



Milk hygiene

ECTS: 3.00

SUBJECT MATTER CONTENT

CLASSES

Milk production in Poland and in the world. The nutritional value of milk. Factors influencing: composition, hygienic quality and technological usefulness of milk. Species differences in the content of basic nutrients. Physico-chemical properties of milk. Organoleptic defects of raw milk and the reasons for their formation. Milk microflora, its origin, hygienic and technological importance. Influence of general diseases and mastitis syndrome on the quality and technological usefulness of milk raw material. Hygienic quality of raw milk - milk evaluation criteria. Legal sanitary and veterinary requirements for production farms. Good Manufacturing Practice on production farms. Direct sales of milk and products. Local, marginal and limited production of dairy products. Basic operations and technological processes in milk processing. Principles of washing and disinfecting devices for milk acquisition and processing. Traditional dairy products: registration method, European and national list, PDO, PGI, TSG.

LECTURE

Tasks of the Veterinary Inspection in the supervision of the milk chain. . Principles of taking milk samples for laboratory tests. Determination of the freshness and spoilage characteristics of the milk. Research on raw milk adulteration. Detection of inhibitory substances and added water. Principles of approval, registration and control of production farms. SPIWET. Instrumental methods of raw milk testing. Activity of the milk raw material evaluation laboratory. National monitoring system for chemical and biological contamination of milk and milk products. Principles of milk sampling. Legal conditions for the approval and registration of milk processing establishments. SPIWET. HACCP system- Product description. And its destiny. Hazard analysis and designation of control measures. Getting to know devices and apparatus for milk processing - field classes. CCP identification. Instructions for monitoring and corrective actions in the CCP. Microbiological criteria of process hygiene and product hygiene. HACCP system verification methods. Sanitary and veterinary requirements of local, marginal and limited production. Legal conditions for direct sales of milk and dairy products.,CLASSES LABORATORYJNE:Sensory testing of milk of different species of animals, subjected to and not subjected to heat treatment. Microbiological examination of raw milk. Determination of the number of somatic cells in raw milk samples by indicative and quantitative methods

TEACHING OBJECTIVE

Acquiring the knowledge necessary to define the conditions of raw milk production. Characterization of species differences in the nutritional and health values of milk of various animal species. Describing milk-borne diseases. Explanation of the rules of transport and purchase of milk raw material. Characteristics of dairy processing processes with an indication of their impact on food quality and safety.

DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF THE SECOND LEVEL LEARNING

Legal acts specifying learning outcomes:
682/2020
Disciplines: Veterinary science
Status of the course:Obligatoryjny
Group of courses:B - przedmioty kierunkowe
Code: ISCED 0841
Field of study:Veterinary Medicine
Scope of education:
Profile of education: General academic
Form of studies: full-time
Level of studies: uniform master's studies
Year/semester: 6/11

Types of classes: Lecture, Classes, Laboratory classes
Number of hours in semester:Lecture: 15.00, Classes: 24.00, Laboratory classes: 6.00
Language of instruction:Polish
Introductory subject: Animal welfare. Livestock reproduction
Prerequisites: Knowledge of food law, knowledge of the food chain; basics of food quality assurance systems; anatomy, physiology and diseases of the udder

Name of the organisational unit conducting the course:Katedra Weterynaryjnej Ochrony Zdrowia Publicznego
Person responsible for the realization of the course:dr hab. wet. Agnieszka Wiszniewska-Łaszcznych, prof. UWM
e-mail: aga@uwm.edu.pl

Additional remarks:

OUTCOMES FOR QUALIFICATIONS AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR FIELDS OF STUDY:

Symbols for outcomes related to the discipline:

R/WA_P7S+++

Symbols for outcomes related to the field of study:

