellence
- Assistant Director of Admissions – University of Idaho, Boise, ID

Brooke Luzzi, FS, M.S., April 21, 2021; Physiochemical properties of pulse protein isolates based on isoelectric focused preparation.

- Research and Development Scientist – Findlay Foods Specialty Coatings, Boise, ID

Jessie Van Buren, AVS, M.S., April 21, 2021; Extending the shelf-life of beef steaks using acerola cherry powder and rosemary extract in order to remain competitive in the international market.

- *CALIS 2021 Outstanding Teaching Assistant*
- Ph.D. Student – University of Idaho, Moscow, ID
- Extension Educator Latah County - University of Idaho, Moscow, ID

Tanya Weber, AVS, M.S., April 17, 2020; Assessing outcomes of selection using genetic panels for prediction of carcass quality.

- *Co-Founder (2018) and President (18-19) of the Animal and Veterinary Science – Graduate Student Association*
- *Second Place M.S. Poster Competition at the 2020 ICoMST/RMC International Meeting*
- Veterinary Medical School – Washington State University, Pullman, WA

Brianna Buseman, AVS, M.S., April 14, 2020; Understanding the role of electrical stimulation on free calcium concentration, activation of calpain and final product tenderness of beef.

- *President (19-20) of the Animal and Veterinary Science – Graduate Student Association*
- Meat Processing Product Specialist - Marble Technologies, Lincoln, NE – Current
- Youth Meat Animal Extension Assistant Professor – University of Nebraska, Lincoln, NE

In progress Students:

- Jessie Van Buren, AVS, Ph.D. candidate
- Meagan Wootton, AVS, M.S. student
- Claire Shaw, AVS, M.S. student
- Siera Horton, AVS, M.S. student
- Parastoo Ebrahimi, FS, M.S. student

Served on graduate committee (student name, degree, and date)

- Niloufar Nourmohammadi, FS, M.S., December 1, 2023
- Chelsie Beebe, M.S., October 16, 2023 (Mississippi State University)
- Brooklyn Epperson, AVS, M.S., April 14, 2023
- Sierra Jepsen, AVS, M.S., October 10, 2022
- Jaxon Smart, AVS, M.S., April 28, 2021
- Jessica Lancaster, AVS, Ph.D., April 2, 2021
- Avani Guoru, AVS, M.S., May 21, 2019
- Antonetta M. Calacchio, AVS, M.S., May 14, 2019

Current Committees:

- Katie Walker, Ph.D. Committee
- Yufei Guo, Ph.D. Committee

Postdoctoral Fellows Advised:

- Rohollah Sadeghi, Jan. 2022 – Oct. 28, 2022
- Mostafa Taghvaei, Nov. 2020 – Dec. 6, 2021

Materials Developed: (non-scholarship activity)

Science of Animal Husbandry, AVS 110 – In-person and online materials

Beef Feedlot Systems, AVS 274 – In-person and online materials

Live Animal and Carcass Evaluation, AVS 263

Growth and Lactation, AVS 463/563

Beef Science, AVS 474

Sheep Science, AVS 476

Courses Developed:

Science of Animal Husbandry Lab, AVS 110L – In person and online materials

- Equipment ID, Animal Products, and Aquaculture labs

Advanced Livestock Evaluation, AVS 204 or 299

Beef Cow/Calf Production/Management, AVS 499

Meat Science Lab Techniques, AVS 502

Non-credit Classes, Workshops, Seminars, Invited Lectures, etc.:**Guest Lectures:**

University of Idaho, Moscow, ID

Sustainable Food Systems (ISEM 101)

- Spring 2020
 - Meat ingredients and packaging

Animal Products (AVS 363)

- Spring 2020
 - Product Development and Careers in the Meat Industry
- Spring 2019
 - Product Development and Careers in the Meat Industry

Beef Science (AVS 474)

- Spring 2023
 - Beef Cattle Selection
- Spring 2021
 - Beef Cattle Selection (2 lectures); Beef Cattle Growth; Beef Grading, Quality, and Pricing (2 lectures); Production Factors that Affect Beef Growth, Yield, and Quality
- Spring 2020
 - Beef Cattle Selection (2 lectures); Beef Cattle Growth; Growth Promoters; Beef Grading, Quality, and Pricing (2 lectures); Production Factors that Affect Beef Growth, Yield, and Quality
- Spring 2019
 - Beef Cattle Selection (2 lectures), Beef Cattle Growth; Beef Grading, Quality, and Pricing; Production Factors that Affect Beef Growth, Yield, and Quality
- Spring 2018
 - Beef Breeds; Beef Cattle Selection (2 lectures); Beef Cattle Growth; Growth Promoters; Beef Grading, Quality, and Pricing (2 lectures); Production Factors that Affect Beef Growth, Yield, and Quality

Sheep Science (AVS 476)

- Spring 2023
 - Market Lamb and Carcass Evaluation
- Spring 2022
 - Market Lamb and Carcass Evaluation
- Spring 2022
 - Breeding Sheep Evaluation (2 lectures)
- Spring 2020
 - Breeding Sheep Evaluation (2 lab sections)
- Spring 2018
 - Breeding Sheep Evaluation; Genotypic Evaluation; Market Lamb and Carcass Evaluation; and Lamb Fabrication

Graduate Student Seminar (AVS 501)

- Spring 2019

- Calpains and Meat Tenderness

Washington State University, Pullman, WA

Beef Feedlot Systems (ANIM_SCI 274)

- Fall 2020
 - Beef Value and Branded Beef Programs

Beef Cow Calf Management Laboratory (ANIM_SCI 174)

- Fall 2018
 - Market Cattle Evaluation; Beef Carcass Evaluation
- Fall 2017
 - Market Cattle Evaluation

Public University of Navarra, Pamplona, Spain

- Fall 2019
 - Livestock Production

Coaching Undergraduate Teams:

Meat Animal Evaluation Team Coach, University of Idaho, Moscow, ID (2011-2013; 2021)

Academic Quadrathlon Team Coach, University of Idaho, Moscow, ID (2019)

RMC Undergraduate Quiz Bowl Team Coach, University of Idaho, Moscow, ID (2014)

Honors and Awards:

University of Idaho

- 2023 Alumni Award for Excellence Inspirational Mentor (2023)
 - Jessica Mayer and Ellie Tesnohlidek
- Faculty Award for Advising Excellence Nominee (2023)
- 2022 Alumni Award for Excellence Inspirational Mentor (2022)
 - Mackie Griggs and Mikayla Heimbuch
- CALS Outstanding Advisor (2022)
- AVFS Outstanding Advisor (2022)
- Hoffman Award for Teaching Excellence Nominee (2022)
- Faculty Award for Advising Excellence Nominee (2022)
- 2021 Alumni Award for Excellence Inspirational Mentor (2021)
 - Diana Lewis
- Donald Crawford Graduate Faculty Mentoring Award Nominee (2021)

SCHOLARSHIP ACCOMPLISHMENTS: (Including scholarship of teaching and learning, artistic creativity, discovery, and application/integration)

Publications, Exhibitions, Performances, Recitals:

Description of contributions

1. Developed project idea and obtained or provided project funding/resources
2. Collected/analyzed data
3. Contributed to writing and editing

Refereed Journal Articles:

Van Buren, J.B., B.J. Buseman, T.M. Weber, J.A. Nasados, J.M. Lancaster, J.H. Smart, J.A.

Church, W.J. Price, P.D. Bass, and **M.J. Colle**. 2023. Topical application of acerola cherry powder in combination with rosemary extract extends the shelf life of beef chuck

- roll and bone-in short rib steaks. *Meat and Muscle Biology*. 7(1):15705, 1-8. doi:10.22175/mmb.15705. **(1,2,3)**
- Shira, K.A., B.M. Murdoch, K.M. Davenport, G.M. Becker, S.Q. Zie, A.M. Colacchio, P.D. Bass, **M.J. Colle**, and G.K. Murdoch. 2023. Advanced skeletal ossification is associated with genetic variants in chronologically young beef heifers. *Genes*. 14(8):1692. DOI: 10.3390/genes14081629. **(3)**
- Van Buren, J.B., K.J. Puga, K.C. Hoffman, J.A. Nasados, P.D. Bass, and **M.J. Colle**. 2023. Water binders in beef patties increase yield and extend shelf life. *Translational Animal Science*. 7(1):txad091. DOI: 10.1093/tas/txad091. **(1,2,3)**
- Heimbuch, M.L., J.B. Van Buren, B.S. Epperson, S.M. Jepsen, K.F. Oliver, J.A. Nasados, D.A. Vinci, M. Larson, D.E. Konetchy, W. Price, K.R. Vierck, J.F. Legako, K. Loomas, K. Insausti, P. Bass, and **M.J. Colle**. 2023. Evaluation of growth, meat quality, and sensory characteristics of wool, hair, and composite lambs. *Journal of Animal Science*. 101. DOI: 10.1093/jas/skad076. **(1,2,3)**
- Jepsen, S.M., J.B. Van Buren, B.S. Epperson, M.L. Heimbuch, K.F. Oliver, J.A. Nasados, **M.J. Colle**, D.I. Clark and P.D. Bass. 2023. Muscle profiling of the biceps femoris, gluteus accessories, and gluteus medius comprising the beef top sirloin butt. *Meat and Muscle Biology*. 7(1):15717, 1-8. <https://doi.org/10.22175/mmb.15717> **(1,2,3)**
- Sadeghi, R., M.J. Colle, and B. Smith. 2023. Protein composition of pulses and their protein isolates from different sources and in different isolation pH using a reverse phase high performance chromatography method. *Food Chemistry*. 30,409;135278. 10.1016/j.foodchem.2022.135278 **(3)**
- León-Ecay, S., A. López-Maestresalas, M.T. Murillo-Arbizu, M.J. Beriain, J.A. Mendizabal, S. Arazuri, C. Jarén, P.D. Bass, **M.J. Colle**, D. García, M. Romano-Moreno, and K. Insausti. 2022. Classification of beef longissimus thoracis muscle tenderness using hyperspectral imaging and chemometrics. *Foods*. 11(19), 3105. <https://doi.org/10.3390/foods11193105>. **(3)**
- Lancaster, J.M., J.H. Smart, B.J. Buseman, T.M. Weber, J.B. Van Buren, K. Insausti, J.A. Nasados, B. Glaze, W.J. Price, **M.J. Colle**, and P.D. Bass. 2022. Assessment of dry-aged beef from commercial aging locations across the United States. *Gastronomy and Food Science*. 27. doi.org/10.1016/j.ijgfs.2022.100466 **(1,2,3)**
- Lancaster, J.M., T.M. Weber, J.B. VanBuren, J.H. Smart, B.J. Buseman, J.A. Nasados, G.K. Murdoch, W.J. Price, **M.J. Colle**, and P.D. Bass. 2022. Effects of beef carcass size, and subsequent aging time on yield and color characteristics of top round steaks. *Meat and Muscle Biology*. 6(1):13219 1-9. doi.org/10.22175/mmb.13219 **(1,2,3)**
- Van Buren, J.B., B.J. Buseman, T.M. Weber, J.A. Nasados, J.M. Lancaster, J.H. Smart, J.A. Church, W.J. Price, P.D. Bass, and **M.J. Colle**. 2022. Extending the shelf-life of beef steaks using acerola cherry powder and rosemary extract. *Meat and Muscle Biology*. 6(1):13217 1-10. doi:10.22175/mmb.13217 **(1,2,3)**
- Insausti, K., M.T. Murillo-Arbizu, O. Urrutia, J.A. Mendizabal, M.J. Berian, **M.J. Colle**, P.D. Bass, and A. Arana. 2021. Volatile compounds and odour and flavour attributes of lamb meat from the Navarra breed as affected by aging. *Foods*. 10(3):493. doi: 10.3390/foods10030493 **(3)**
- Lancaster, J.M., B.J. Buseman, T.M. Weber, J.A. Nasados, G.K. Murdoch, W.J. Price, **M.J. Colle**, and P.D. Bass. 2020. Impact of beef carcass size on chilling rate, pH, display color and tenderness of top round subprimals. *Translational Animal Science*. 4:1-12. doi: 10.1093/tas/txaa199 **(1,2,3)**
- Buseman, B.J., T.M. Weber, J.A. Nasados, P.D. Bass, J.B. Van Buren, J.M. Lancaster, J.H. Smart, M.E. Doumit, G.K. Murdoch, W.J. Price, K. Insausti, and **M.J. Colle**. 2020. Free calcium concentration, calpain-2 activity, and final product tenderness of electrically stimulated beef. *Meat and Muscle Biology*. 4(1). doi:10.22175/mmb.10635 **(1,2,3)**
- Weber, T.M., B.J. Buseman, J.A. Nasados, J.M. Lancaster, J.B. Van Buren, J.H. Smart, P.D.

