



## Annex 3: TRAINING COURSE ON “the implementation of union rules in relation to microbiological criteria and on the monitoring and control of zoonoses and zoonotic agents” MAINLY FOR EU MEMBER STATES UNDER THE “BETTER TRAINING FOR SAFER FOOD”

### TRAINING PROGRAMME ON MICROBIOLOGICAL CRITERIA

#### DAY 1 : Arrival and introduction

Before 14:00 // Arrival and registration of participants

**14:00 – 14:30**

#### Welcome address



GEM01

BTSF promotional movie  
Introduction to the training programme on Implementation of Microbiological Criteria  
Distribution of the training material (folder and memory stick).

#### Method of training:

Lecture Day 1.1  
Questions and Answers  
Media: BTSF Video

#### Responsible tutor

Training Coordinator & Event Manager

**14:30 – 15:00**

#### Pre-Test



GEM02

OMBEA tool used to assess and collate answer to the opening questionnaire

- 20 questions

**15:00 – 15:30**

#### Icebreaking Coffee break.



GEM03

Each participant receives a paper either bearing the name of an EU country or of an EU capital city. They have to find the participant with the corresponding country/capital city and to learn about who she/he is and what is her/his professional background.

**15:30 – 16:00**

#### Round-table of trainees



GEM04

Each participant introduces his/her partner from the icebreaking coffee break :

- Name,
- Country of origin,
- Background.

**16:00 – 16:30**

#### Overview of Microbiological criteria



LEG01

#### Training objective / subjects covered

- Brief introduction to Microbiological criteria (Codex, EU strategy)
- Who decides what in the EU regarding the microbiological criteria legislation?
- Assessment of the EC regarding the use of Microbiological Criteria
- Areas of improvements and training

#### Method of training:

Lecture Day 1.2  
Questions & answers

#### Responsible tutor

Training Coordinator  
**Aivars Berzins**

**16:30– 17:30**

#### Explanation of the EU legal framework for microbiological criteria (EU Reg. (EC) 2073/2005)



#### Training objective / subjects covered

Explanation of the key aspects of the EU legal framework including:

- Hygiene Package



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LEG02

- Harmonisation of Microbiological Criteria in the EU market
- Respective role of the competent authorities and FBOs
- The categorization of microbiological criteria
- What are the Microbiological Criteria existing on each type of products

**Method of training:**

Lecture Day1.3

Questions & answers

**Responsible tutor**

Training Coordinator

**Aivars Berzins and Zsuzsanna**

**17:30 – 18:15**

**Review of microbiological criteria per type of products**



LEG02

**Training objective / subjects covered**

Presentation of microbiological criteria (process hygiene and food safety criteria) which applies for each category of product (Reg. 2073/2005):

- Ready-to-eat Food
- Meat and Meat products (further developed in day 3 in relation with official controls)
- Milk and dairy products
- Egg Products
- Fishery Products

**Method of training:**

Lecture Day1.3

Questions & answers

**Responsible tutor**

Zsuzsanna

**18:15 – 18:30**

**Individual questions**



GEM05

**Training objective / subjects covered**

Introduce questions sent in advance by participants. (See initial questionnaire).

**Method of training**

Discussions

**Responsible tutor**

Training Coordinator & Microbiological Criteria  
Legislation Tutor

19:00 // Welcome drink

19:30 // Dinner at the hotel

## DAY 2: Legal Framework and Implementation of Microbiological Criteria by FBOs

**9:00 – 9:15**

**Anchoring game: EU legal framework for microbiological criteria (EU Reg. (EC) 2073/2005)**



GEM06

**Training objective / subjects covered**

Brief reminder under the form of a Quiz on previous day's lectures

**Method of training**

Quiz – Day 2.1

Interactive vote

**Responsible tutor**

Training Coordinator

**9:15 – 10:00**

**Microbiological criteria as a tool for FBOs**



FBO01

**Training objective / subjects covered**

Explanations regarding how FBO's are integrating Microbiological Criteria in their Food Safety Management procedures:

- Legal background for HACCP and implementation of microbiological criteria
- Integration of compliance with microbiological criteria in HACCP
- Auto-controls (sampling frequency, validated methods, alternative methods)
- Shelf life studies and use of predictive mathematical models
- Reporting requirements (Dir. 99/2003)

**Method of training**

Lecture Day 3.2

Questions and Answers - Examples

**Responsible tutor**

Tutor on Microbiological criteria at FBOs' level

**Miguel Prieto**

**10:00 – 10:30**

**Case studies on the application of Microbiological criteria along the food production chains**



LEG04

### Training objective / subjects covered

Practical experiences of application of microbiological criteria in various production chains:

- Application of microbiological criteria to Food of Non-Animal Origin (e.g sprouted seeds/Salmonella)
- Risk management example in Food of Animal Origin (introduction of a new microbiological criteria)

EFSA guidance document

Discussion to stimulate the harmonisation of point of views among the trainees

### Method of training

Case Study 2.3 - Examples - Discussion

### Responsible tutor

Training Coordinator & Microbiological Criteria  
Legislation Tutor

**Dario De Medici**

10:30 – 11:00 // Coffee break and group photo

11:00 – 12:00

## Microbiological criteria as a risk management tool



LEG03

### Training objective / subjects covered

- Role of microbiological criteria within the risk analysis approach including public health goals (Appropriate Level of Protection, Food Safety Objective etc)
- Process of establishment of microbiological criteria based on scientific evidence for relevance to human health.
- Integration of scientific opinions and/or risk assessment to management tools focusing on microbiological criteria
- Risk management by the food business operators and competent authorities on the basis of Microbiological criteria

### Method of training

Lecture Day 2.2 - Questions and Answers - Quizzes and self-assessment

### Responsible tutor

Microbiological Criteria Legislation Tutor  
**Dario De Medici**

12:00 – 13:00

## Forum on the Verification of Microbiological Criteria implementation by FBO's



FBO07

### Training objective / subjects covered

Forum and discussion with regards to the implementation of Microbiological Criteria by FBO's  
Linkage with the following topics ( Meat inspection and *Campylobacter*)

### Method of training

Exercise Day 3.7 – Exercise conclusions

### Responsible tutor

Tutor on Microbiological criteria at FBOs' level

13:00 – 14:00 // Lunch break

14:00 – 14:30

## Survival of micro-organisms in Foodstuff



FBO03

### Training objective / subjects covered

Reminder regarding the behaviour of micro-organisms, in particular zoonotic agents such as *Listeria monocytogenes* in foodstuff and factors affecting their growth, survival and inhibition (pH, Aw, temperature etc.)

### Method of training

Lecture Day 3.3  
Examples

### Responsible tutor

Tutor on Microbiological criteria at FBOs' level  
Bertrand Lombard / Helene Bergis

14:30– 15:00

## Shelf-life studies for RTE food



FBO04

### Training objective / subjects covered

Requirements for Shelf-life studies:

- Guidance document on Lm shelf-life studies for RTE foods, under Reg. (EC) N° 2073/2005
- Technical Document of the EURL Lm
- Technical guidance document on shelf-life studies for *Lm* in RTE foods

### Method of training

Lecture Day 3.4  
Questions and Answers  
Examples

### Responsible tutor

Tutor on Microbiological criteria at FBOs' level  
Bertrand Lombard/ Helene Bergis (ANSES!)

15:00 – 15:30

## Use of predictive mathematical models



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FBO05

**Training objective / subjects covered**

Theory of mathematical modelling of  $L_m$  growth in food and explanations regarding its implementation by FBOs and CAs

**Method of training**

Lecture Day 3.5

Questions and Answers

Examples

**Responsible tutor**

Tutor on Microbiological criteria at FBOs' level

Miguel

15:30 – 16:00 // Coffee break

16:00 – 18:00

**Exercise: Use of predictive mathematical model for  $L_m$ – Part 2**

FBO06

**Training objective / subjects covered**

Practical application of predictive mathematical modelling of  $L_m$  growth in food stuff under the guidance of the tutor

**Method of training**

Exercise Day 3.6 – Group work

Use of simple modelling software

**Responsible tutor**

Tutor on Microbiological criteria at FBOs' level

Miguel

19:00 // Dinner



## DAY 3: Official Controls and meat inspection

9:00 – 9:10

**Anchoring game: Implementation of Microbiological Criteria**



GEM07

**Training objective / subjects covered**

Quiz on the details of the lectures of the previous day

**Method of training**

Exercise Day 3.1

Use of OMBEA tool

**Responsible tutor**

Training Coordinator

9:10 – 9:45

**Introduction into the competent authorities' roles in checking the compliance of food with microbiological criteria**



OFC01

**Training objective / subjects covered**

Presentation about EU legal framework applicable to official controls:

- Legal background on the official control of food chain under Regulation (EC) No 882/2004
- Principles of risk based and efficient official controls by competent authorities
- Entry into force of relevant provisions of Reg (EU) 2017/625 (what is changed? what's similar?)
- Regulation (EC) No 178/2002 interpretation of microbiological test results, when no EU criteria were set down

**Method of training**

Lecture Day 2.4

Quizz - Questions & answers

**Responsible tutor**

Zsuzsanna

9:45 – 10:15

**Microbiological sampling and testing of food in the context of official controls (including imported foodstuffs) Reporting requirements related to Microbiological Criteria**



OFC02

**Training objective / subjects covered**

Different aspects of official microbiological sampling and testing:

- Verification the compliance with the rules and criteria, outbreak investigations, monitoring of microorganisms and/or toxins in food
- Application of EU microbiological criteria in control of imported products
- Explanations regarding the reporting requirements related to microbiological contamination of food
- Linkage with Directive 2003/99/EC regarding zoonoses
- Implementation of reinforced checks and safeguard measures on microbiological risks (i.e regulation 2017/186/EU )

**Method of training**

Lecture Day 2.5

Questions & answers

**Responsible tutor**

Zsuzsanna

10:15 – 10:30

**Quiz on the regulatory framework for official controls and microbiological requirements**



OFC03

**Training objective / subjects covered**

Quiz "New, unchanged, repealed": To promote an updated understanding of the regulatory framework on official controls, participants are asked to determine if a series of regulatory requirements are either New, Unchanged or Repealed

**Method of training**

Quizz 2.6

Questions & answers

**Responsible tutor**

Training Coordinator & Tutor on official controls

10:30 – 11:00 // Coffee break

11:00 – 11:45

**Guidance document on official controls**



OFC04

**Training objective / subjects covered**

Presentation of the guidance document on official controls, under Reg. (EC) N°882/2004, concerning microbiological sampling and testing of foodstuff

- Sampling strategies and sampling methods
- Codex general guidelines on sampling CAC / GL 50-2004
- Role of NRLs and official laboratories
- Testing methods in official controls
- Interpretation of microbiological analytical results



- Special guarantees

### Method of training

Lecture Day 2.7  
Questions & answers

### Responsible tutor

Zsuzsanna

11:45– 12:30

### Requirements regarding food testing for *Microbiological Criteria*



OFC05

### Training objective / subjects covered

Overview of food testing methods and procedures in relation with various pathogenic microorganism  
Focus on the implementation of the official controls in relation to *Listeria monocytogenes* criteria of RTE foods in conformity with the issues discussed in the EC Working Group on microbiological criteria

### Method of training

Lecture Day 2.9  
Questions & answers

### Responsible tutor

Bertrand Lombard

### Method of training

Exercise - solutions

### Responsible tutor

Tutor on Food testing and Food sampling

12:30 – 13:45 // Lunch break

13:45– 14:30

### Exercise on sampling plans



OFC06

### Training objective / subjects covered

Following the guidance documents, groups of participants prepare a sampling plan :

- Determination of the sampling strategy (type of control, information needed)
- Determination of the relevant microbiological criteria
- Determination of the sampling plan (two-class / three-class)
- Number of samples and frequency of sampling

### Method of training

Exercise 2.8

### Responsible tutor

Tutor on Food testing and Food sampling, Zsuzsanna

14:30 – 14:45

### Exercise on sampling plans -Part 2



OFC07

### Training objective / subjects covered

Hand-out giving reasoning for answers to exercises

14:45 – 15h30

### Implementation of Flexibility regarding microbiological criteria



OFC08

### Training objective / subjects covered

Flexibility provided by the EU legislation:

- Reduced number of sampling units based on the history of HACCP documentation
- Use of alternative sampling sites and use of trend analyses
- Testing against alternative micro-organisms or testing of analytes other than microbiological ones

### Method of training

Lecture  
Questions & answers

### Responsible tutor

Zsuzsanna

15:30 – 16:00

### Forum on the Efficacy of Official Controls



OFC08

### Training objective / subjects covered

Forum and discussion with regards to the implementation of official controls and on the promotion of their efficacy at national or regional level

### Method of training

Discussion  
Questions and answers  
Conclusions

### Responsible tutor

Training Coordinator - Tutor on official controls - Tutor on Food testing and Food sampling

16:00 – 16:15 // Coffee break

16:15 – 16:45

### Meat Inspection: Compliance with Microbiological Criteria



MCA01

### Training objective / subjects covered

Explanations regarding Meat inspections of relevance when verifying the implementation of Food Safety and Process Hygiene Criteria:

- Difference between Carcasses, Meat Products, Minced Meat, Mechanically Minced Meat from a Microbiological contamination perspective
- Verification of compliance
- Risk management measures on non-compliant meat products with regards to Process Hygiene Criteria
- Monitoring and reporting on risk management measures

### Method of training

Lecture Day 3.8  
Questions and Answers  
Examples

### Responsible tutor

Aivars Berzins  
Miguel Prieto

16:45 – 17:15

### Case Study on Meat Inspection



MCA02

### Training objective / subjects covered

Implementation of Process Hygiene Criteria in Poultry and Pig Slaughterhouses

### Method of training

Lecture Day 3.9  
Questions and Answers  
Examples

### Responsible tutor

Miguel Prieto  
Ingrid/ Eva

17:15 – 18:00

### Introduction to Campylobacter



MCA03

### Training objective / subjects covered

Specific aspects about Campylobacter that require to be understood by the trainees :

- **Public** health significance (numbers of human cases, costs for the disease), sources and transmission routes
- Prevalence of Campylobacter in the food chain (EU wide baseline survey 2008)
- Survival of Campylobacter along the food chain

### Method of training

Lecture Day 3.10  
Questions and Answers  
Examples

### Responsible tutor

Tutor on Campylobacter  
Ingrid Hansson / Eva Olsson

20:00 // Dinner / Social event

## DAY 4: Campylobacter control and Conclusions

Until 8:30: check out

8:30 – 8:45

### Anchoring game: Early Birds Contest



GEM08

### Training objective / subjects covered

A series of questions addressing Day 3 topics. Participants have to reply using the OMBEA system. The participant with the higher score wins extra coffee

### Method of training

Exercise Day 4.1  
Use of OMBEA tool

### Responsible tutor

Training Coordinator

8:45 – 9:30

### Food testing and official controls applicable to Campylobacter



MCA04

### Training objective / subjects covered

Explanations regarding Reg (UE) 2017/1495 amending Reg (EC) n°2073/2005 and introducing Process Hygiene Criteria for Campylobacter.

Practical implementation of PHC for Campylobacter at FBO level and by CAs, including special measures needed for sampling, transport, analysis.

### Method of training

Lecture Day 4.2

### Responsible tutor

Tutor on Campylobacter





9:30 – 10:00

**Exercise: Calculations on significance of different levels of Campylobacter.**



MCA05

**Training objective / subjects covered**

Perform calculation regarding the significance of Campylobacter levels in carcasses/neck skins to support adequate risk management

**Method of training**

Exercise Day 4.3 (Individual)

**Responsible tutor**

Tutor on Campylobacter  
Ingrid Hansson / Eva Olsson

10:00 – 10:30

**Forum: How will the new PHC on Campylobacter affect FBOs and CAs**



MCA06

**Training objective / subjects covered**

To exchange about the practical implications of implementing the new PHC on Campylobacter at FBO level and their verification by CAs. For example:

- Feedback from experienced countries
- Implementation of joint sampling with Salmonella
- Training needs

**Method of training**

Exercise Day 4.5 - Groups of 5

**Responsible tutor**

Tutor on Campylobacter  
Ingrid Hansson / Eva Olsson

10:30 – 11:00 // Coffee break

11:00 – 11:30

**Dissemination of the training programme**



GEM09

**Training objective / subjects covered**

Present a turn-key one-day training programme that can be replicated by the trainees in their own country  
Request feedback on the organisation of training events

**Method of training**

Presentation

**Responsible tutor**

Training Coordinator

11:30 – 12:00

**Post-test (Repetition of day 1) and answers**



GEM09

OMBEA tool used to assess and collate answer to the questionnaire

- 15 questions

12:00 – 12:15

**Closing of the Training**



GEM10

Review trainees' questions and expectations  
Remarks by the trainees  
Conclusions regarding the Food composition and information

12:15 – 12:45

**Evaluation and delivery of training certificates**



GEM11

Evaluation of the Training on line  
Distribution of training certificates, group photo

12:45 – 13:30 // Lunch at the Hotel

After 13:30 // Free Time + Transfer to airport