Through the Meat Science Program, you will learn the underlying principles of biology, physiology, and nutrition that drive animal growth and the impact they have on meat quality. You will connect scientific principles to the end-product through hands-on experiences. Through courses, internships, research, and part-time student employment, you will gain practical experience and learn about:

- Life-cycle production and management across multiple species
- Live animal, carcass, and genetic assessment
- Cellular effects on animal growth and development
- Meat processing and branded meat products
- Critical factors influencing animal care and welfare
- Production of high-value, high-quality, fresh, and processed food
- Relationships between on-farm, packing, and retail segments of food animal production
- Food Safety/Food Microbiology

TOP PRIORITIES OF THE MEAT SCIENCE PROGRAM:

- Science, Technology, Engineering, and Mathematics (STEM)
- Higher Education and Career Pathways
- Workforce Development
- Food for Human Health

Meat Laboratory Facility
The Meat Science Teaching Laboratory is a fully functioning and federally (USDA) inspected meat processing facility. It is the site where most of the meat science classes, meat science extension programs, internships, and research experiences take place. As a result, you will gain experience in:

- Techniques involved in harvesting and fabricating carcasses to retail cuts
- Making processed meat products like sausage, bratwurst, or jerky
- Product development
- Quality assurance
- Facility inspection
- Equipment processes and management
Did You Know?
Starting salary for Meat Science students is anywhere between $40,000 and $55,000!

There are currently more jobs in the meats industry than there are people to fill them, many recent alumni find themselves in management positions within a relatively short period of time.

Dr. Ben Bohrer Muscle Biologist – Meat Science Research (bohrer.13@osu.edu) and his Ph.D. student, Nicole Wang.

Dr. Lyda G. Garcia - Meat Judging (garcia.625@osu.edu)

Opportunities in Meat Science

- Internships – hands on experiences and training to develop interpersonal skills
- Undergraduate Research - Expand on your classroom studies through in-depth, hands-on experiences that will allow you to discover how research advances our understanding of animals. In addition, you will learn about the processes of experimental design, implementation, and analysis.
- Meat Judging Team Member - The meat judging program complements student education in agriculture through teaching how the final end product is evaluated, fabricated, and marketed. Meats team members are exposed first hand to numerous segments of the meats industry across the U.S.
- Meat Science Club Member / Officer - The Meat Science Club formed to promote the meat industry through educational and industrial experiences by means of interaction with professors, leaders of the industry, and future employers.

Careers
- Food Safety Inspection Service (FSIS)
- USDA Agricultural Marketing Service Grader (USDA-AMS)
- Product Development
- Quality Assurance
- Research
- Supervisor
- Import/Export Trade
- Extension / Outreach
- Etc...

Many of our students find high-paying opportunities prior to graduation with large companies such as: Cargill, Smithfield, Wendy's, Sugar Creek Packaging, Beef Products Inc., Tyson, and Boar's Head, to name a few.

Dr. Michael Cressman – BBQ Science (cressman.2@osu.edu)

Mr. Ethan Scheffler – Meat Laboratory Manager (scheffler.15@osu.edu)

Meat Processing Short Course – Dr. Lynn Knipe (knipe.1@osu.edu)

The College of Food, Agricultural, and Environmental Sciences and its academic and research departments including, Ohio Agricultural Research and Development Center (OARDC), Agricultural Technical Institute (ATI) and Ohio State University Extension embraces human diversity and is committed to ensuring that all research and related educational programs are available to clientele on a nondiscriminatory basis without regard to age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, sexual orientation, or veteran status. This statement is in accordance with United States Civil Rights Laws and the USDA.

Cathann Kress, Vice President for Agricultural Administration and Dean

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MEAT SCIENCE FACULTY AND STAFF:

- **McDonald Wick**: Professor. Responsibilities: Research (80%) and Teaching (20%). *Area: Beef, Fish, Poultry and Muscle growth and development.* Email: wick.13@osu.edu

- **Kichoon Lee**: Professor. Responsibilities: 80% Research and 20% Teaching. *Area: Poultry, beef and swine, growth biology, muscle growth and development.* Email: lee.2626@osu.edu.

