

Technology of meat and meat products (IVth Year of study, VIIth SEMESTER)

Credit value (ECTS) 5

Course category

Domain (Imposed)

Course holder:

Prof. Paul Corneliu Boișteanu, PhD

Discipline objectives (course and practical works)

The course aims learning on the characteristic quality elements of live animals intended for slaughtering, the processing and objective assessment of the innocuousness, the intrinsic and extrinsic quality of meat and meat products, and the identification of the temporal biochemical pathway of the meat.

The aim is to learn the latest scientific innovations in the literature on modern technologies for processing, preservation, knowledge useful for improving and obtaining the necessary expertise of food-processing specialists with regard to:

- improving the systems and assessment criteria of food quality of animal origin (meat and meat products);
- designing and applying the technological stages of meat processing;

Discipline content (analytical program)

Course (chapters/subchapters)
The nutritional importance of meat
The factors that influence the meat production and its quality
The factors that influence the slaughtered animals meat production
Influence of preslaughter operations on meat quality
The quality assessment of animals destined for slaughtering
The assessment of bovine
The assessment of porcine
The assessment of ovine
The assessment of birds
Preparation of animals for slaughter
Technology of animal slaughter and obtaining the carcasses
Suppression of animal life
Processing the carcasses
Quality assessment of the carcasses
Technologies to improve the meat quality
Cold shock treatment of pigs in vivo
Electrical stimulation of the carcasses
Conditioning the meat before refrigeration
Morph- physiology of striated muscle and meat biochemistry
Morphological structure of striated muscle tissue
Energy sources of muscular contraction
Metabolic and contractile specialization of the muscle
Energetic metabolism in muscle tissue in vivo
Glycogen metabolism and regulatory mechanisms

Chemical composition of meat (muscle, adipose, bone, connective tissue)
The concept of meat quality
Sensorial characterization
Physico-chemical characterization
Microbiological characterization
Technological characterization
Meat microbiology
Methods for preservation - chilling, freezing, salting, smoking

Practical works
Examination and analyses that are made directly on meat and meat extract
Sensory characteristics of meat for sanitation appreciation
Determination of the physical parameters of meat
Determination of the chemical composition of meat
Determination of protein
Determination of vitamins: ascorbic acid
Determination of water
Determination of sodium chloride
Determination of nitrites
Determination of easily hydrolysable nitrogen
Determination of amino nitrogen
Determination of non-protein nitrogen
Determination of easily hydrolysable nitrogen by direct titration with hydrochloric acid
Quantitative determination of ammonia by distilling with MgO
Determination of water retention capacity by determining the volume of myofibrils
Determination of water retention capacity, pressing method
Determination of titratable acidity
Determination of fat – Soxhlet method
Determination of pH
Determination of sarcoplasmic proteins by biuret method

References

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2. Banu C., Oprea Al., Dănicel Gh. - Îndrumător în tehnologia produselor din carne. Ed. Tehnică, București. 1985.
3. Banu C., Alexe P., Camelia Vizireanu - Procesarea industrială a cărnii. Ed. Tehnică, București, 2003.
4. Coțofan V.și col - Anatomia animalelor domestice. vol I,III, Ed.Orizonturi universitare , Timișoara, 2002
5. Cuciureanu Rodica - Chimia și igiena mediului și alimentului. Ed. Gr. T. Popa , Iași, 2003
6. Georgescu Gh., Banu C. - Tratat de producerea, procesarea și valorificarea cărnii. Ed. Ceres, 2000.
7. Moțoc D., Banu C. - Biochimia cărnii și a subproduselor. Ed.Tehnică , București ,1966.
8. Neamțu G. - Biochimie alimentară . Ed. Ceres, 1977.
9. Negrea A. -Tehnologia, calitatea și controlul sanitar veterinar al produselor de origine animală. Ed. Moldogrup, Iași, 2001.
10. Oțel I. - Tehnologia produselor din carne. Ed.Tehnică , București, 1979.

11. Paștea E. - Atlas practic de anatomie veterinară. Ed. Ceres, București, 1979.
12. Savu C., Mihai Gabriela - Controlul sanitar veterinar al alimentelor. Ed. Ceres, 1997.
13. Bondoc I., Șindilar E.V., 2002. Controlul sanitar veterinar al calității și salubrității alimentelor. Volumul I. Ed. "Ion Ionescu de la Brad", Iași.

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Examination	Oral examination	70%
Appreciation of the activity during the semester	Oral assessment during the semester, verification tests and final laboratory colloquium.	30%

Contact

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