B.U18. +, K.1.+, B.U23. +, K.3.+, B.W21. +, B.W17. +, A.U2. +, C.U4. +, K.8.+, C.U2. +, A.W15. +, K.11.+, K.2.+, B.W15. +, B.W16. +, B.U6. +, B.U25. +, A.U15. +, B.W20. +, A.U13. +, K.4.+, K.5+, B.U20. +, A.U19. +, B.U22. +, K.7.+, B.W18. +, K.9.+, A.U21. +

LEARNING OUTCOMES:

Knowledge:

W1 – He knows and applies the rules of supervision over milk processing. Analyzes the hygiene conditions, production technology and safety of dairy products. Knows and applies the relevant provisions of EU and national law governing veterinary supervision in the field of primary production and processing of milk. He knows the rules of laboratory tests used in the supervision of milk production. He knows the rules of safety systems used in dairy plants

Skills:

U1 – Performs the tasks of veterinary supervision over milk production. It collects and analyzes milk samples and performs laboratory analyzes. Is aware of the role of a veterinarian in the supervision of primary production and processing of milk. He cooperates with veterinarians and employees of control authorities and offices. He can work in multidisciplinary teams and organize the work of such teams. Understands the need to use and constantly expand knowledge and professional skills in veterinary supervision over milk production

Social competence:

K1 – He can cooperate with representatives of other professions in the field of supervision over primary production and processing of milk. Responsible for decisions made. Can react to changing environmental and social conditions. Can organize team work and communicate in a clear and understandable way. Complies with the principles of professional veterinarian ethics

TEACHING FORMS AND METHODS:

Lecture(W1;U1;K1;):Lecture with multimedia presentation

Classes(W1;U1;K1;):Solving problem tasks related to the safety of milk and its products.

Analysis of the law

Laboratory classes(W1;U1;K1;):analysis and laboratory determinations

FORM AND CONDITIONS OF VERIFYING LEARNING OUTCOMES:

Lecture (Colloquium test) - There are 2 written tests per semester. To pass the test, you must obtain at least 65% of the possible points. The grading of grades is based on the score thresholds described in the faculty procedure "Principles of grading students". The student may attempt to correct the test twice. The condition for receiving the final pass from the exercises is to obtain positive marks from all tests taking place in the course of the classes. In case of passing all the tests, the final grade for the exercises is issued on the basis of the arithmetic mean value of all the grades obtained in the tests. Failure to pass any of the tests is tantamount to obtaining an unsatisfactory final grade in the exercises. In the event of a top-down suspension of classroom activities and the need for distance learning, the methods of verifying the achievement of learning outcomes declared in the syllabus, i.e. the forms of completing the exercises, may change -

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Laboratory classes (Colloquium test) - There are 2 written tests per semester. To pass the test, you must obtain at least 65% of the possible points. The grading of grades is based on the score thresholds described in the faculty procedure "Principles of grading students". The student may attempt to correct the test twice. The condition for receiving the final pass from the exercises is to obtain positive marks from all tests taking place in the course of the classes. In case of passing all the tests, the final grade for the exercises is issued on the basis of the arithmetic mean value of all the grades obtained in the tests. Failure to pass any of the tests is tantamount to obtaining an unsatisfactory final grade in the exercises. In the event of a top-down suspension of classroom activities and the need for distance learning, the methods of verifying the achievement of learning outcomes declared in the syllabus, i.e. the forms of completing the exercises, may change -

BASIC LITERATURE:

1. R. J. Campbell, T.R. Marshall, *Podstawy produkcji mleka spożywczego i jego przetworów*, Wyd. PWN, R. 1997
 2. M.E.Jurczak,, *Mleko produkcja, badanie, przerób*, Wyd. Sggw, R. 1997
 3. P.Papademas, *Dairy Microbiology A Practical Approach*, Wyd. Taylor Francis, R. 2020
 4. Shivashraya Singh, *Dairy Technology: Vol.01: Milk and Milk Processing*, Wyd. LIGHTNING SOURCE INC, R. 2014
1. <https://eur-lex.europa.eu/>

SUPPLEMENTARY LITERATURE: