



Funded by  
the Better Training for Safer Food  
Initiative of the European Union



# BETTER TRAINING FOR SAFER FOOD

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Training course 2021  
on “the EU 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” initiative

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# ORGANISATION AND IMPLEMENTATION OF TRAINING ACTIVITIES ON “THE EU RULES IN RELATION TO MICROBIOLOGICAL CRITERIA AND ON THE MONITORING AND CONTROL OF ZOOSES AND ZOO NOTIC AGENTS UNDER THE “BETTER TRAINING FOR SAFER FOOD” INITIATIVE

## 1. COURSE OBJECTIVES

### General objective

The objective of the current course is to harmonise the approaches and to spread knowledge and best practice concerning:

- Implementation of microbiological criteria (Course 1: MC-A)
- Control of zoonoses, with a particular focus on the control of Salmonella in poultry and pigs and Campylobacter along the poultry meat production chain (Course 2).
- Implementation of microbiological criteria (Course 3: MC-B) with the main focus on ready to eat food shelf-life assessment specific to Listeria M.

The objective of this course is to provide training to competent authority officials to reach a common understanding and harmonize the implementation of EU legislation on the control on Microbiological Criteria and Zoonoses in order to increase the level of expertise, it aims at creating a network for professionals and encourages dissemination.

The tutors used are active officers of different EU Member States Competent Authorities. This ensures that participants are given the opportunity to exchange and discuss with colleagues and receive training on matters related to the organization of controls.

The content of the sessions has been specifically designed for the targeted public. The training comprises presentations/discussion sessions, working group activities on case studies and practical workshops.

The targeted audience is represented by participants with a professional background involving official control activities on Zoonosis and Microbiological Criteria. They are officers of the national Competent Authority, relevant government ministries and inspection services.

### Specific objectives

#### ❖ *The specific objectives of Microbiological criteria module A are to:*

- improve knowledge regarding Microbiological criteria in the EU legislation (Reg (EC) n°2073/2005 and amendments);
- explain how food business operator have to comply with Microbiological Criteria, including Process Hygiene Criteria and provisions regarding sampling plans in the framework of HACCP-based food safety control plans;
- explain how FBOs should comply with various technical guidance documents regarding Listeria monocytogenes testing and shelf-life studies in ready-to-eat foods;
- improve the capacity of Food inspectors to verify the implementation of microbiological criteria, including the framework of meat inspections;
- improve knowledge regarding the control of Campylobacter in the poultry supply chain, including the implementation of the new PHC for Campylobacter in poultry carcasses;
- improve knowledge regarding requirements applying to microbiological sampling and testing of food in the context of official controls.

❖ **The specific objectives of Zoonoses are to:**

- improve knowledge regarding EU provisions on surveillance and control of Salmonella in poultry and pig populations (including Directive 2003/99/EC, Regulation 2160/2003);
- explain sampling and testing requirements laid down in the implementing Regulations for testing at primary production (e.g. Regulation 517/2011);
- improve the Assessment of the public health impact of Salmonella;
- support the practical application of the EU provisions on the control of Salmonella in poultry and pigs in the Member States;
- improve knowledge regarding risk factors for Salmonella in poultry and pigs, risk management options for Salmonella in poultry and pig populations including guides for good hygiene practices, and biosecurity measures;
- improve knowledge the control of Campylobacter in poultry populations.

❖ **The specific objectives of Microbiological criteria module B are to:**

- prerequisite before starting Shelf-life studies;
- classification of RTE foods based on their physico-chemical characteristics;
- predictive microbiological modelling and software, database, case scenario and examples;
- challenge tests for shelf-life determination and use of the growth potential of Lm in RTE food;
- durability studies and Sampling;
- flexibility on Microbiological Criteria;
- analysis of Guidance documents on shelf-life studies- International European standards developed.

## 2. SELECTION CRITERIA FOR PARTICIPANTS

- |                   |  |
|-------------------|--|
| Participant must: | <ol style="list-style-type: none"> <li>1. Fulfil the eligibility criteria</li> <li>2. Meet the minimum requirements</li> <li>3. Be selected using the evaluation criteria</li> </ol> |
|-------------------|--|

### Eligibility criteria for Course Microbiological Criteria and Zoonoses

Participants who have previously completed the BTSF courses on **Microbiological Criteria and Zoonoses** should be further assessed for their eligibility for this training based on a high score on the criteria below and their reasons for why they should be eligible

Participants must meet the minimum requirements below to ensure they can follow and fully participate in this course. Participants who do not meet the minimum requirements should not be proposed for the training.

Minimum requirements for Microbiological Criteria and Zoonoses	Yes/No
Participant must have: Sufficient level of language: in order to ensure the transfer of knowledge and opportunities to exchange views, participants should master the language of the training session for which they applied, if not specified otherwise the official language of the workshops will be English.	