- Bass, G.K. Murdoch, K. Insausti, and **M.J. Colle**. 2020. Assessing outcomes of genetic selection panels to predict marbling in crossbred beef cattle. *Translational Animal Science*. 4:1238-1246. doi:10.1093/tas/txaa077 **(1,2,3)**
- Weber, T.M., **M.J. Colle**, G.K. Murdoch, B.J. Buseman, J.M. Lancaster, J.B. Van Buren, J.A. Nasados, and P.D. Bass. 2020. Using Genetic Panels to Predict Tenderness in Beef Cattle. *Meat and Muscle Biology*. 4(1): 17, 1-8. doi:10.22175/mmb.9549 **(1,2,3)**
- Nielsen, B., **M.J. Colle**, and G. Unlu. 2020. Review: Meat safety and quality: a biological approach. *International Journal of Food Science & Technology*. doi:10.1111/ijfs.14602 **(3)**
- Hoffman, K.C., **M.J. Colle**, J.A. Nasados, S. Gray, J. Rogers, J.B. Van Buren, K.J. Puga, G.K. Murdoch, R.P. Richard, and M.E. Doumit. 2020. Relationship between heifer carcass maturity and beef quality characteristics. *Translational Animal Science*. 4:1-10 doi:10.1093/tas/txaa017 **(1,2,3)**
- Prill, L.L., L.N. Drey, E.A. Rice, B.A. Olson, J.M. Gonzalez, J.L. Vipham, M.D. Chao, P.D. Bass, **M.J. Colle**, and T.G. O'Quinn. 2019. Do published cooking temperatures correspond with consumer and chef perceptions of beef degrees of doneness? *Meat and Muscle Biology*. 3:510-525. doi:10.22175/mmb2019.09.0040 **(3)**
- Prill, L.L., L.N. Drey, B.A. Olson, E.A. Rice, J.M. Gonzalez, J.L. Vipham, M.D. Chao, P.D. Bass, **M.J. Colle**, and T.G. O'Quinn. 2019. Visual degree of doneness impacts beef palatability for consumers with different degree of doneness preferences. *Meat and Muscle Biology*. 3:411-423. doi:10.22175/mmb2019.07.0024 **(3)**
- Colle, M.J.**, R.P. Richard, M.C. Colle, W.I. Loucks, G.K. Murdoch, P.D. Bass, C.J. Williams, and M.E. Doumit. 2019. Retail display properties and consumer perception of extended aged beef topically treated with ascorbic acid and rosemary extract. *Meat and Muscle Biology*. 3:42-50. **(1,2,3)**
- Colle, M.C., R.P. Richard, D.M. Smith, **M.J. Colle**, W.I. Loucks, S.J. Gray, Z.G. Reynolds, H.A. Sutton, J.A. Nasados, and M.E. Doumit. 2018. Dry potato extracts improve water holding capacity, shelf life, and sensory characteristics of fresh and precooked beef patties. *Meat Science*. 149:156-162. **(1,2,3)**
- Acheson, R., D. Woerner, **M.J. Colle**, C.E. Walenciak, and P.D. Bass. 2018. Distribution of marbling throughout the *Longissimus lumborum* of beef carcasses using and instrument-grading system. *Meat and Muscle Biology*. 2:303-308. **(3)**
- Colle, M.J.**, J.A. Nasados, J.M. Rogers, D.M. Kerby, M.M. Booker, J.B. Van Buren, R.P. Richard, and M.E. Doumit. 2018. Strategies to improve beef tenderness by activating calpain-2 earlier postmortem. *Meat Science*. 135:36-41. **(1,2,3)**
- Colle, M.J.**, and M.E. Doumit. 2017. Effect of extended aging on calpain-1 and -2 activity in beef *longissimus lumborum* and *semimembranosus* muscles. *Meat Science*. 131:142-145. **(1,2,3)**
- Colle, M.J.**, R.P. Richard, K.M. Killinger, J.C. Bohlscheid, A.R. Gray, W.I. Loucks, R.N. Day, A.S. Cochran, J.A. Nasados, and M.E. Doumit. 2016. Influence of extended aging on beef quality characteristics and sensory perception of steaks from the *biceps femoris* and *semimembranosus*. *Meat Science*. 119:110-117. **(1,2,3)**
- Colle, M.J.**, R.P. Richard, K.M. Killinger, J.C. Bohlscheid, A.R. Gray, W.I. Loucks, R.N. Day, A.S. Cochran, J.A. Nasados, and M.E. Doumit. 2015. Influence of extended aging on beef quality characteristics and sensory perception of steaks from the *gluteus medius* and *longissimus lumborum*. *Meat Science*. 110:32-39. **(1,2,3)**
- Thornton, K.J., R.P. Richard, **M.J. Colle**, M.E. Doumit, M.J. de Veth, C.W. Hunt, and G.K. Murdoch. 2015. Effects of dietary potato by-product and rumen-protected histidine on growth, carcass characteristics and quality attributes of beef. *Meat Science*. 107:64-74. **(2,3)**

Refereed Proceedings:

- Dahlgren, C., S. Wang, A. de Mello, **M.J. Colle**, D. Burnett, C. O. Lemley, W. Shilling and T. Dinh. 2023. Effects of electrical stimulation on total peptides and free amino acids in beef semimembranosus muscle. Proc. 2023 Reciprocal Meat Conf. 44. **(1,2,3)**
- Guo, Y., B. Epperson, M. Heimbuch, S. Jepsen, J. Van Buren, C. Shaw, M. Wootton, J. Nasados, J. Piaskowski, P. Bass, and **M.J. Colle**. 2023. Impact of an alternative fabrication method on the initial temperature and pH decline of the top round from heavy weight beef carcasses. Proc. 2023 Reciprocal Meat Conf. 108. **(1,2,3)**
- Shaw, C., B. Epperson, M. Wootton, Y. Guo, J. Nasados, P. Bass, I. Popova, J. Van Buren, and **M.J. Colle**. 2023. Effects of a novel, non-allergenic mustard extract on beef patty shelf-stability. Proc. 2023 Reciprocal Meat Conf. 22. **(1,2,3)**
- Van Buren, J.B., K.J. Puga, K.C. Hoffman, J.A. Nasados, P.D. Bass, and **M.J. Colle**. 2022. Water binders in beef patties increase yield and extend shelf life. Proc. 2022 Reciprocal Meat Conf. 18. **(1,2,3)**
- Jepsen, S.M., J.B. Van Buren, B.S. Epperson, M.L. Heimbuch, K.F. Oliver, J.A. Nasados, **M.J. Colle**, and P.D. Bass. 2022. Alternative fabrication and muscle profiling of the beef top sirloin butt. Proc. 2022 Reciprocal Meat Conf. 110. **(1,2,3)**
- Epperson, B.S., J.B. Van Buren, M.L. Heimbuch, S.M. Jepsen, K.F. Oliver, J.A. Nasados, W.J. Price, **M.J. Colle**, and P.D. Bass. 2022. Identifying alternative beef cuts suitable for use as beef finger steaks. Proc. 2022 Reciprocal Meat Conf. 20. **(1,2,3)**
- Heimbuch, M.L., J.B. Van Buren, B.S. Epperson, K.F. Oliver, S.M. Jepsen, J.A. Nasados, D.A. Vinci, W.J. Price, K.R. Vierck, D.E. Konetchy, P.D. Bass, and **M.J. Colle**. 2022. Evaluation of growth, meat quality, and sensory characteristics of wool, hair and composite lambs. Proc. 2022 Reciprocal Meat Conf. 61. **(1,2,3) Second Place M.S. Poster Competition**
- Dahlgren, C., H. Goodson, S. Wang, A. de Mello, M.J. Colle, W. Schilling, and T. Dinh. 2022. Effect of electrical stimulation on total peptide and free amino acid content in beef. Proc. 2022 Reciprocal Meat Conf. 113. **(1,3)**
- Oliver, K.F., J.B. Van Buren, J.B. Hall, M.L. Heimbuch, S. Jepsen, B. Epperson, J.A. Nasados, P.D. Bass, and **M.J. Colle**. 2022. Impact of maternal nutrition on postnatal growth of crossbred beef steers. 2022 Pacific Northwest Animal Nutrition Conference. **(1,2,3)**
- Heimbuch, M.L., J.B. Van Buren, B. Epperson, K.F. Oliver, S. Jepsen, J.A. Nasados, D.A. Vinci, W.J. Price, K.R. Vierck, D.E. Konetchy, P.D. Bass, and **M.J. Colle**. 2022. Evaluation of growth, meat quality, and sensory characteristics of wool, hair and composite lambs. 2022 Pacific Northwest Animal Nutrition Conference. **(1,2,3) First Place Poster Competition**
- Hall, J.B., J.E. Sprinke, S.A. Goddard, J.B. Taylor, J.B. Glaze, **M.J. Colle**, and P. Bass. 2021. Comparison of range-based and irrigated cow-calf systems – post-weaning steer performance. WSASAS. PSIII-4. **(3)**
- Van Buren, J.B., B.J. Buseman, T.M. Weber, J.A. Nasados, J.M. Lancaster, J.H. Smart, J.A. Church, W.J. Price, P.D. Bass, and **M.J. Colle**. 2021. Extending the shelf-life of beef bone-in short rib steaks using combinations of acerola cherry powder and rosemary extract. Proc. 2021 Reciprocal Meat Conf. 44. **(1,2,3)**
- Epperson, B.S., K.J. Puga, J.B. Van Buren, J.A. Nasados, B.J. Buseman, J.M. Lancaster, K. Smith, P.D. Bass, K. Insausti, and **M.J. Colle**. 2021. Alternative merchandising strategy of the beef top round. Proc. 2021 Reciprocal Meat Conf. 1. **(1,2,3)**
- Oliver, K.F., J.B. Van Buren, J.B. Hall, M.L. Heimbuch, J.A. Nasados, P.D. Bass, and **M.J. Colle**. 2021. Impact of maternal nutrition on postnatal growth and carcass traits of crossbred beef steers. Proc. 2021 Reciprocal Meat Conf. 64 **(1,2,3)**
- Wang, S., K. Virellia To, C. Dahlgren, C. Fornes, H. Hessler, X. Zhang, Y. Campbell, B. Buseman, P.D. Bass, **M.J. Colle**, M.W. Shilling, and T. Dinh. 2021. Free amino acid

