

MEAT RESEARCH SUBGROUPS REPORTS

The participants broke into four groups to discuss the proposed definitions of a meat scientist and to come up with four research priorities and to define them.

The four subgroups and chairmen are as follows:

GROWTH BIOLOGY

D. B. Anderson, Chairman
University of Illinois

PRODUCT SAFETY

A. W. Kotula, Chairman
U.S. Department of Agriculture

PROCESS EFFICIENCIES

R. W. Mandigo, Chairman
University of Nebraska

QUALITY ENHANCEMENT

H. K. Herring, Chairman
Wilson Foods Corporation

Meat Science Definitions

Meat Science—The study of production, processing and distribution of animal products to maximize their production, utilization, safety, nutrition and eating satisfaction to enhance the human diet and to meet other human needs.

Meat Science is the study of the production, properties, distribution, processing and use of meat and meat products. Its goals are to optimize efficiencies of production, assure quality and safety and maximize the nutritional contribution of meat to the human diet.

Product Safety

Zero Pathogen Goal—Develop safe and effective methods to prevent contamination and to destroy and remove undesirable microorganisms from meat and equipment.

Additive Functionality—Establish mechanisms of action of additives, ingredients and incidental contaminants.

Innovative Products—Establish safety of new or novel animal products and processing techniques.

Harmful Substance Detection—Develop reliable sensitive analytical methods and screening procedures

for detecting potentially harmful substances that may contaminate meat.

Additive Replacements—Develop alternatives to ingredients added to meat.

Tolerance Assessment—Develop methodologies and characterize tolerance levels and safety of food additives and natural contaminants.

Clinical Responses—Encourage human clinical studies to determine the relationship of meat and meat products to heart disease, cancer, hypertension and other ailments.

Process Efficiencies

- Increase energy conservation and other economic efficiencies during production, processing, preservation, delivery and final preparation of meat products.
- Enhance consumer acceptability and nutrient value through processing technology.
- Improve edible meat protein conservation and utilization during processing.
- Determine and improve functional properties of meat and meat product ingredients.
- Develop technology for successfully incorporating meat and non-meat components into manufactured foods.

Quality Enhancement

- Develop methods to measure and enhance eating satisfaction and appearance properties of meat.
- Develop methods to improve and stabilize meat color and flavor.
- Assess the importance and contribution of microbial growth on the quality and wholesomeness of meat.
- Develop needed information on the nutritional content and availability of cooked meat and meat products *as consumed*.
- Develop more sensitive methods for determination of trace nutrients.

AMERICAN MEAT SCIENCE ASSOCIATION

- Develop more reliable methods for determination of protein quality of meat *as consumed*.
- Improve nutrient retention and utilization.

Growth Biology

- Determine factors that regulate the cellular growth and metabolism of muscle and fat cells.
- Develop an understanding of interdependent mechanisms controlling adipose and muscle tissue metabolism and development.

- Develop production systems to optimize growth efficiency and body composition.
- Identify biochemical and physiological parameters that can be used for selection of genetically superior meat type animals.
- Determine factors that regulate protein synthesis and degradation in muscle.
- Determine factors that regulate fat deposition and mobilization.
- Assess the effect of stress on the growth and development of muscle, fat and bone.