- **Sandra G. Velleman**: Professor. Responsibilities: 80% Research and 20% Teaching. *Area: Poultry, Muscle development and growth.* Email: velleman.1@osu.edu

- **C. Lynn Knipe**: Associate Professor. Responsibilities: Extension (75%) and Research (25%). *Area: Meat Science - Extension Meat Specialist, Processing and HACCP.* Email: knipe.1@osu.edu

- **Lyda G. Garcia**: Associate professor. Responsibilities: Teaching (50%) and Extension & Outreach (50%). *Area: Meat Science. Meat judging coordinator. Extension Meat Specialist, Fresh Meats.* Email: garcia.625@osu.edu

- **Benjamin Bohrer**: Assistant Professor. Responsibilities: Research (70%) and Teaching (30%). *Area: Muscle biology and Meat Science.* Email: bohrer.13@osu.edu

- **Michael Cressman**: Assistant Professor, Clinical Practice. Responsibilities: Teaching (80%) and Extension (20%). *Area: Poultry.* Email: cressman.2@osu.edu

- **Ethan Scheffler**: Meat Laboratory Manager. Responsibilities: Manager of the Ohio State USDA Inspected Meat Laboratory. Email: scheffler.15@osu.edu
MEAT SCIENCE RELATED COURSES OFFERED

MEATSCI 2010: Barbecue Science
Investigating methods to prepare various meat products and matching proper cooking methods with different muscles to produce wholesome and palatable products. Students will be introduced to product sensory techniques.
Faculty: Dr. M. Cressman

MEATSCI 3110: Introduction to Meat Science
Analysis of the principles of meat science as related to meat animal value factors, processing technology, and merchandising systems affecting the producer, processor, and consumer.
Faculty: Dr. L. G. Garcia

MEATSCI 3210: Food Animal Processing
Hands-on application of the procedures involved with food animal harvest, inspection, carcass fabrication and merchandising retail products.
Faculty: Dr. L. G. Garcia, Dr. M. Cressman and Mr. E. Scheffler

MEATSCI 3310: Meat Animal Carcass Evaluation
Evaluating factors that influence the value of meat animals and their resulting carcasses, wholesale, and retail cuts in accordance with recognized grading standards, laboratory practice.
Faculty: Dr. L. G. Garcia

MEATSCI 4193: Individual Studies
Students can complete up to three credit hours by taking short courses, such as Beef/Pork/Lamb 509, HACCP training or Processed Meats.
Faculty: Dr. L. G. Garcia and Dr. L. Knipe

MEATSCI 4510: Processed Meats
Exploring fundamental changes in soft animal tissues resulting from comminution and application of non-meat ingredients and a variety of cooking methodologies to enhance palatability and value.
Faculty: Dr. B Bohrer and Dr. L. Knipe
MEAT SCIENCE RELATED COURSES OFFERED (cont’d)

MEATSCI 5810: Branded Meat Products
Integration of multiple factors influencing value-added product development including raw material quality and procurement, processing, packaging, distribution, and complexity of market development and current consumer trends in niche marketing.
Faculty: Dr. B. Bohrer

MEATSCI 5510: Advanced Meat Science
Exploration of the antemortem and postmortem biochemical principles in skeletal muscle underlying protein functionality and resulting meat quality.
Faculty: Dr. B. Bohrer and Dr. M. Wick

ANIMSCI 3100: Growth and Development
An overview of growth and development on form and function of food animals and its impact on value.
Faculty: Dr. B. Bohrer

ANIMSCI 3306: Poultry Selection and Evaluation
To learn about the principles of poultry science; the evaluation and ranking of standard breeds of chickens; and the evaluation and grading of poultry meat and egg products. In addition, practical and safe handling techniques of live poultry.
Faculty: Dr. M. Cressman

ANIMCSCI 5100: Advanced Growth and Development
A molecular developmental approach to the study of tissue growth, structure, and function in animals and humans.
Faculty: Dr. K. Lee and Dr. S. Velleman

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