- content in *longissimus lumborum* and *semimembranosus* muscles from electrically stimulated beef carcasses. Proc. 2021 Reciprocal Meat Conf. 58. **(1,2,3)**
- Lancaster, J., **M.J. Colle**, B. Epperson, J. Smart, K. Oliver, H. Komine, A.Y. Sakaguchi, K. Kuchida, D. Cicale, and P.D. Bass. 2021. Preliminary assessment of the Meat Imaging Japan (MIJ) beef grading smart phone application as it compares to a current USDA validated beef grading camera vision system. Proc. 2021 Reciprocal Meat Conf. 89. **(1,2,3)**
- Lancaster, J., J. Smart, J. Van Buren, B. Epperson, J. Nasados, W. Price, **M.J. Colle**, and P.D. Bass. 2021. Descriptive assessment of dry-aged beef from commercial aging locations across the United States. Proc. 2021 Reciprocal Meat Conf. 57. **(1,2,3)** *Third Place PhD Poster Presentation*
- Taghvaei, M., **M.J. Colle**, and B. Smith. 2021. The effect of dissolving pH and precipitation pH on the yield and protein content of yellow pea protein isolate. IFT Protein Division. **(3)**
- Walker-Shira, K.A., B.M. Murdoch, A. Colacchio, K.M. Davenport, **M.J. Colle**, P.D. Bass, and G.K. Murdoch. 2021. Single nucleotide polymorphisms associated with advanced skeletal maturity in finished beef heifers. American Society of Animal Science. PSV-6. **(3)** *Second Place PhD Virtual Poster Competition*
- Van Buren, J.B., B.J. Buseman, T.M. Weber, J.A. Nasados, J.M. Lancaster, J.H. Smart, P.D. Bass, and **M.J. Colle**. 2021. Extending the shelf-life of beef bone-in short rib steaks using acerola cherry powder and rosemary extract. ASAS – Midwest Meeting. #966275. **(1,2,3)**
- Lancaster, J.M., J.H. Smart, B.J. Buseman, T.M. Weber, J.B. Van Buren, K. Insausti, J.A. Nasados, B. Glaze, W.J. Price, **M.J. Colle**, and P.D. Bass. 2021. Assessment of dry-aged beef from commercial aging locations across the United States. ASAS – Midwest Meeting. #32. **(1,2,3)**
- Murillo, M.T., M.J. Beriain, J.A. Mendizabal, D. Garcia, M. Romano-Moreno, **M.J. Colle**, P.D. Bass, J.M. Lancaster, R. Barrena, and K. Insausti. 2020. Dry aging effects on the sensory quality of lean beef. European Conference on Sensory and Consumer Research. Rotterdam, The Netherlands, September 6, 2020. **(3)**
- Buseman, B.J., T.M. Weber, J.A. Nasados, P.D. Bass, J.B. Van Buren, J.M. Lancaster, J.H. Smart, M.E. Doumit, G.K. Murdoch, W.J. Price, K. Insausti, and **M.J. Colle**. 2020. Free calcium concentration, calpain-2 activity and final product tenderness of electrically stimulated beef. Proc. 2020 Reciprocal Meat Conf., 110. **(1,2,3)**
- Van Buren, J.B., B.J. Buseman, T.M. Weber, J.A. Nasados, J.M. Lancaster, J.H. Smart, P.D. Bass, and **M.J. Colle**. 2020. Extending the shelf-life of beef chuck roll steaks using acerola cherry powder and rosemary extract. Proc. 2020 Reciprocal Meat Conf., 120. **(1,2,3)**
- Weber, T.M., B.J. Buseman, J.A. Nasados, J.M. Lancaster, J.B. Van Buren, J.H. Smart, G.K. Murdoch, K. Insausti, P.D. Bass, and **M.J. Colle**. 2020. Assessing outcomes of genetic selection panels to predict marbling in crossbred beef cattle. Proc. 2020 Reciprocal Meat Conf., 155. **(1,2,3)** **SECOND PLACE MS POSTER PRESENTATION**
- Lancaster, J.M., B.J. Buseman, T.M. Weber, J.A. Nasados, G.K. Murdoch, W.J. Price, **M.J. Colle**, and P.D. Bass. 2020. Impact of beef carcass size on chilling rate, pH, display color and tenderness of top round subprimals. Proc. 2020 Reciprocal Meat Conf., 109. **(1,2,3)**
- Gouru, A., Z. Carlson, **M.J. Colle**, P. Bass, B. Murdoch, P. Rezamand, and G.K. Murdoch. 2019. Examining the effect of a physiological dose of the polyamine; spermine on myogenic regulatory transcription factor expression. American Society of Animal Science, PSII-41. **(3)**

- Insausti, K., **M.J. Colle**, P.D. Bass, I. Goenaga, O. Urrutia, J.A. Mendizabal, M.J. Beriain, and B. Soret. 2019. Effect of diet on bloom time of beef. Proc. 2019 Reciprocal Meat Conf., 92. **(3)**
- Prill, L.L., T.G. O'Quinn, M.D. Chao, J.L. Vipham, J.M. Gonzalez, E.A. Boyle, T.A. Houser, **M.J. Colle**, and P.D. Bass. 2019. Chef and consumer evaluation of the degree of doneness of beef strip loin steaks cooked to six endpoint temperatures. Proc. 2019 Reciprocal Meat Conf., 19. **(3)**
- Prill, L.L., T.G. O'Quinn, M.D. Chao, J.L. Vipham, J.M. Gonzalez, E.A. Boyle, T.A. Houser, **M.J. Colle**, and P.D. Bass. 2019. Profiling the impact of visual degree of doneness on palatability ratings of beef strip loin steaks served to consumers of differing degree of doneness preferences. Proc. 2019 Reciprocal Meat Conf., 21. **(3)**
- Puga, K.J., J.B. Van Buren, J.A. Nasados, B.J. Buseman, P.D. Bass, K. Insausti, and **M.J. Colle**. 2019. Alternative merchandising strategy of the top round. Proc. 2019 Reciprocal Meat Conf., 167. **(1,2,3)**
- Uhlenkott, A.L., J. Lancaster, I.W. Riley, J.A. Nasados, **M.J. Colle**, and P.D. Bass. 2019. Using a potato by-product to replace phosphate in enhanced whole-muscle turkey breast. Proc. 2019 Reciprocal Meat Conf., 165. **(1,2,3)**
- Weber, T., **M.J. Colle**, J. Nasados, and P. Bass. 2019. Using genetic panels to determine tenderness in beef cattle. Western Section – American Society of Animal Science, 52. **(1,2,3)**
- Salove, K.C., **M.J. Colle**, J.M. Rogers, S.J. Gray, D.M. Kerby, J.B. Van Buren, K.J. Puga, J.A. Nasados, R.P. Richard, and M.E. Doumit. 2017. Relationship between heifer carcass maturity and beef palatability. Proc. 2017 Reciprocal Meat Conf., 93. **(1,2,3)**
- Colle, M.J.** and M.E. Doumit. 2016. Role of Calpain-2 in the tenderization of extended aged beef. Proc. 2016 Reciprocal Meat Conf., 58. **(1,2,3)**
- Salove, K.C., **M.J. Colle**, J.M. Rogers, S.J. Gray, M. Scott., D.M. Kerby, J.A. Nasados, R.P. Richard, and M.E. Doumit. 2016. Relationship between heifer carcass maturity and retail shelf life. Proc. 2016 Reciprocal Meat Conf., 56. **(1,2,3)**
- Colle, M.J.**, R.P. Richard, M.C. Colle, W.I. Loucks, and M.E. Doumit. 2015. Effects of ascorbic acid and rosemary extract on quality characteristics and sensory perception of extended aged beef. Proc. 2015 Reciprocal Meat Conf., 71. **(1,2,3)**
- Colle, M.C., R.P. Richard, **M.J. Colle**, W.I. Loucks, S.J. Gray, Z.D. Reynolds, H.A. Sutton, J.A. Nasados, and M.E. Doumit. 2015. Dry potato extract improves water holding capacity, shelf life, and sensory characteristics of beef patties. Proc. 2015 Reciprocal Meat Conf., 46. **(1,2,3)**
- Colle, M.J.**, A.R. Gray, R.N. Day, W.I. Loucks, H.A. Sutton, J.A. Nasados, A.S. Cochran, R.P. Richard, and M.E. Doumit. 2014. Influence of extended aging on Warner-Bratzler shear force and sensory perception of four beef muscles. Proc. 2014 Reciprocal Meat Conf., 58. **(1,2,3)**
- Colle, M.J.**, A.R. Gray, R.N. Day, W.I. Loucks, H.A. Sutton, J.A. Nasados, A.S. Cochran, R.P. Richard, and M.E. Doumit. 2013. Consequences of extended aging on retail shelf-life of four beef muscles. Proc. 2013 Reciprocal Meat Conf., 84. **(1,2,3)**
- Thornton, K.J., **M.J. Colle**, J.A. Macumber, M.E. Doumit, R. Richard, C.W. Hunt, and G.K. Murdoch. 2013. Growth, carcass traits and meat color stability in steers finished on a potato-based versus a corn-based ration. Meat science and muscle biology: effects of nutrients and supplements on animal growth performance and meat quality. J. Anim. Sci. 91:157. **(2,3)**
- Colle, M.J.**, J.A. Nasados, L.C. Davis, R.N. Day, A.R. Gray, C.M. Welch, N.F. Elliott, A.S. Henderson, W.I. Loucks, H.M. Mitchell, R.P. Richard, and M.E. Doumit. 2012. Consumer acceptability of beef bottom round steaks treated with calcium chloride and bromelain. Proc. 2012 Reciprocal Meat Conf., 65. **(1,2,3)**

