



# Meat Science & Animal Biologics Discovery

UNIVERSITY OF WISCONSIN-MADISON

## PROGRAM THEMES



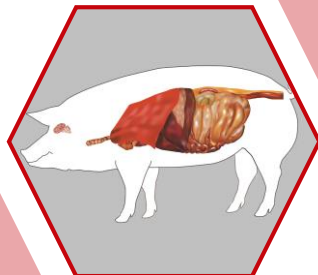
### Meat

From live animals to ready-to-eat products, we study animal care, meat quality, and product preparation and processing first-hand in our state-of-the-art pilot plant.



### Food Product Safety

In our advanced biosafety level 2 facility, we develop, test, qualify, quantify, and validate safety standards deemed important for the food industry and consumers.



### Biologics

We search for molecules and tissues from livestock and poultry that improve animal and human health.

**“ONE DAY, COULD THE VALUE OF THE  
NON-MEAT PORTION OF THE ANIMAL EXCEED  
THE VALUE OF THE MEAT?”  
– MSABD ADVISORY COMMITTEE**

## Program Overview

Meat Science & Animal Biologics Discovery (MSABD) is a more than \$50 million investment made possible by significant support from the State and alumni, businesses, and friends.

It will serve as a hub for problem-solvers looking to improve the meat industry, animal and human health, agriculture, the environment, and overall quality of life in Wisconsin, the U.S., and beyond.

## Our Mission

- Interact across campus to develop experienced, critical-thinking meat industry leaders
- Discover new uses for animal components in enhancing animal and human health
- Provide objective expertise for educating students, scientists and society in wholesome foods derived from animals



[meatsciences.cals.wisc.edu](http://meatsciences.cals.wisc.edu) - (608) 263-2504

**Bringing Value to the Industry**  
**UW-Madison offers facility use, fee-for-service, and sponsored research options  
to corporate, governmental, non-governmental, and academic organizations.**

## MEAT & POULTRY PROCESSING

*A place to discover, learn and advance meat science for students of all ages and companies of all sizes.*

The meat and poultry processing plant accommodates all meat processing (fresh through ready-to-eat) functions within a single building.

Core functions and features of the facility include:

- USDA-FSIS inspection
- Sanitary design principles
- Red meat and poultry harvest
- Carcass spray- and ultra-chill
- Fabrication and further processing
- Thermal processing
- Post-thermal processing

Special Features:

- Commercial CO<sub>2</sub> stunning
- Fully functional chemistry lab
- Sensory booths for product evaluation
- Product shelf-life display with RGBW LED lighting
- Utilities include electricity (up to 480V/200A), reverse osmosis water, culinary steam, CO<sub>2</sub> liqueur and gas, compressed air, and wire/wireless networking
- Classrooms with theater-viewing of refrigerated displays
- Full A/V integration between processing plant, classrooms, and on/off campus with two-way interactions
- Collaboration room for clients and guests



## FOOD SAFETY

*Where microbiologists and meat scientists work to keep consumers safe by ensuring safe food.*

The biosafety level 2 (BSL2) lab has pathogen-inoculated animal harvest capability, meat processing functions, and a microbiology lab to enable food challenge studies that mimic in-process and post-process contaminations.

Program capabilities include:

- Pre- and post-harvest strategies for food safety
- Processed meat (fresh through ready-to-eat) food safety validation including:
  - Effect of antimicrobial ingredients
  - Stabilization strategies (cooling)
  - Processing parameters for lethality
  - Fermented sausages and other dried meat products
- Development of surrogates for validation studies
- BSL2 pathogens: *Clostridium perfringens*, *Listeria monocytogenes*, *Staphylococcus aureus*, *Bacillus cereus*, *Salmonella*, Shiga-toxin producing *E. coli* (e.g. O157:H7)
- Up to 500 lb. batch capacity for manufacture, thermal, and post-thermal processing of whole muscle and comminuted further processed meat products
- Installation of equipment for microbiological studies or sanitary design evaluation and equipment decontamination

**To schedule a visit or inquire about collaboration  
interests, please contact the  
MSABD Director at (608) 263-2504.**