The evaluation criteria should be used as a tool to prioritise participation (higher score indicates higher priority), but there is no minimum score necessary.

Evaluation criteria for Course 2		Enter Score
a)	Participants should in priority be staff of Competent Authorities, with a position related to Official Controls <u>Scoring</u> less than 3 years = 0 points; ≥ 3 years = 5 points; 5 - 10 years = 10 points; > 10 years = 12.5 points	
b)	Experience in daily work involved in the control of food products within a competent authority <u>Scoring</u> no experience = 0 points; < 2 years = 5 points; 2-5 years = 7.5 points; > 5 years = 10 points	
c)	Contribution towards microbiological criteria and zoonoses. <u>Scoring</u> no experience = 0 points; < 2 years = 5 points; 2-4 years = 10 points; > 4 years = 12.5 points	
d)	During the course, participants will be provided with a training package to be used as support dissemination material. Commitment to disseminate the knowledge received is a prerequisite for course participation. <u>Scoring</u> Commitment to distribute the training material among their colleagues = 5 points; Point 1 plus preparing and giving presentations based on the training material for the staff of national competent authorities/uploading training material to national competent authorities' intranets/websites = 10 points Points 1, 2 plus preparing informative articles in the professional national journals = 15 points no commitment = 0 points	
<b>Maximum total score</b>		<b>50</b>

### 3. COUNTRY ALLOCATIONS

A total of 160 seats will be allocated across the first 4 sessions according to the tables below. Please note that the number of allocated seats for each country may be subject to variation.

*Table 1: Suggested allocation for EU Member States and Candidate Countries*

	Country / suggested allocation						
Member States	Austria	3	Germany	5	Poland	5	
	Belgium	5	Greece	5	Portugal	5	
	Bulgaria	5	Hungary	6	Romania	3	
	Croatia	5	Ireland	4	Slovakia	3	
	Cyprus	3	Italy	6	Slovenia	5	
	Czech Republic	3	Latvia	3	Spain	4	
	Denmark	3	Lithuania	3	Sweden	2	
	Estonia	3	Luxembourg	5	United Kingdom (NI)	0	
	Finland	3	Malta	3			
	France	6	Netherlands	5			
	<b>Total Member States</b>					<b>111</b>	
	Candidate Countries	Albania	5	North Macedonia	5	Turkey	5
		Montenegro	3	Serbia	6		
<b>Total Candidate Countries</b>					<b>24</b>		
<b>Global participation EU Member States and Candidate Countries</b>					<b>135</b>		

Table 2: Suggested allocation for other non-EU Countries

	Country / suggested allocation		
EFTA/ EEA countries	Iceland 0	Norway 2	Switzerland 2
	<b>Total EFTA/EEA Countries 4</b>		
Potential candidate countries, Eastern Partnership and Southern Neighbourhood countries.	Bosnia & Herzegovina 8	Kosovo 5	
	<b>Total Potential candidate countries, Eastern Partnership and Southern Neighbourhood countries 13</b>		
Asian countries	China 2	Philippines 1	Thailand
	India	South Korea	
<b>Total Asian countries 3</b>			
Latin American countries	Argentina 1	Brazil 2	
	<b>Total Latin American countries 3</b>		
African countries	Senegal 2		
	<b>Total African countries 2</b>		
<b>Global participation other non-EU Countries</b>			<b>25</b>

Should you consider that the number of allocated seats is insufficient to meet your country's training needs, please contact the Project Manager Marco MADEDDU or registration manager Niamh O'BRIEN at 20179604.mcz@aets-consultants.com as soon as possible, providing an explanation.

The contractor will evaluate your request and pass it to the Contracting Authority for consideration.

#### 4. TRAINING DATES

All face-to-face activities have been postponed until September 2021. From May to September, six sessions of four days training will be held virtually. If the situation remains the same, we will continue having virtual sessions and an invitation letter will be sent to inform on new dates sessions. This Project planning covers session of the MC-A and Zoonoses module, MC-B module will be delivered at a later stage.

Virtual Classroom (VC) training courses will be delivered between May and September 2021 with approximately 40 people in each session.

Table 3: Zoonoses and MC-A

Year	Training session	Proposed dates	Location	Module	Deadlines
2021	Z 7	24 May-27 May	ONLINE BigBlueButton	Zoonoses	10/05/2021
	MC-A 9	24 May-27 May	ONLINE BigBlueButton	MC-A	08/06/2021
	Z 8	12 July-15 July	ONLINE BigBlueButton	Zoonoses	28/06/2021
	MC-A 10	19 July-22 July	ONLINE BigBlueButton	MC-A	05/07/2021

## ANNEX 1: BACKGROUND AND MAIN TOPICS COVERED IN TRAINING

### **Microbiological Criteria Module A**

The aim of the hygiene legislation is to ensure that food is produced safely. This is achieved through the identification and effective control of food-borne hazards. To contribute to the protection of public health and to prevent differing interpretations, the legislation establishes harmonised safety criteria on the acceptability of food, in particular as regards the presence of certain pathogenic micro-organisms. It is generally recognised that the most significant food-borne hazards from fresh meat are bacteria which can cause disease in humans (pathogenic bacteria), such as Salmonella, Campylobacter, Listeria and human pathogenic E.coli require only a few bacteria to cause food poisoning in humans.

Testing against microbiological criteria provides a way of measuring how well the operator has controlled the slaughter, dressing and production processes to avoid and control contamination. The results of testing can be used to validate whether the operator's HACCP-based procedures are controlling food safety and food quality and verify they are being correctly applied.

During the 4 days seminar we will examine the EU legal framework and the evidence-based analysis that led to implementation of the current legislation. Tutors will guide participants to the Microbiological Criteria per type of products, the role of Microbiological Criteria within the risk analysis approach, including public health goals (Appropriate Level of Protection, Food Safety Objective etc.) Relevant guidance will be explained and real case scenarios will be discussed and reviewed. Participants will deeply explore Food testing methods and procedures in relation with various pathogenic microorganisms and mathematical modelling for sampling analysis will be practiced on.

The subjects covered for the course on Microbiological Criteria are:

- Overview of and the EU legal framework for Microbiological Criteria;
- Microbiological sampling and testing in the context of official controls;
- Implementation of Microbiological Criteria by Food Business Operators;
- Meat Inspection and Microbiological Criteria;
- Campylobacter Microbiological Criterion in poultry production chains.

### **Zoonosis Module Z**

Some infections in animals, the so-called zoonoses, such as Salmonellosis and Listeriosis, can be transmitted to humans in particular through contaminated food and in some cases, by contact with the live or slaughtered animal. Specific measures against zoonoses exist in EU legislation relating to Veterinary Public Health. The most common foodborne diseases are caused by Campylobacter, Salmonella, Yersinia, E. coli and Listeria. Foodborne zoonotic diseases are a significant and widespread global public health threat. In the European Union, over 350,000 human cases are reported each year, but the real number is likely to be higher. To protect consumers, the EU has adopted an integrated approach to food safety from farm to fork. It consists of risk assessment (e.g. data collection, analysis, recommendations) and risk management (e.g. legislative measures, targets for reduction) measures. It is supported by timely and effective risk communication.

Food safety criteria have been defined for certain important foodborne bacteria and their toxins, including *Salmonella* and *Listeria*, in specific foodstuffs. To ensure the safety and quality of foods, food business operators and national food safety authorities perform tests against these criteria. Ultimately the safety of foodstuffs needs to be ensured by a preventative approach applying internationally recognised standards such as good hygiene and manufacturing practices (GHP and GMP) and hazard analysis critical control point (HACCP) principles. These standards have to be applied by food business operators at each stage of food production, processing and distribution. During these 4 days training participants will dive deep on the EU legal framework for control zoonoses, will focus as well on specific pathogens like Salmonella and Campylobacter, analysing risk factors, risk management, sampling and control options. Through case studies, forum of discussion

and practical implementation and exercises, participants will build up knowledge and skills that will be essential to progress in their technical expertise and build confidence in the subjects covered.

The subjects covered for the course on Zoonoses are:

- Introduction to zoonoses;
- Risk Management related to Salmonella;
- Control of Salmonella in Poultry and Pigs- Practical aspects;
- Campylobacter.

### **Microbiological Criteria Module B**

Listeria monocytogenes can cause disease in humans and it is typically transmitted as a food-borne pathogen. L. monocytogenes is frequently present in the environment, in soil, vegetation and faeces of animals. This microorganism can be found in raw foods, such as meat, milk, fish and vegetable, but L. monocytogenes contamination can occur at all stages of the food chain (e.g. in cooked food during the post-cooking handling). This is especially the case for ready-to-eat (RTE) foods in which L. monocytogenes can grow and that will not receive a heat-treatment during production, and for foods that may be contaminated from the environment, including the production environment, during their manufacture. It is crucial that Competent Authorities assessing compliances for RTE foods understand the control of contamination of L. monocytogenes, as well as its growth in the product until the end of shelf-life. Officials need to be familiar with all the tools and knowledge to comprehend and verifying the implementation of shelf-life studies.

The Seminar will comprise 4 days program where theoretical knowledge and practical cases are blended in order to give you a realistic understanding on how assessing and comprehend these specific topics.

The seminar is open to Officials from the Laboratory and enforcement side and aims to identify L. monocytogenes risk in RTE foods checked and analysed and to provide general principles for the decision on when and which shelf-life studies are needed.

The Seminars aim to explore laboratory studies, challenge tests and durability studies related to the growth of L. monocytogenes in RTE foods for packaged and unpackaged products. The shelf-life is determined for the product as marketed by the producer but once the product is opened, a new shelf-life has to be assessed, the program will guide through legislation, analysis, guidance documents on shelf-life studies, software for predictive modelling, sampling and flexibility and more tools and practical scenarios where knowledge and experiences are shared.

The subjects covered for the course on Microbiological Criteria module B of listeria

- Microbiological criteria for Listeria monocytogenes in RTE foods;
- Shelf-life studies related to Listeria monocytogenes : Challenge Tests-Durability studies;
- Predictive microbiology;
- Assessment of Listeria monocytogenes shelf-life studies.

## ANNEX 2: LEGISLATION AND GUIDANCE

### Microbiological Criteria Module A

- **Regulation (EC) No 178/2002** on the general principles and requirements of food law and lays down procedures for the safety of foodstuffs;
- **Regulation (EC) No 852/2004** on the general rules for food business operators on the hygiene of foodstuffs;
- **Regulation (EC) No 853/2004** on specific hygiene rules for food of animal origin;
- **Regulation (EC) No 882/2004** on official controls;
- **Regulation (EU) No 2017/625** on official controls and other activities;
- **Regulation (EU) No 2018/2014** on Verification of PHC Salmonella on pig carcasses;
- **Regulation (EC) No 1688/2005** on special guarantees on Salmonella;
- **Directive 97/78/EC** on procedures and requirements for importation;
- **Regulation (EC) No 136/2004** on Laboratory checks of imported products;
- **Regulation (EC) No 669/2009** on increased level of official controls on certain imports food and feed non animal origin;
- **Regulation (EU) No 2017/216** on official control on imports;
- **Regulation (EU) No 2019/35** on official control on imports;
- **Regulation (EU) No 211/2013** on Approval of establishments producing sprouts;
- **Regulation (EU) No 208/2013** on Traceability of sprouts;
- **Regulation (EC) No 2073/2005** on the microbiological criteria for foodstuffs;
- **Directive 2003/99/EC** on monitoring and reporting Zoonotic Agents Foodborne outbreaks and Antimicrobial resistance;
- **Regulation (EC) No 2160/2003** on control of Salmonella and other zoonotic agents.

### Zoonoses

- **Regulation (EC) No 178/2002** on the general principles and requirements of food law and lays down procedures for the safety of foodstuffs;
- **Regulation (EC) No 852/2004** on the general rules for food business operators on the hygiene of foodstuffs;
- **Regulation (EC) No 853/2004** on specific hygiene rules for food of animal origin;
- **Regulation (EC) No 882/2004** on official controls;
- **Regulation (EU) No 2017/625** on official controls and other activities;
- **Regulation (EU) No 2018/2014** on Verification of PHC Salmonella on pig carcasses;
- **Regulation (EC) No 2073/2005** on the microbiological criteria for foodstuffs;
- **Regulation (EC) No 183/2005** and related legislation on requirements for feed hygiene;
- **Council Directive 2009/158/EC and Regulation (EC) No. 798/2008** on trade;
- **Regulation (EC) 1069/2009** and implementing **Regulation (EC) 142/2011** on animal by-products;
- **Regulation (EC) No 2160/2003** on control of Salmonella and other zoonotic agents;
- **Regulation (EC) 200/2010** (breeding chickens);
- **Regulation (EC) 517/2011** (laying chickens);
- **Regulation (EU) 200/2012** (broilers);
- **Regulation (EU) 1190/2012** (turkeys);
- **Regulation (EU) 2019/268** amending Regulations (EU) No 200/2010, (EU) No 517/2011, (EU) No 200/2012 and (EU) No 1190/2012 as regards certain methods for Salmonella testing and sampling in poultry.
- **Decision EU 2020/1729**;
- **Regulation (EC) No 851/2004**;
- **Decision 2000/57/EC and Decision No 2119/98/EC**;
- **Directive 2003/99/EC** monitoring and reporting Zoonotic Agents Foodborne outbreaks and Antimicrobial resistance;



- **Regulation (EU) 2017/1495**, amending Regulation (EC) No 2073/2005 as regards *Campylobacter* in broiler carcasses;
- **Regulation (EC) 1177/2006** regarding requirements for the use of specific control methods in the framework of the national programmes for control of *Salmonella* in poultry;
- **Regulation (EC) 627/2019** laying down practical arrangements for the performance of official controls on products of animal origin intended for human consumption in accordance with Regulation UE 2017/625 (art. 35 and 36 – verification of PHC for *Salmonella* and *Campylobacter* on carcasses at the slaughterhouse).

### **Microbiological Criteria Module B**

- **Regulation (EC) No 178/2002** on the general principles and requirements of food law and lays down procedures for the safety of foodstuffs;
- **Regulation (EC) No 852/2004** on the general rules for food business operators on the hygiene of foodstuffs;
- **Regulation (EC) No 2073/2005** on the microbiological criteria for foodstuffs;
- **Regulation (EU) No 1169/2011** on the provision of food information to consumers.



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### ANNEX 3: AGENDA









## Program Phase 2 Virtual Microbiological Criteria Module A (MC-A)

In the week preceding the training session	Introduction to BTSF Training	Communicate to participants: Introduction to the training programme, establishment of procedures and guidelines for the training, and online tools, problem-solving connection potential connection issues Invitation to participants to submit advance questions/ queries on the upcoming training topics
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Please note, where bullet points are displayed, presentations will be split into defined sections interspersed with quick quizzes, Q & A Sessions and comfort break"

Day 1 - Monday					
	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	09:00 – 09:30		Registration of participants to the online environment		
	09:30 – 09:50	1.1	Welcome address	BTSF Video Welcome address and introduction	Event Manager/ Training Coordinator
	09:50 – 10:20	1.2	Pre-Course Test	Interactive tool will be used to assess and collate answers to opening questionnaire- survey style 10-15 questions asked with interactive tool (4 per topic)	Training Coordinator
	10:20 – 10:50	1.3	Roundtable of trainees	Each participant introduces themselves to the group with name, country, experience with the topic and "interesting fact" to break the ice	Event Manager/ Training Coordinator
	10:50 – 11:30	1.4	<b>Presentation:</b> Overview of Microbiological Criteria	<ul style="list-style-type: none"> <li>Brief introduction to Microbiological Criteria (Codex, EU strategy)</li> <li>Areas of improvements and training</li> <li>Introduction to EFSA Guidance document</li> </ul>	Aivars Berzins
	11:30-11:45		Coffee break and re-registration		







## Day 1 - Monday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	11:45 – 12:10	1.5	Advance Questions	Introduce and review questions sent in advance by participants (see initial questionnaire).	Training Coordinator
	12:10-13:00	1.6	<b>Presentation:</b> Explanation of the EU legal framework for Microbiological Criteria (EU Reg.(EC)2073/2005	Explanation of the key aspects of the EU legal framework, including: <ul style="list-style-type: none"> <li>Hygiene Package</li> <li>Harmonisation of Microbiological Criteria in the EU market</li> <li>Respective role of the Competent Authorities (CA) and FBO's</li> <li>The categorisation of Microbiological Criteria</li> </ul>	Mary Howell
	13:00 – 14:00		Lunch		
	– 14:00		Re-Registration of participants to the online environment		
	13:30 – 14:30	1.7	<b>Presentation:</b> Review of Microbiological Criteria per type of products	Summary of which Microbiological Criteria (process hygiene and food safety criteria) applies for each category of products (Reg. 2073/2005): <ul style="list-style-type: none"> <li>Ready-to-eat foods</li> <li>Milk and dairy products</li> <li>Egg products</li> <li>Fishery products</li> <li>Vegetables, fruits and products</li> </ul>	Mary Howell
	14:30 – 15:30	1.8	<b>Anchoring game:</b> Overview of Microbiological Criteria, legal framework and categorisation	5 groups of participants: prepare one question for another group based on day one presentations	Training Coordinator



## Day 2 - Tuesday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	Up to 09:00			Registration of participants to the online environment	
	09:00 – 09:30	2.1	<b>Anchoring game:</b> Crossword	To check the knowledge gained on the basis of a definition, identify the correct word on each line and column.	Training Coordinator
	09:30 – 10:30	2.2	<b>Presentation:</b> Microbiological Criteria as a tool for FBO's	<p>Explanations regarding how Food Business Operators are integrating Microbiological Criteria in their Food Safety Management procedures:</p> <ul style="list-style-type: none"> <li>▪ Legal background for HACCP and implementation of Microbiological Criteria</li> <li>▪ Integration of compliance with Microbiological Criteria in HACCP</li> <li>▪ HACCP validation, monitoring and verification</li> <li>▪ Auto-controls (sampling plans , reference methods, alternative methods)</li> </ul>	Miguel Prieto
	10:30 – 10:35			Comfort break	
	10:35 – 11:30	2.2	<b>Group work:</b> Case studies on the application of Microbiological Criteria and HACCP	<ul style="list-style-type: none"> <li>▪ Brief introduction to Case Study Exercise “Application of certain Microbiological Criteria within HACCP”.</li> <li>▪ Participants work in groups followed by a tutor led discussion</li> </ul>	Miguel Prieto
	11:30 – 11:40			Coffee break	
	11:40 – 11:45			Re-Registration of participants to the online environment	









## Day 2 - Tuesday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	11:45 – 12:15	2.3	<b>Presentation:</b> Microbiological Criteria as a risk management tool	<ul style="list-style-type: none"> <li>Role of Microbiological Criteria within the Risk Analysis approach, including public health goals (Appropriate Level of Protection, Food Safety Objective etc.)</li> <li>Process of establishment of Microbiological Criteria based on scientific evidence for relevance to human health</li> <li>Integration of scientific opinions and/or risk assessment to management tools focusing on Microbiological Criteria</li> <li>Risk management by the food business operators and competent authorities on the basis of Microbiological Criteria</li> </ul>	Mary Howell
	12:15 – 12:30	2.4	<b>Anchoring game:</b> Implementation of Microbiological Criteria	<p>To check the knowledge gained</p> <p>Quiz on the details of the previous lectures</p>	Training coordinator
	12:30 – 13:30	2.5	<b>Presentation:</b> Introduction into the Competent Authorities' roles in checking the compliance of food with Microbiological Criteria	<ul style="list-style-type: none"> <li>Legal background on the official control of food chain</li> <li>Principles of risk based and efficient official controls by Competent Authorities</li> <li>Entry into force of relevant provisions of Reg (EU) 2017/625 (what is changed? What is similar?)</li> <li>Regulation (EC) No 178/2002 interpretation of microbiological test results, when no EU criteria were set down</li> </ul>	Zsuzsanna Lancz
	13:30 – 14:25		Lunch		
	14:25 – 14:30		Re-Registration of participants to the online environment		
	14:30 – 15:00	2.6	<b>Presentation:</b> Guidance document on official controls in food microbiology	<p>Overview of the guidance document on official controls, concerning microbiological sampling and testing of foodstuff</p> <ul style="list-style-type: none"> <li>Sampling strategies and sampling methods</li> <li>Role of NRLs and official laboratories</li> <li>Interpretation of microbiological analytical results</li> </ul>	Bertrand Lombard




## Day 2 - Tuesday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	15:00-15:45	2.7	<b>Group Work:</b> Regulatory framework for official controls and microbiological requirements	An exercise to check the knowledge gained and understanding of the regulatory framework on official controls.	Zsuzsanna Lancz
	15:45-16:00	2.8	<b>Anchoring game:</b>	To check the knowledge gained Quiz on the details of the previous lectures	Training coordinator

## Day 3 - Wednesday









	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	Up to 09:00		Registration of participants to the online environment		
	09:00-09:45	3.1	<b>Presentation:</b> Requirements regarding food testing for Microbiological Criteria	<ul style="list-style-type: none"> <li>Approach to food testing methods in Regulation 2073/2005 and the EU guidance document on official controls in food microbiology</li> <li>Reference methods</li> <li>Alternative methods</li> </ul>	Bertrand Lombard
	09:45-10:30	3.2	<b>Presentation:</b> Microbiological sampling and testing of food in the context of official controls (including imported foodstuffs). Reporting requirements related to Microbiological Criteria	<ul style="list-style-type: none"> <li>Verification of the compliance with the rules and criteria, outbreak investigations, monitoring of microorganisms and/ or toxins in food</li> <li>Application of EU Microbiological Criteria in control of imported foods</li> <li>Explanations regarding the reporting requirements related to microbiological contamination of food</li> <li>Linkage with Directive 2003/99/EC regarding zoonoses</li> <li>Implementation of reinforced/ increased check and safeguard measures on microbiological risks (i.e. Regulation 2017/186/EU)</li> <li>Special guarantees</li> </ul>	Zsuzsanna Lancz
	10:30– 11:15	3.3	<b>Group Work:</b> Exercise on sampling plans	<p>Following the guidance documents groups of participants prepare a sampling plan considering</p> <ul style="list-style-type: none"> <li>Determination of the sampling strategy</li> <li>Determination of the relevant Microbiological Criteria</li> <li>Determination of the sampling approach (two-class/three-class)</li> <li>Number of samples and frequency of sampling</li> <li>Tutor led discussion of each groups findings</li> </ul>	Zsuzsanna Lancz
	11:15-11:25		Coffee break		
	11:25-11:30		Re-Registration of participants to the online environment		
	11:30 – 12:15	3.4	<b>Presentation</b> Implementation of flexibility regarding Microbiological Criteria	<p>Details of the flexibility provided by the EU legislation including</p> <ul style="list-style-type: none"> <li>Reduced number of sampling units based on the history of HACCP documentation</li> <li>Use of alternative sampling sites and use of trend analyses</li> <li>Testing against alternative microorganisms or testing of analytes other than microbiological ones</li> </ul>	Zsuzsanna Lancz
	12:15 – 13:15		Lunch		