Abstracts:

Hall, J.B., J. Sprinkle, M. Ellison, S. Goddard, B. Murdoch, J.B. Glaze, P. Bass, **M.J. Colle**, and K. Lee. 2021. Comparison of range-based and irrigated cow/calf systems. Idaho Range Livestock Symposium. (3)

Poster Presentations:

Shaw, C., B. Epperson, M. Wootton, Y. Guo, J. Nasados, P. Bass, I. Popova, and **M.J. Colle**. 2023. Improving yield, shelf stability, and sensory characteristics of meats using novel mustard derived value-added product. 2023. NIFA A1634 PD Meeting. (1,2,3)

Popular Press Articles:

Van Buren, J.B., P.D. Bass, and **M.J. Colle**. October 2022. "Extending the Shelf Life of Beef Steaks Using Acerola Cherry Powder and Rosemary Extract" *Meatingplace*.

[Meatingplace.com : Extending the shelf life of steak using antioxidants](https://www.meatingplace.com/Industry/TechnicalArticles/Details/96819)

Van Buren, J.B., P.D. Bass, and **M.J. Colle**. April, 2022. "Natural antioxidants improve beef shelf-life and potentially increase international demand" *Progressive Cattle*.

<https://www.progressivecattle.com/topics/beef-quality/natural-antioxidants-improve-beef-shelf-life-and-potentially-increase-international-demand>

Weber, T.M., B.J. Buseman, J.A. Nasados, J.M. Lancaster, J.B. Van Buren, J.H. Smart, G.K. Murdoch, K. Insausti, P.D. Bass, and **M.J. Colle**. May, 2021. "Assessing outcomes of genetic selection panels to predict marbling in crossbred beef cattle." *The National Provisioner*.

<https://www.provisioneronline.com/articles/111008-assessing-outcomes-of-selection-using-genetic-panels-to-predict-marbling-in-crossbred-beef-cattle>

Van Buren, J.B., B.J. Buseman, T.M. Weber, J.A. Nasados, J.M. Lancaster, J.H. Smart, P.D. Bass, and **M.J. Colle**. April 2021. "Extending the shelf-life of beef chuck roll steaks using acerola cherry powder and rosemary extract." *MeatingPlace*.

<https://www.meatingplace.com/Industry/TechnicalArticles/Details/96819>

Colle, M.J. and P.D. Bass. 2020. "Meat and potato ... starch." *The National Provisioner*.

November 4, 2017. <https://www.provisioneronline.com/articles/110155-meat-and-potato-starch>

Salove, K.C., **M.J. Colle**, Z.D. Reynolds, J.A. Nasados, R.P. Richard, and M.E. Doumit. 2017. "Advanced heifer carcass maturity and beef palatability." *The National Provisioner*.

November 15, 2017. <https://www.provisioneronline.com/articles/105488-advanced-heifer-carcass-maturity-and-beef-palatability>

Colle, M.C., R.P. Richard, **M.J. Colle**, W.I. Loucks, S.J. Gray, Z.G. Reynolds, H.A. Sutton, J.A. Nasados, and M.E. Doumit. 2016. "Dry potato extracts and beef patties." *The National Provisioner*. April 13, 2016.

<https://www.provisioneronline.com/articles/103133-dry-potato-extracts-and-beef-patties>

Colle, M.J., M.E. Doumit, and R.P. Richard. 2013. "Extended aging on retail shelf life of four beef muscles." *The National Provisioner*. September 16, 2013.

<https://www.provisioneronline.com/articles/99515-extended-aging-on-retail-shelf-life-of-four-beef-muscles>

Other: (reports, proceedings, papers, citations and references, performances)

Refereed/Adjudicated (currently scheduled or submitted): (provide citations)

Smart, J.H., J. Williams, J.M. Lancaster, J.B. Van Buren, B.J. Buseman, T.M. Weber, K. Insausti, J.A. Nasados, **M.J. Colle**, and P.D. Bass. 2023. Survey of microbiota on commercially available dry-aged beef. *Animals*. In preparation. (1,2,3)

Epperson, B.S., J.B. Van Buren, M.L. Heimbuch, S.M. Jepsen, K.F. Oliver, J.A. Nasados, W.J. Price, **M.J. Colle**, and P.D. Bass. 2023. Identifying alternative beef cuts suitable for use as beef finger steaks. *Meat and Muscle Biology*. In preparation. (1,2,3)

- Van Buren, J.B., M. Heimbuch, B.S. Epperson, S.M. Jepsen, K.F. Oliver, J.A. Nasados, P.D. Bass, and **M.J. Colle**. 2023. Acerola cherry and rosemary extracts improve color and delay lipid oxidation in previously frozen beef chuck roll and bone in short rib steaks. Foods. In preparation. **(1,2,3)**
- Thompson, J., M. Kibler, B. Dahl, B. Epperson, K. Puga, J.B. Van Buren, P.D. Bass, K. Smith, and **M.J. Colle**. 2023. Willingness to pay for alternate merchandising strategy of beef top round. Econ. Submitted 9-18-23 **(1,2,3)**
- Shaw, C, J.B. Van Buren, Y. Guo, M. Wootton, J.A. Nasados, I. Papova, P.D. Bass, and M.J. Colle. 2023. Mustard extract in fresh beef patties. Foods. In preparation. **(1,2,3)**

Peer Reviewed/Evaluated (currently scheduled or submitted):

Invited Presentations:

- Colle, M.J. *Beef evaluation*. NWMPPA Beef Workshop, Moscow, ID. May 22, 2023.
- Colle, M.J. *Beef carcass evaluation and value*. Advanced Ranch Management School, Moscow, ID. May 12, 2022.
- Colle, M.J. *Live cattle assessment*. Advanced Ranch Management School, Moscow, ID. May 11, 2022.
- Colle, M.J. *Beef carcass evaluation and value*. Agri Beef Workshop, Moscow, ID. March 11, 2022.
- Colle, M.J. *Live cattle assessment*. Agri Beef Workshop, Moscow, ID. March 10, 2022.
- Colle, M.J. *Beef show ring etiquette*. Kewaunee County 4-H Beef Meeting, Luxemburg, WI. January 5, 2022
- Colle, M.J. *Impact of extended aging on quality*. MeatsPad Podcast. Episode 43. https://podcasts.apple.com/mx/podcast/impact-of-extended-aging-on-quality-dr-michael-colle/id1516322080?i=1000542095065&fbclid=IwAR1tTDWltnxIzGXy9dDHPxC1-9-XV_fuh24E79KRCNpr5MquhssuVV9erwI
- Colle, M.J. *Beef cattle lifecycle and feeding*. Exploring Beef. Idaho Beef Council, Moscow, ID. November 4, 2021
- Colle, M.J. *Alternative Proteins*. Salmon Creek Farms Marketing Association Symposium, Independent Meat Company, Twin Falls, ID. October 8, 2021.
- Colle, M.J. *Basics of Hog Evaluation*. Lake County Oregon 4-H meeting. Zoom. August 9, 2021.
- Colle, M.J. *Checkoff Research Update*. ICA – Summer Roundup, Idaho Cattle Association, Salmon, ID. June 28, 2021.
- Colle, M.J. *Goat carcass evaluation*. MEAT GOAT BOOT CAMP: Virtual Youth Goat Field Day, Online – April 10, 2021. <https://youtu.be/y5aYt0bAD38>
- Colle, M.J. *Hog carcass evaluation*. BETTER BACON: Virtual Youth Swine Field Day, Online – March 27, 2021. <https://youtu.be/vzvy6A30YhA>
- Colle, M.J. *Beef carcass evaluation*. FARM TO TABLE: Virtual Youth Beef Field Day, Online – March 20, 2021. <https://youtu.be/P-pBTvYihCM>
- Colle, M.J. *Meat Science Best Practices: Fresh meat properties, aging, and shelf life*. WinCo Foods Meat Science Workshop, CS Beef Packers, Kuna, ID (2020)
- Colle, M.J. *Live Animal Evaluation Principles*. Sheep and Goat Livestock Judges School, Washington State University, Pullman, WA (2019)
- Colle, M.J. *Principles of Carcass Evaluation*. Sheep and Goat Livestock Judges School, Washington State University, Pullman, WA (2019)
- Colle, M.J. *Poultry meat production – commercial and backyard*. Payback University, CHS Nutrition, Hood River, OR (2019)
- Colle, M.J. *Meat Science Best Practices: Fresh meat properties, aging, and shelf life*. WinCo Foods Meat Science Workshop, University of Idaho, Moscow, ID (2019)

