

Food quality control (IVth Year of study, VIIIth Semester)

Credit value (ECTS) 5

Course category

Specialized discipline (Imposed)

Course holder:

Assist Dr. Otilia Cristina MURARIU

Discipline objectives (course and practical works)

The course aims to make students to acquire theoretical knowledge necessary for future professional activity, regardless of link/ location to its profession: control activity, technical audit or quality audit, engineering technology, legislative area, etc. Knowing the main features of the normal raw materials and products in order to have the expertise capacity to notify the suspect products, with defects or substandard in terms of composition/ quality or sanitation. Possession of all the necessary information to make proper harvest samples, to request laboratory tests in correlated with legislation programs or situation in the field at a time , including in crisis situations (suspicion, alerts , complaints, food poisoning, etc.).

In practical work is intended to familiarize the students with the working in the special microbiology domain, knowledge concepts relating to taxonomy , morphology, physiology and particularities of the main groups of organisms with implications fin hygiene and healthiness of vegetable food products, and some biotechnology elements. It also will study the techniques of isolation, identification and confirmation by establishing biochemical behavior of the main groups of microorganisms known to be involved in special food microbiology - vegetable area.

Contents (syllabus)

Course (chapters/subchapters)
The object of study – Food quality control of vegetable products
General aspects of food quality (definitions, importance, quality characteristics, factors and ways of increasing quality, types of quality). Food quality (nutritional, hygienic, sensory and aesthetic).
Official control. Control techniques and procedures. The legal implications of the controls. Devices, Equipment and statements used. Types and ways of contros performing.
Official control. European Union law and national legal provisions regarding the authorization/ registration of establishments, implementation and application of the evaluation methods, the units employment and controlled products.
Official control. Assessment of units that operate in food industry –vegetable domain. Results of controls. Monitoring. Inspection.
Quality control of vegetable products. Sampling rules for microbiological examination. Sampling rules for residues and contaminants exam. Request for analysis, Minutes of sampling. Specific terminology.
Implementation of the HACCP food safety system on the food chain.
Quality control and quality characteristics of the vegetable food products. Quality control and supply characteristics of cereals and flours. Bread and bakery products, pasta, expanded products.

Quality control and quality characteristics of the vegetable food products. Vegetables, fresh fruit, frozen, canned, dried, flakes, etc., mushrooms, broth and tomato paste. Jams, marmalades, candied fruits, etc.
Quality control and quality characteristics of the foods of plant origin. Tea, coffee - classifications, descriptions. Spices. Sugar, sugar products, sweets, honey.
Quality control and quality characteristics of the foods of plant origin. Cocoa, chocolate and chocolate products. Ice cream. Carbonated soft drinks or not. Wine. Beer.
Quality control and quality characteristics of the foods of plant origin. Edible oils, margarines, solidified edible oil and mayonnaise.

Practical works
General rules of labor protection; Laboratory equipment and utensils ; correct working practices in microbiology laboratory. Introduction to general laboratory techniques. Techniques for growing microorganisms. Media culture. Classification.
Methods of assessing the hygiene state of the production / processing units. Evaluation of the air hygiene state - microaeroflora.
Methods of the hygiene state evaluation of the units using sanitation tests to assess the state of hygiene of work surfaces. Evaluation of the hygiene state of work equipment, personnel hands and containers/ packaging.
Determining the total mesophilic aerobic plate - NTG.
Determining the number of yeasts and fungi - NTF.
General characteristics, role and importance of coliforms. Methods of analysis for determining the number of coliform bacteria in vegetable food products.
General characteristics, role and importance of <i>Enterobacteriaceae</i> . Methods of analysis for determining the number of <i>Enterobacteriaceae</i> in vegetable food products.
General characteristics of the <i>Escherichia coli</i> species. Contamination of vegetable and mixed products with <i>E. coli</i> . The role and importance of <i>E. coli</i> in food microbiology. Methods of analysis for isolation and confirmation of <i>E. coli</i> . Determining the number of <i>E. coli</i> in vegetable products.
Quick determinations and classical microbiological quality of drinking and technological water. IDEXX rapid analysis method and membrane separation technology.
Contamination of vegetable and mixed food products with <i>Salmonella spp.</i> and <i>Listeria spp.</i> . The role and importance of <i>Salmonella spp.</i> and <i>Listeria spp.</i> , in food microbiology.
Determination of nitrites / nitrates in drinking water used or intended for public consumption processes.

Bibliography

1. Apostu S. 2006 - Food Microbiology , vol . I, II and III, Publisher Risoprint , Cluj -Napoca ;
2. O. Bazgan 1999 - Diagnostic laboratory and hygiene of food of animal origin. Publisher " Moldogrup" , Iasi;
3. Cecilia Pop , Ducu rev. , Pop M., 2009 - The management of food quality . Publisher Edict , Iasi ;
4. Apostu S. and V. Stanescu , 2010 - Hygiene inspection and food safety of animal origin. Vol . I, II , III . Publisher " Risoprint " . Cluj Napoca;
5. Ștetca Gh., N. Mocuța, Anamaria Pop, 2012 - Management Strategies food quality , Risoprint Publishing House , Cluj -Napoca ;
6. Ulea E., Lipșa F.D. , 2012 - Practical Guide microbiology , Ed . Ion Ionescu de la Brad , Iași ;
7. Oana-Mărgărita GHIMPEȚEANU, Dana Tăpăloagă, 2018 – Quality control of vegetable agri-food products - course notes, Ed. Ex Terra Aurum.

8. Elena Ionete, Mărioara Buhancă, Angelica Țușcă, Adina Cristea, Doris Stoian, Viorel Marin, Cătălin Buga, 2006 - National Good Practice Guide for Food Safety. HACCP food safety system - pastries and bakery products, Ed Uranus, București.

9. Mihai Leonte, 2003 – Technologies, equipment, recipes and quality control in the bakery, pastry, confectionery, biscuit and pasta industry - raw and auxiliary materials, Ed Milenium Piatra Neamț.

- **Regulation C.E. no. 178/2002** of the European Parliament and of the Council of Europe - *The determination of Principles, general requirements for legislation, training European Food Safety Authority and laying down procedures in matters of food safety*
- **Regulation C.E. no. EC 852/2002** - *establishing hygiene conditions*
- **Regulation C.E. no. EP and EC 854/2004** - *laying down specific rules for the organization of official controls on products of animal origin intended for human consumption;*
- **Regulations EC / EU 882/2004** - *on official controls to ensure verification of compliance with legislation;*
- **Commission Decision / 2006** - *guidelines laying down criteria for the conduct of audits;*
- **Order 111/2011 ANSVSA** filled with *Ord. A.N.S.V.S.A. no. 122/2010* - *approving the sanitary veterinary and food safety of the procedure for registration of veterinary food establishments.*
- **SR ISO** - *field mode, bacteriological techniques, etc.*

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Exam	Oral examination	60%
Appreciation of the activity during the semester	Oral assessment during the semester, verification tests and final laboratory colloquium.	40%

Contact

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