- Colle, M.J. *The final product*. Idaho Cattle Association's Annual Convention and Trade Show, Sun Valley, ID (2018)
- Colle, M.J. *University of Idaho sheep update*. Washington State Sheep Producers Annual Convention, Ellensburg, WA (2018)
- Colle, M.J. *Fake Meat & Meat Quality*. Franklin County Cattlemen's Meeting, Connell, WA (2018)
- Colle, M.J. *Basic Livestock Judging*. Ag Days, University of Idaho, Moscow, ID (2018)
- Colle, M.J. *Carcass evaluation and value*. Sheep Scanning School, University of Idaho, Moscow, ID (2018)
- Colle, M.J. *Raising and training hogs for the county fair*. 4-H Swine Project Meeting, Latah County Fairgrounds, Moscow, ID (2018)
- Colle, M.J. *Curing and meat color formation*. Processed Meats Workshop, University of Idaho, Moscow, ID (2018)
- Colle, M.J. *Meat science and the feed behind it*. Payback University, CHS Nutrition, Hood River, OR (2018)
- Colle, M.J. *Meat Science Best Practices: Fresh meat properties, aging, and shelf life*. WinCo Foods Meat Science Workshop, University of Idaho, Moscow, ID (2018)
- Colle, M.J. *Market Animal Selection*. Garfield-Palouse 4-H Meeting, Community Center, Palouse, WA (2017)
- Colle, M.J. *Meat Science 102: Fresh meat properties, aging, and shelf life*. WinCo Foods Meat Science Workshop, University of Idaho, Moscow, ID (2016)
- Colle, M.J. *Market Animal Selection*. Super Saturday Leaders Training, Lewis-Clark State College, Lewiston, ID (2016)
- Colle, M.J. *Beef Cookery*. Youth Beef Field Day, Lewiston Livestock Market, Lewiston, ID (2016)
- Colle, M.J. *Livestock Judging*. Super Saturday Leaders Training, Lewis-Clark State College, Lewiston, ID (2015)
- Colle, M.J. *Lamb Cookery and Palatability*. Sheep and Goat Field Day, Asotin County Fairgrounds, Asotin, WA (2015)
- Colle, M.J. *Feeding and Nutrition of Show Steers*. Youth Beef Field Day, Lewiston Livestock Market, Lewiston, ID (2014)
- Colle, M.J. *Sensory Evaluation*. WSU/UI Beef 300, Washington State University, Pullman, WA (2014)
- Colle, M.J. *Color Measurement*. WSU/UI Beef 300, Washington State University, Pullman, WA (2014)
- Colle, M.J. *Consequences of extended aging on retail shelf-life and consumer acceptability*. Idaho Beef Summit, Pocatello, ID (2014)
- Colle, M.J. *Raising Show Pigs*. Youth Swine Field Day, Asotin County Fairgrounds, Asotin, WA (2014)
- Colle, M.J. *Beef Carcass Evaluation*. Palouse Empire Fair Carcass Contest, Washington State University, Pullman, WA (2014)
- Colle, M.J. *Feeding and Nutrition of Show Steers*. Youth Beef Field Day, Lewiston Livestock Market, Lewiston, ID (2013)
- Colle, M.J. *Retail Cut Evaluation*. Ag Days, University of Idaho, Moscow, ID (2013)
- Colle, M.J. *Consequences of extended aging on retail shelf-life and consumer acceptability*. Idaho Cattlemen's Association mid-year meeting, McCall, ID (2013)
- Colle, M.J. *Cattle conformation*. Western States Lowline Association, Hayden, ID (2013)
- Colle, M.J. *Sensory Evaluation*. WSU/UI Beef 300, Washington State University, Pullman, WA (2012)
- Colle, M.J. *Color Measurement*. WSU/UI Beef 300, Washington State University, Pullman, WA (2012)
- Colle, M.J. *Meat Evaluation*. Ag Days, University of Idaho, Moscow, ID (2012)

Colle, M.J. *Measurement of color and tenderness*. WSU/UI Lamb 300, Washington State University, Pullman, WA (2012)

Professional Meeting Papers, Workshops, Showings, Recitals: (provide date and location)

Patents: (provide title/description, patent number and date)

Grants and Contracts Awarded:

- Colle, M.J.**, P.D. Bass, R. Collier, and M. McGuire. USDA NIFA – Research Facilities Act Program. *Idaho Meat Science Innovation Center*. **Principal Investigator**. August, 2023. \$481,755. (1-1-2024 to 12-31-2025)
- Colle, M.J.** 2023. University of Idaho Open Access Publishing Fund. *Water binders in beef patties increase yield and extend shelf life*. **Principal Investigator** \$400.
- Bass, P.D., **M.J. Colle**, J.B. Van Buren, L. Christensen, M. Small, A. Cochran, and B. Wilder. USDA NIFA Beginning Farmer and Rancher Development Program. *Beef 101: Pacific Northwest Beginning Rancher Development Program*. **Co-PI**. July, 2023. \$479,098. (9-15-2023 to 9-14-2026)
- Colle, M.J.**, P.D. Bass, J.A. Nasados, B. Foraker and J.B. Van Buren. 2022. National Cattlemen’s Beef Association. *Evaluation of fresh and frozen beef aging strategies to mitigate supply chain challenges*. **Principal Investigator**. November, 2022. \$47,829. (7-1-2023 to 6-30-2024)
- Colle, M.J.** 2023. University of Idaho Open Access Publishing Fund. *Muscle profiling of the biceps femoris, gluteus accessories, and gluteus medius comprising the beef top sirloin butt*. **Principal Investigator**. \$212.50.
- Colle, M.J.** and P.D. Bass. 2022. Idaho Cattle Foundation Unclaimed Livestock Committee Public/Higher Education Fund. *Development of meat animal evaluators to serve Idaho*. **Principal Investigator**. \$5,216. (2-25-2023 to 6-30-2025)
- Bass, P.D. and **M.J. Colle**. 2022. Idaho Cattle Foundation Unclaimed Livestock Committee Public/Higher Education Fund. *Telling the story of Idaho beef*. **Co-PI**. January, 2022. \$5,000. (1-1-2023 to 12-31-2025)
- Bass, P.D., **M.J. Colle**, J.A. Nasados, and B. Epperson. 2022. IBC Endowment. *Evaluation of Quality Characteristics of Gluten-free Beef Finger Steaks*. **Co-PI**. October, 2022. \$20,004. (1-1-2023 to 6-30-2023)
- Bass, P.D. and **M.J. Colle**. 2021. American Lamb Board. *American lamb quality audit and assessment project*. **Co-PI**. April, 2022. \$31,500. (2-24-2022 to 9-30-2023)
- Colle, M.J.** and P.D. Bass. 2021. Idaho Cattle Foundation Unclaimed Livestock Committee Public/Higher Education Fund. *Development of meat animal evaluators to serve Idaho*. **Principal Investigator**. January, 2022. \$6,480. (2-25-2022 to 5-31-2024)
- Bass, P.D. and **M.J. Colle**. 2021. Idaho Cattle Foundation Unclaimed Livestock Committee Public/Higher Education Fund. *Telling the story of Idaho beef*. **Co-PI**. January, 2022. \$9,000. (1-1-2022 to 12-31-2024)
- Popova, I, **M.J. Colle**, and P.D. Bass. National Institute of Food and Agriculture. 2021. *Improving yield, shelf stability, and sensory characteristics of meats using novel mustard derived value-added products*. **Co-PI**. October, 2021. \$270,060. (6-1-2022 to 5-30-2024)
- Colle, M.J.**, D. Ryu, A. Calabretta, A. Ahmadzadeh, and K. Hoffman. UI 2021-2022 Vandal Ideas Project. 2021. *Pilot Project: Preparing Idaho students for a future in animal and*

- food sciences at UI. Principal Investigator*, June, 2021. \$15,000. (7-1-2021 to 6-30-2022)
- Colle, M.J.**, M. Taghvaei, B. Smith., and G. Ganjyal. 2021. USDA Pulse Crop Health Initiative. *Optimizing pulse protein functionality. Principal Investigator*, May, 2021. \$80,578. (1-1-2022 to 12-31-2022)
- Colle, M.J.** and P.D. Bass. 2021. Ardent Mills. *Replacing soy and sodium phosphate with 'all-natural' Colorado quinoa and Sustagrain as binders in beef patties. Principal Investigator*. March, 2021. \$21,358. (4-19-2021 to 12-17-2021)
- Bass, P.D. and **M.J. Colle**. 2021. National Cattlemen's Beef Association. *National Beef Quality Audit-2021. Co-PI*. April, 2021. \$9,000. (4-1-21 to 8-31-23)
- Colle, M.J.**, P.D. Bass, J. Nasados, and J. Van Buren. 2021. Idaho Beef Council. *Extending steak shelf-life of frozen beef using combinations of acerola cherry powder and rosemary extract in order to remain competitive in the international market. Principal Investigator*. January, 2021. \$36,064. (7-1-2021 to 6-30-2022)
- Bass, P.D., **M.J. Colle**, J. Nasados, J. Legako, D. Woerner, and B. Kim. 2021. Idaho Beef Council. *Sensory and chemical characterization of commercially dry-aged beef. Co-PI*. January, 2021. \$70,666. (4-15-2021 to 6-30-2022)
- Bass, P.D., **M.J. Colle**, M. McGuire, J. Nasados, and J. Lancaster. 2021 Idaho Beef Council. *Identifying alternative beef cuts suitable for use as beef finger steaks. Co-PI*. January, 2021. \$29,624. (4-15-2021 to 6-30-2022)
- Bass, P.D., **M.J. Colle**, and J. Nasados. 2021. Idaho Beef Council. *Investigating alternative fabrication styles of the beef top sirloin butt (NAMI 184) through muscle specific fabrication into custom cuts. Co-PI*. January, 2021. \$51,806. (4-15-2021 to 6-30-2022)
- Bass, P.D., **M.J. Colle**, J. Nasados, and J. Lancaster. 2021. Mary A. Turner Endowment. *Initial validation of a portable beef grading camera system. Co-PI*. March, 2021. \$5,000. (7-1-2021 to 6-30-2022)
- Colle, M.J.**, M. Taghvaei, B. Smith., and G. Ganjyal. 2020. USDA Pulse Crop Health Initiative. *Optimizing pulse protein functionality. Principal Investigator (After Dr. Brennan Smiths Departure in Fall 2020)*. June, 2020. \$79,180. (1-1-2021 to 12-31-2021)
- Colle, M.J.** 2020. Idaho Cattle Foundation Unclaimed Livestock Committee Public/Higher Education Fund. *Development of meat animal evaluators to serve Idaho. Principal Investigator*. January, 2021. \$6,310. (3-25-2021 to 6-30-2023)
- Bass, P.D. and **M.J. Colle**, 2020. Idaho Cattle Foundation Unclaimed Livestock Committee Public/Higher Education Fund. *Telling the story of quality Idaho beef. Co-PI*. November, 2021. \$9,000. January, 2021. \$9,000. (1-1-2021 to 12-31-2021)
- Colle, M.J.**, D. Konetchy, and P.D. Bass. 2020. National Sheep Industry Improvement Center. *Evaluation of growth, meat quality, and sensory characteristics of wool, hair, and wool/hair lambs. Principal Investigator*. September, 2020. \$43,198. (5-15-2021 to 6-30-2022)
- Murdoch, G., B. Murdoch, **M.J. Colle**, and P.D. Bass. 2019. Idaho Beef Council. *Advanced carcass maturity: developing an understanding, screening method and possible solution. Investigator*. March, 2019. \$34,875. (7-1-2019 to 6-30-2020)
- Bass, P.D., **M.J. Colle**, G.K. Murdoch, B. Murdoch, J. Williams, P. Rezamand, M. McGuire, M. McGuire, T. Mitchell. 2019. Idaho Beef Council. *Functional importance of microbiota on sensory attributes of whole-muscle dry-aged beef. Co-PI*. March, 2019. \$42,890. (7-1-2019 to 6-30-2020)

- Colle, M.J.**, P.D. Bass, and J. Nasados. 2019. Idaho Beef Council. *Extending the shelf-life of beef steaks using acerola cherry powder and rosemary extract in order to remain competitive in the international market. Principal Investigator.* March, 2019. \$31,108. (7-1-2019 to 6-30-2020)
- Bass, P.D., **M.J. Colle**, and G.K. Murdoch. 2019. National Cattlemen's Beef Association. *Effect of beef carcass size and aging period on display color, tenderness, and palatability of steaks from the inside round. Co-PI.* February, 2019. \$38,495. (5-1-2019 to 5-30-2020)
- Colle, M.J.** 2019. University of Idaho Open Access Publishing Fund. *Retail display properties and consumer perception of extended aged beef topically treated with ascorbic acid and rosemary extract. Principal Investigator.* \$240.
- Colle, M.J.** 2018. University of Idaho Open Access Publishing Fund. *Distribution of marbling throughout the Longissimus lumborum of beef carcasses using and instrument-grading system. Principal Investigator.* \$750.
- Bass, P.D. and **M.J. Colle**. 2018. Mary A. Turner Endowment. *Effects of beef carcass size on chilling rate, display color, pH, and tenderness on the top round subprimal. Co-PI.* March, 2018. \$4,784. (7-1-2018 to 6-30-2019)
- Doumit, M.E., **M.J. Colle**, and K.C. Salove. 2016. Idaho Beef Council. *Role of calpain-1 and -2 in tenderization of beef strip loin and top round during extended aging. Co-PI.* March, 2016. \$24,950. (7-1-2016 to 6-30-2017).
- Doumit, M.E., **M.J. Colle**, and K.C. Salove. 2016. Idaho Beef Council. *Relationship between heifer carcass maturity and beef flavor. Co-PI.* March, 2016. \$29,650. (7-1-2016 to 6-30-2017).
- Colle, M.J.** 2016. University of Idaho Graduate & Professional Student Association. *Travel Award, Principal Investigator.* \$603.
- Doumit, M.E., **M.J. Colle**, and R.P. Richard. 2015. Idaho Beef Council. *Strategies to improve beef tenderness by activating calpain-2 earlier postmortem. Co-PI.* March, 2015. \$23,500. (7-1-2015 to 6-30-2016).
- Doumit, M.E., B.A. Shirts, **M.J. Colle**, G.K. Murdoch, and R.P. Richard. 2015. Idaho Beef Council. *Relationship between heifer carcass maturity and beef quality characteristics. Co-PI.* March, 2015. \$40,000. (7-1-2015 to 6-30-2016).
- Colle, M.J.** 2015. University of Idaho Graduate & Professional Student Association. *Travel Award, Principal Investigator.* \$700.
- Doumit, M.E., M.C. Colle, **M.J. Colle**, W.I. Loucks, and R.P. Richard. 2014. Idaho Beef Council. *Improving yield, shelf-life and palatability of beef top round. Co-PI.* March, 2014. \$29,643. (7-1-2014 to 6-30-2015).
- Colle, M.J.** 2014. University of Idaho Graduate & Professional Student Association. *Travel Award, Principal Investigator.* \$557.
- Doumit, M.E., **M.J. Colle**, and R.P. Richard. 2013. Idaho Beef Council. *Improving retail color stability of beef after extended aging. Co-PI.* March, 2013. \$34,462. (7-1-2013 to 6-30-2014)
- Doumit, M.E., **M.J. Colle**, and R.P. Richard. 2012. Idaho Beef Council. *Consequences of extended aging on retail shelf-life and consumer acceptability of four beef muscles. Co-PI.* March, 2012. \$40,533. (7-1-2012 to 6-30-2013).

Submitted Grants:

Colle, M.J. and P.D. Bass. 2023. Idaho Cattle Foundation Unclaimed Livestock Committee Public/Higher Education Fund. *Development of meat animal evaluators to serve Idaho. Principal Investigator.* November, 2023. \$5,216.

Bass, P.D. and **M.J. Colle.** 2023. Idaho Cattle Foundation Unclaimed Livestock Committee Public/Higher Education Fund. *Telling the story of Idaho beef. Co-PI.* November, 2023. \$5,000.

Non-funded Grants:

Colle, M.J., P.D. Bass, J.A. Nasados, and J.B. Van Buren. 2023. National Cattlemen's Beef Association. *Analysis of boxed beef temperature during freezing and thawing and its effect on meat quality. PI.* June, 2023. \$67,649.

Colle, M.J., P.D. Bass, J.A. Nasados, and J.B. Van Buren. 2023. National Cattlemen's Beef Association. *Influence of electrical stimulation and beef rib temperature on bloom time and quality grade. PI.* June, 2023. \$38,599.

Foraker, B.A. J.A. Unruh, M. Du, P.S. Kuber, **M.J. Colle,** and P.D. Bass. 2022. National Cattlemen's Beef Association. *Identifying relationships between empty body weight, specific gravity, and dissectible carcass composition in heterogenous beef cattle. Co-PI.* November, 2022. \$53,886.

Colle, M.J., E. Billings, J. Root, M. McGuire, B. Collier, M. Doumit, J.A. Nasados, P.D. Bass, and D. Faircloth. 2022. Meat and Poultry Processing Expansion Program. *University of Idaho Meat Science Innovation Center. PI.* May, 2022. \$2,487,950.

Bass, P.D., **M.J. Colle,** J.A. Nasados, M. McGuire, and J.B. Van Buren. 2022. National Cattlemen's Beef Association. *Benefits of extended aging on cull cow beef top rounds. Co-PI.* May, 2022. \$49,494.

Colle, M.J. 2022. Hunt Family Beef Education and Research Professor. *Impact of maternal and calf nutrition on gestational growth, postnatal growth, and meat quality in crossbred beef cattle. PI.* May, 2022. \$134,625.

Colle, M.J. and R. Sadeghi. 2022. USDA ARS Pulse Crop Health Initiative. *Relationship between chemistry and functionality of pulse proteins to improve functionality traits and application of pulse proteins. PI.* April, 2022. \$82,820.

Colle, M.J. and P.D. Bass. 2021. National Sheep Industry Improvement Center. *Dissemination of results from the comparison of wool, hair, and wool/hair lambs. Principle investigator.* September, 2021. \$10,012.

Colle, M.J. and P.D. Bass. 2021. Foundation for Meat & Poultry Research & Education. *Utilization of electrical stimulation and a unique alternative fabrication method to improve meat quality and value of heavy weight beef carcasses. Principle Investigator.* August, 2021. \$81,676.

Colle, M.J. and P.D. Bass. 2020. USA Dry Pea & Lentil Council. *Replacing soy and sodium phosphate with 'all-natural' pulse crops as binders in beef patties. Principal Investigator,* December, 2020. \$31,669.

Taghvaei, M. and M.J. Colle. 2020. USA Dry Pea & Lentil Council. *Investigating the effect of variety in biochemical and physical properties of chickpeas. Co-PI,* December, 2020. \$23,467.

- Vierck, K.R., M.J. Colle, J.M. Lancaster, and P.D. Bass. National Cattlemen's Beef Association. *Impact of beef carcass size, and aging period on flavor precursors and final beef flavor development of steaks from the round*. **Co-PI**, April, 2021. \$65,760.
- Bass, P.D., M.J. Colle, M. McGuire, J. Nasados, B. Glaze, J. Hall, J. Church, C. Willmore, A. Ruth, M. Small, S. Ball, S. Baker, S. Jensen, and S. Williams. 2021. Idaho Beef Council. *Evaluation of the beef bottom round flat as a viable and profitable alternative to beef brisket flat for use in smoked meat preparation*. **Co-PI**. January, 2021. \$51,012.
- Bass, P.D., M.J. Colle, J. Nasados, and J. Lancaster. 2021. Idaho Beef Council. *Investigating the effects of alternative fabrication of large beef carcasses on chilling rate, display color, pH, and tenderness on the top round and knuckle subprimals*. **Co-PI**. January, 2021. \$49,246.
- M.J. Colle, Bass, P.D., J. Hall, J. Nasados, and K. Oliver. 2021. Mary A. Turner Endowment. *Impact of maternal nutrition on gestational growth, postnatal growth, and meat quality in crossbred beef cattle*. **Principal Investigator**. March, 2021. \$4,991.
- Colle, M.J., P.D. Bass, M. McGuire, J. Nasados, B. Glaze, J. Hall, M. Ellison, A. Ruth, C. Willmore, J. Church, M. Small, S. Ball, S. Jensen, S. Williams, and C. Schoepflin. 2021. Idaho Beef Council. *Discovering Idaho beef*. **Principal Investigator**. January, 2021. \$48,717.
- Colle, M.J., P.D. Bass, J. Hall, J. Nasados, and K. Oliver. 2021. Idaho Beef Council. *Comparison of two common Idaho production systems (irrigated pasture vs rangeland) regarding gestational growth, postnatal growth, and meat quality of crossbred beef cattle*. **Principal Investigator**. January, 2021. \$49,746.
- Colle, M.J., P.D. Bass, and J. Nasados. 2021. Idaho Beef Council. *Utilizing 'all-natural' ingredients to improve yield, texture, and shelf-life of fresh and frozen beef patties*. **Principal Investigator**. January, 2021. \$37,634.
- Taghvaei, M., M.J. Colle, P.D. Bass, and J. Nasados. 2021. Idaho Beef Council. *The application of visceral protein hydrolysate isolate from beef cattle intestines to improve the quality and shelf-life of beef patties*. **Co-PI**. January, 2021. \$35,654.
- Rezamand, P. and M.J. Colle. 2021. Idaho Beef Council. *Early introduction of beef-containing complementary foods on nutritional status of infants*. **Co-PI**. January, 2021. \$60,939.
- Chibisa, G., G.M. Murdoch, and M.J. Colle. 2021. Idaho Beef Council. *Enhancing the healthy value of beef lipids and product quality through dietary manipulations*. **Co-PI**. January, 2021. \$49,781.
- Colle, M.J. and P.D. Bass. 2020. EDA CARES Act. *Developing a proactive approach to economic sustainability of the meat industry supply chain through employee training's and ensuring the safety and quality of meat*. **Principal Investigator**. 2020. \$408,578.
- Colle, M.J. and P.D. Bass. 2020. American Pulse Association. *Replacing allergenic soy and non-natural sodium phosphate with non-allergenic and 'all-natural' pulse crops as binders in beef patties*. **Principal Investigator**. 2020. \$31,968.
- Colle, M.J. and P.D. Bass. 2020. Rural Business-Cooperative Service, USDA. *Pacific Northwest Livestock and Meat Science Agriculture Innovation Demonstration Center*. **Principal Investigator**. 2020. \$551,945.
- Colle, M.J., P.D. Bass, J. Shovic, and G. Murdoch. 2020. EDA CARES Act. *Developing a proactive approach to economic sustainability of the meat industry supply chain through employee training's and ensuring the safety and quality of meat*. **Principal Investigator**. 2020. \$766,939.

- Colle, M.J. and P.D. Bass. 2020. USDA-ARS Pulse Crop Health Initiative. *Incorporation of Pulse Crops into Beef Patties*. **Principal Investigator**. 2020. \$47,624.
- Colle, M.J. and G. Ganjyal. 2020. USDA-ARS Pulse Crop Health Initiative. *Assessing protein quality from various lentil cultivars and lentil protein incorporation into beef patties*. **Principal Investigator**. 2020. \$74,787.
- Colle, M.J. and P.D. Bass. 2020. USA Dry Pea & Lentil Council. *Replacing allergenic soy and non-natural sodium phosphate with non-allergenic and 'all-natural' pulse crops as binders in beef patties*. **Principal Investigator**. 2020. \$31,968.
- Chibisa, G.E., M.J. Colle, and G.K. Murdoch. 2020. USDA-ARS Northwest Center for Small Fruits Research. *Sustainable use of small fruit processing by-products as beef cattle feed in the Northwest*. **Co-PI**. 2020. \$49,992.
- Colle, M.J., G. Murdoch, P.D. Bass, and J.B. Van Buren. 2020. National Cattlemen's Beef Association. *Effect of electrical stimulation on beef carcass quality and product palatability of heavyweight carcasses*. **Principal Investigator**. 2020. \$36,952.
- Bass, P.D., M.J. Colle, G. Murdoch, and J.A. Nasados. 2020. National Cattlemen's Beef Association. *Effects of alternative fabrication of large beef carcasses on chilling rate, display color, pH, and tenderness on the top round subprimal*. **Co-PI**. 2020. \$35,118.
- Bass, P.D., M.J. Colle, G. Murdoch, J.A. Nasados, and M. McGuire. 2020. National Cattlemen's Beef Association. *Evaluation of the beef bottom round flat as a viable and profitable alternative to beef brisket flat for use in smoked meat preparation*. **Co-PI**. 2020. \$27,450.
- Popova, I., M.J. Colle, and P.D. Bass. 2020. National Cattlemen's Beef Association. *Mustard meal extracts as natural additive to prevent spoilage in precooked beef patties*. **Co-PI**. 2020. \$49,158.
- Bass, P.D., J.F. Legako, D.R. Woerner, M.J. Colle, and B. Kim. 2020. National Cattlemen's Beef Association. *Sensory and chemical characterization of commercially dry-aged beef*. **Co-PI**. 2020. \$45,918.
- Murdoch, G., M.J. Colle, and P.D. Bass. 2019. Idaho Beef Council. *Assessing de nova synthesis and breakdown of antioxidants in muscle, and blood of beef cattle*. **Co-PI**. 2019. \$48,975.
- Colle, M.J., P.D. Bass, G. Murdoch, J. Hall, B. Murdoch, and J. Nasados. 2019. Idaho Beef Council. *Predicting commercial beef carcass tenderness using genetic tests*. **Principal Investigator**. 2019, \$27,749.
- Colle, M.J., P.D. Bass, G. Murdoch, and J. Nasados. 2019. Idaho Beef Council. *Understanding the role of electrical stimulation on the activation of calpain-2 to improve beef tenderness*. **Principal Investigator**. 2019. \$38,450.
- Colle, M.J., P.D. Bass, G. Murdoch, P. Rezamand, J. Nasados, and M. McGuire. 2019. Idaho Beef Council. *Influence of dry heat cooking method and degree of doneness on beef strip loin amino acid content, fatty acid profile, fat-soluble vitamin content, and nutrient composition*. **Principal Investigator**. 2019. \$48,985.
- Bass, P.D., M.J. Colle, G. Murdoch, P. Rezamand, J. Nasados, and M. McGuire. 2019. Idaho Beef Council. *Evaluation of the beef bottom round flat as a viable and profitable alternative to beef brisket flat for use in smoked meat preparation*. **Co-PI**. 2019. \$17,884.
- Chibisa, G., G. Murdoch, M.J. Colle, N. Goekner, and M. Beckman. 2019. Idaho Beef Council. *Enhancing the nutritional value of beef; altering lipids and product quality through dietary manipulation*. **Co-PI**. 2019. \$47,175.

- Colle, M.J., P.D. Bass, G. Murdoch, J. Hall, B. Murdoch, and J. Nasados. 2019. National Cattlemen's Beef Association. *Predicting commercial beef carcass tenderness using genetic tests*. **Principal Investigator**. 2019, \$28,600.
- Colle, M.J., P.D. Bass, G. Murdoch, and J. Nasados. 2019. National Cattlemen's Beef Association. *Utilizing electrical stimulation to improve beef tenderness by activating calpain-2*. **Principal Investigator**. 2019. \$39,901.
- Bass, P.D., M.J. Colle, G. Murdoch, B. Murdoch, J. Williams, P. Rezamand, M. McGuire, M. McGuire, and T. Mitchell. 2019. National Cattlemen's Beef Association. *Functional importance of microbiota on sensory attributes of whole-muscle dry-aged beef*. **Co-PI**. 2019. \$42,930.
- Willmore, C., S. Hines, J. Packham, J. Hall, M. Ellison, P.D. Bass, and M.J. Colle. 2018. USDA-WSARE Research and Education Grants. *Utilizing cover crops for background cattle in Idaho*. **Co-PI**. 2018. \$200,000.
- Colle, M.J. 2018. University Budget and Finance Committee. *UI BBQ Boot Camp and Vandal Griller Certifications*. **Principal Investigator**. 2018. \$46,394.
- Colle, M.J., P. Rezamand, M. McGuire, L-L. Tsao, and J. Williams. 2018. Gerber Foundation. *Effect of timing of beef-containing complementary food on nutritional status, enteric microbiome, and behavior of infants: a randomized controlled trial*. **Principal Investigator**. 2018. \$349,000.
- Colle, M.J., A. Ahmadzadeh, and D. Konetchy. 2018. Washington State Sheep Producers-Association Endowment for Sheep Teaching and Research Fund Application. *Sheep Science Experiential Learning: Cultivating an Advanced and Progressive Sheep Education Program for the Pacific Northwest*. **Principal Investigator**. 2018. \$4,899.
- Colle, M.J., J. Hall, B. Murdoch, J. Sprinkle, M. Ellison, B. Glaze, G. Chibisa, A. Larrman, and G. Murdoch. 2017. USDA National Needs Fellowship Grant. *Multidisciplinary Graduate Training: Sustainable Beef Production – Effect of Beef Cow Environment*. **Principal Investigator**. 2017. \$241,000.
- Bass, P.D., M.J. Colle, P. Rezamand, and G. Murdoch. 2018. National Cattlemen's Beef Association. *Enhancing the value of the beef top sirloin butt (NAMI 184) through muscle specific fabrication into custom cuts*. **Co-PI**. 2018. \$43,705.
- Colle, M.J., P.D. Bass, G. Murdoch, and P. Rezamand. 2018. National Cattlemen's Beef Association. *Influence of dry heat cooking method and degree of doneness on beef strip loin amino acid content, fatty acid profile, fat-soluble vitamin content, and nutrient composition*. **Principal Investigator**. 2018. \$59,100.
- Clark, D., T. Mitchell, P.D. Bass, and M.J. Colle. 2018. National Cattlemen's Beef Association. *Functional Importance of Microbiota on Sensory Attributes of Whole-Muscle Dry-Aged Beef*. **Co-PI**. 2018. \$49,990.
- Colle, M.J. 2018. Office of Research and Economic Development Seed Grant Program. *Seed Grant – Understanding the Activation of Calpain-2*. **Principal Investigator**. 2018. \$12,000.
- Bass, P.D., M.J. Colle, and G. Murdoch. 2018. UI Office of Research and Economic Development. *Refrigerated truck acquisition for improving meat science product transportation*. **Co-PI**. 2018. \$72,750.
- Colle, M.J., P.D. Bass, G. Murdoch, and P. Rezamand. 2018. National Cattlemen's Beef Association. *Influence of dry heat cooking method and degree of doneness on beef strip*

loin amino acid content, fatty acid profile, fat-soluble vitamin content, and nutrient composition. Principal Investigator. 2018. \$59,100.

Doumit, M.E. and M.J. Colle. 2016. National Cattlemen's Beef Association. *Role of calpain-1 and -2 in tenderization of beef strip loin and top round during extended aging.*

Investigator. 2016. \$29,875.

Doumit, M.E. and M.J. Colle. 2014. Idaho Beef Council. *Discover Great Beef. Investigator.* 2014. \$17,738.

Doumit, M.E., R.P. Richard, M.J. Colle. 2012. National Cattlemen's Beef Association. *Optimization of sous vide cookery to improve beef bottom round tenderness and fluid holding capacity. Investigator.* 2012. \$41,640.

Doumit, M.E., R.P. Richard, M.J. Colle. 2012. National Cattlemen's Beef Association. *Effect of extended aging on retail shelf-life and consumer acceptability of four beef muscles.*

Investigator. 2012. \$31,096.

In Kind Donations:

Agri Beef, 2019, Vandal Brand Meats – A Legacy of Quality. Deans office and Meat Science Team Effort; \$2,000,000.

Kings River Ranch, 2018, Donated gift dollars and in-kind to help teach new graduate assistants about carcass data collection and Warner-Bratzler Shear Force analysis, \$5,000 cash, \$5,380 in-kind meat product.

Basic American Foods, 2018, Donation for student travel to a meat science conference, \$500.

Honors and Awards:

Gamma Sigma Delta Outstanding Graduate Student (2016)

GPSA Outstanding Graduate Student Award (2016)

Farm Foundation Cultivator (2015)

Outstanding University of Idaho AVS Graduate Student (2012-2013)

First Place, Reciprocal Meat Conference, M.S. Division, Research Poster Competition (2013)

SERVICE:

Major Committee Assignments:

HATCH W-5177 Chair, 2022-present

Agriculture Education Faculty Search Committee, 2023

Beef Feedlot Manager Committee Chair, 2023

Beef Unit Manager Committee Chair, 2022

Administrative Coordinator AVFS Committee, 2021

Assistant Manager (Meat Lab) Committee, 2021

Meat Science Innovation Center Design Team, 2020-present

Institutional Animal Care and Use Committee; Scientist, Voting Member, 9/1/20 to 8/31/26

AVFS Graduate Curriculum Committee, 2020-present

HATCH W-4177 Secretary, 2020-2022

AVFS Curriculum Committee, 2018-present

Idaho State FFA Livestock Judging Contest Coordinator, 2019-present

Promotion and Tenure Review Committee, 2019

Western Section - American Society of Animal Science (WSASAS) Regional Academic Quadrathlon Coordinator, 2019

North Idaho Meat CDE, 2019

Beef Feedlot Manager Committee, 2019

Promotion Review Committee, 2018

Feed Mill Manager Committee, 2018

VandalStar Workgroup, 2018
Associate Beef Unit Manager Committee, 2017

Professional and Scholarly Organizations:

American Meat Science Association (2012-Present)
National FFA Alumni Association (2012-Present)
American & Wisconsin Simmental Association (2004-Present)
American Society of Animal Science (2020)
UI Graduate and Professional Student Association (GPSA) Senator (2014-2016)
UI GPSA Teaching Excellence and Graduate Achievement Committee Chair (2016)

Outreach Service: (Including popular press, interview articles, newspaper articles, workshops-seminars-tours organized, Extension impact statements)

Ad hoc reviewer for Animal Frontiers, 2023
Assist incoming students with registering for classes at UI Idaho Bound and throughout the year, 2018-present

Ad hoc reviewer for Meat and Muscle Biology, 2019-2023
Give farm tours to prospective students and visiting universities, 2017-present
Ad hoc reviewer for Computers and Electronics in Agriculture, 2020
Ad hoc reviewer for Meat Science, 2020
Ad hoc reviewer for Animals, 2020
Departmental HATCH Review, 2018, 2020
Ad hoc reviewer for Foods, 2020
Ad hoc reviewer for Journal of Undergraduate Chemistry Research, 2019
Evergreen Show, Moses Lake, WA, Promoted UI at college recruitment booth, 2018
Ad hoc reviewer for Canadian Journal of Animal Science, 2018
Ad hoc reviewer for PLOS ONE, 2017, 2018

Community Service:

Moscow FFA Alumni and Supporters Vice President (2022-2023)
Moscow FFA Alumni and Supporters Charter Member (2021-present)
Potlatch FFA Alumni and Supporters Member (2020-present)
St. Mary's Potlatch Parish Council (2020-present)
Garfield Palouse FFA Volunteer (2017-2019)
Volunteer at Willmar United Methodist Church Community Meal (2016-2017)
Volunteer at the Salvation Army Soup Kitchen (2015)

Honors and Awards:

American FFA Degree (2008)

PROFESSIONAL DEVELOPMENT:

Teaching:

Advising symposium 2023 – Rooted, Growing, Thriving (September 29, 2023)
CALs Teaching and Advising Workshop (January 9, 2023)
Advising symposium 2022 – Reconnect, Reimagine, Recalibrate (September 9, 2022)
UI Dual Credit Program – Virtual Professional Development (April 16, 2021)
CALs Teaching and Advising Workshop (January 7, 2021)
CALs Teaching and Advising Workshop (2020)
Campus Security Authority Training (2020)
CETL Workshop: I Recorded My Zoom Session, Now What? (2020)
CETL Workshop: What Do I Tell My Students? Part 2: Common syllabus language for a flexible fall (2020)

CETL Workshop: Building a One-Stop Shop for Your Class (2020)
 CETL Workshop: The Modified Tutorial Model-What it is and Why it Might be Right for Me (2020)
 CETL Workshop: HyFlex Teaching with Zoom (2020)
 CETL Workshop: Zoom for Effective Meetings (2020)
 CETL Workshop: Keeping My Class Inclusive: Diversity, Inclusion, and Universal Design Online (2020)
 College of Graduate Studies – Slate Training for DGS’s and Reviewers (2020)
 University of Idaho All Employee Work-Related Online Training (2020)
 Creating a Respectful Community
 Diversity and Inclusion
 Fire Safety in the Workplace
 IT Security Awareness
 Visited Public University of Navarra, Pamplona, Spain (2019)
 Hosted Dr. Kizkitza-Meat Scientist from the Public University of Navarra (2018 & 2019)
 CALS New Faculty Orientation (2018)
 Inclusion by Design, DESIGNING FOR INCLUSIVE TEACHING AND LEARNING, Dr. Lindsay Bernhagen (2018)
 UI 14th Annual Advising Symposium, THE PIVOT: MOMENTS THAT MATTER (2017)

Scholarship:

Idaho Cattle Association’s Annual Convention and Trade Show, Sun Valley, ID (2022)
 75th Reciprocal Meat Conference, Iowa State University, Des Moines, IA (2022)
 74th Reciprocal Meat Conference, University of Nevada, Reno, NV (2021)
 Idaho Cattle Association, Midyear Meeting, Salmon, ID, (2021)
 Hazard Communication with GHS (2020)
 UI EHS Hazard Communication Program (2020)
 Introduction to Animal Care and Use - Basic Course (2020)
 Lessons Learned from 10.000 Proposal Reviews (2020)
 P and T Training, Online Training (2020)
 Idaho Cattle Association’s Annual Convention and Trade Show, Sun Valley, ID (2019)
 72nd Reciprocal Meat Conference, Colorado State University, Fort Collins, CO (2019)
 Session Moderator for: Beef Demand Determinants: Research Summary and Implications- Dr. Glynn Tonsor
 99th National Block & Bridle Convention, New Orleans, LA (2019)
 NCBA Cattle Industry Convention, New Orleans, LA (2019)
 71st Reciprocal Meat Conference, Kansas City, MO (2018)
 Better Cattle Stockmanship, Lewiston, ID (2018)
 Attended Dr. Temple Grandin’s speech: *Better Cattle Stockmanship*
 69th Reciprocal Meat Conference, Angelo State University, San Angelo, TX (2016)
 Poster presentation: *Role of calpain-2 in the tenderization of extended aged beef*
 American Association of Meat Processors Conference, Springfield, IL (2015)
 Assisted with the cured meats championship judging
 68th Reciprocal Meat Conference, University of Nebraska-Lincoln, Lincoln, NE (2015)
 Poster presentation: *Effects of ascorbic acid and rosemary extract on quality characteristics and sensory perception of extended aged beef*
 Farm Foundation Round Table Meeting, Columbus, OH (2015)
 Poster presentation: *Consequences of extended aging on four beef muscles*
 North American Meat Institute Management Conference, Carlsbad, CA (2015)
 American Association of Meat Processors Conference, Milwaukee, WI (2014)
 67th Reciprocal Meat Conference, University of Wisconsin-Madison, Madison, WI (2014)

Poster presentation: *Influence of extended aging on Warner-Bratzler shear force and sensory perception of four beef muscles*

66th Reciprocal Meat Conference, Auburn University, Auburn, AL (2013)

Poster presentation: *Consequences of extended aging on retail shelf-life of four beef muscles*

65th Reciprocal Meat Conference, North Dakota State University, Fargo, ND (2012)

Poster presentation: *Consumer acceptability of beef bottom round steaks treated with calcium chloride and bromelain*

Outreach:

Northwest Meat Processors Meeting, Hermiston, OR (2022)

Co-head judge for the cured meats contest

Montana Meat Processors Meeting, Kalispell, MT (2021)

Served as a judge for the cured meats contest.

Northwest Meat Processors Meeting, Anacortes, WA (2019)

Co-head judge for the cured meats contest

Northwest Meat Processors Meeting, Coeur d'Alene, ID (2018)

Served as a judge for the cured meats contest

Washington Cattlemen's and Cattlewomen's Association 2017 Annual Convention & Tradeshow,

Three Rivers Convention Center, Kennewick, WA (2017)

Northwest Meat Processors Meeting, University of Idaho, Moscow, ID (2016)

Served as a judge for the cured meats contest

Pacific Northwest Let's Grow Lamb & Wool Symposium, Walla Walla, WA (2015)

Northwest Meat Processors Meeting, Seaside, OR (2015)

Served as a judge for the cured meats contest

Pacific Northwest Young Cattlemen's Conference, Colombia Basin, WA (2015)

Northwest Meat Processors Meeting, University of Idaho, Moscow, ID (2013)

Served as a judge for the cured meats contest

Northwest Meat Processors Meeting, Oregon State University, Corvallis, OR (2012)

Served as a judge for the cured meats contest

Administration/Management:

Leadership Idaho Agriculture, Class 44 (November, 2023 – February, 2024)

Effective Performance Management and Performance Evaluation (June, 22 2022)

Building Confidence as a New Leader: Overcoming Internal Barriers (March, 29 2022)

HR Issues for Supervisors (December, 29 2021)

Supervising in the time of COVID (September, 2021)

Communication Essentials (June, 2021)

Leadership Essentials Part 2 (May, 2021)

Leadership Essentials Part 1 (May, 2021)

Online Search Committee Training (April, 2021)

Online Managing Unconscious Bias in Recruitment and Hiring (April, 2021)

Supervising in the Time of COVID19 – Managing a Team from a Distance (2020)

Effective Performance Management & Performance Evaluation (2020)