## Day 3 - Wednesday




	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
				Registration of participants to the online environment in 6 moderated breakout groups	
	13:15-14:15	3.5	<b>Presentation:</b> Meat inspection: compliance with Microbiological Criteria	<ul style="list-style-type: none"> <li>▪ Explanations regarding Meat inspections</li> <li>▪ Differences between carcasses ,meat products, meat preparations ,minced meat and mechanically separated meat in EU legislation and microbiological contamination</li> <li>▪ Risk management measures</li> <li>▪ Monitoring and reporting including Salmonella on pig carcasses</li> </ul>	Aivars Berzins and Miguel Prieto
	14:15 – 15:30	3.6	<b>Group work:</b> Exercise on microbiological Criteria in Products of Meat	<p>Groups of participants determine the Microbiological criteria that apply to different products of meat</p> <p>Tutor led discussions on group findings</p>	Miguel Prieto



## Day 4 - Thursday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	Up to 09:00		Registration of participants to the online environment		
	09:00 – 09:30	4.1	<b>Presentation:</b> Introduction to Campylobacter	<ul style="list-style-type: none"> <li>Basic facts about Campylobacter and campylobacteriosis public health significance (numbers of human cases, costs for the disease), sources of infection and routes for transmission</li> <li>Prevalence of Campylobacter in the food chain (EU wide baseline survey 2008)</li> <li>Detection and survival of Campylobacter along the food chain</li> </ul>	Ingrid Hansson/ Eva Olsson Engvall
	09:30 – 10:15	4.2	<b>Presentation:</b> Food testing and official controls applicable to Campylobacter	<ul style="list-style-type: none"> <li>Explanations regarding Reg (EU) 2017/1495 amending Reg (EC) n°2073/2005 and introducing Process Hygiene Criteria for Campylobacter.</li> <li>Practical implementation of PHC for Campylobacter at FBO level and by CAs, including special measures needed for sampling, transport, analysis</li> </ul>	Ingrid Hansson/ Eva Olsson Engvall
	10:15– 11:00	4.3	<b>Group Work:</b> Exercise: VetBactLab – lab experiments <i>in silico</i>	<ul style="list-style-type: none"> <li>Background and information about VetBact</li> <li>Description of lab design and organisation</li> <li>Instructions on how to proceed</li> <li>Regulations needed for the exercise</li> </ul>	Ingrid Hansson/ Eva Olsson Engvall
	11:00 – 11:15		Coffee break		
	11:15		Re-Registration of participants to the online environment		
	11:15 – 11:40	4.4	<b>Group Work:</b> Forum: How will the new PHC on Campylobacter affect FBOs and CAs	To share ideas and experiences about implementing the new PHC on Campylobacter at FBO level and their verification by CAs: <ul style="list-style-type: none"> <li>Data presented in EU Summary Report for 2019</li> <li>Feedback from experienced countries</li> <li>Implementation of joint sampling with Salmonella</li> <li>Training needs</li> </ul>	Ingrid Hansson/ Eva Olsson Engvall
	11:40-11:55	4.5	Post-test	Identify the success of the training course <ul style="list-style-type: none"> <li>Repetition of Pre course Test undertaken on day 1</li> <li>Answers to the Test</li> </ul>	Training Coordinator/ Event Manager

## Day 4 - Thursday







	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	11:55 – 12:15	4.6	Dissemination of the training programme	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	Training Coordinator/ Event Manager
	12:15 – 12:45	4.5	Evaluation of the Training online		
	12:45 – 13:00		Closing of the Training	Group photo Final questions and remarks Closing of the training	Training Coordinator/ Event Manager

## ANNEX 4: AGENDA







### Tentative Program Phase 2 Virtual - Microbiological Criteria Module B (MC-B)

In the week preceding the training session	Introduction to BTSF Training	<p>Communicate to participants: Introduction to the training programme, establishment of procedures and guidelines for the training, and online tools, problem-solving connection potential connection issues.</p> <p>Invitation to participants to submit advance questions/ queries on the upcoming training topics.</p>
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#### Day 1 - Monday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	09:00 – 09:30		Registration of participants to the online environment		
	09:30 – 09:50	1.1	Welcome address – GEM01	BTSF Video Welcome address and introduction	Event Manager/ Training Coordinator
	09:50 – 10:20	1.2	Pre-Course Test – GEM02	Interactive tool will be used to assess and collate answers to opening questionnaire- survey style  16 questions asked with interactive tool (4 per topic)	Training Coordinator
	10:20 – 10:50	1.3	Roundtable of trainees	Each participant introduces themselves to the group with name, country, experience with the topic and “interesting fact” to break the ice	Event Manager/ Training Coordinator
	10:50 – 11:20	1.4	<b>Presentation:</b> Overview on Listeria monocytogenes foodborne outbreaks in EU. Microbiological Criteria	Introduction / subjects covered <ul style="list-style-type: none"> <li>▪ Listeria monocytogenes</li> <li>▪ Listeriosis in EU</li> <li>▪ Listeria monocytogenes a concern for RTE foods</li> <li>▪ Purpose of microbiological criteria</li> </ul>	Tutor
	11:20-11:35		Coffee break and re-registration		






## Day 1 - Monday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	11:35– 12:05	1.5	<b>Presentation:</b> EU legal framework for shelf-life studies	Relevant EU legislation - <ul style="list-style-type: none"> <li>General food law /Safety of foodstuffs</li> <li>General rules for FBOs on hygiene of foodstuffs</li> <li>Special focus on Regulation 2073/2005</li> <li>Food safety criteria</li> <li>Role of the Competent Authorities / EURL Lm / NRL Lm</li> </ul>	Tutor
	12:05-12:35	1.6	<b>Presentation:</b> EU Guidance Documents on shelf-life studies	Relevant Guidance documents on shelf-life studies- International European standards developed DG Sanco Guidance document on Lm shelf-life studies EURL Lm guidance document to evaluate the competence of laboratories implementing shelf-life studies EURL Lm Technical guidance document for conducting shelf-life. <ul style="list-style-type: none"> <li>EN ISO 20976-1 Requirements and guidelines for conducting challenge tests</li> </ul>	Tutor
	12:35 – 13:30		Lunch		
	– 13:30		Re-Registration of participants to the online environment		
	13:30 – 13:50	1.7	<b>Presentation:</b> Prerequisite before starting Shelf-life studies	<ul style="list-style-type: none"> <li>Flow diagram for shelf-life establishment /verification</li> <li>Product characterization</li> <li>Identification of the factors affecting bacterial growth</li> <li>Use of product characteristic's data</li> </ul>	Tutor
	13:50 – 14:15	1.8	<b>Presentation:</b> Classification of RTE foods based on their physico-chemical characteristics	<ul style="list-style-type: none"> <li>Tools for assessing the impact of physico-chemical factors on Lm growth: Growth/No growth probability modules from predictive microbiological software</li> <li>Examples with Sym'Previous software</li> <li>Examples with FSSP software</li> </ul>	Tutor
	14:15-15:15	1.9	<b>Case studies:</b> RTE foods characteristics	<ul style="list-style-type: none"> <li>Notion of variability - Intrabatch /interbatch variability</li> <li>Examples - Use of the software modules</li> </ul>	Tutor








## Day 2 - Tuesday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	Up to 09:00		Registration of participants to the online environment		
	09:00 – 09:15	2.1	<b>Quiz or Anchoring game</b>	Quiz on the lectures of the previous day or anchoring game.	Tutor
	09:15 – 10:15	2.2	<b>Presentation:</b> Consultation of scientific literature for shelf-life implementation	<ul style="list-style-type: none"> <li>▪ Goal and warning</li> <li>▪ Available database - Presentation of Combase database</li> <li>▪ Examples - exercises with Combase database</li> </ul>	Tutor
	10:15-11:15	2.3	<b>Presentation:</b> Use of predictive microbiology part 1	<ul style="list-style-type: none"> <li>▪ Fundamental of predictive mathematical models</li> <li>▪ Predictive microbiological software : PMP – Baseline</li> <li>▪ Growth simulation</li> <li>▪ Use of the software - short exercises</li> </ul>	Tutor
	11:15 – 11:30		Coffee break		
	11:30 – 12:30	2.4	<b>Presentation:</b> Use of predictive microbiology part 2	<ul style="list-style-type: none"> <li>▪ Fundamental of predictive mathematical models</li> <li>▪ Predictive microbiological software : PMP – Baseline</li> <li>▪ Growth simulation</li> <li>▪ Use of the software - short exercises</li> </ul>	Tutor






## Day 2 - Tuesday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	12:30 – 13.:30	2.5	<b>Presentation:</b> Use of predictive microbiology Part 1	Benefits/ Limitations of predictive microbiology Predictive microbiological software: Combase - Sym'Previus Growth simulation Use of the software - short exercises	Tutor
	13:30 –	Lunch			
	– 14:30	Re-Registration of participants to the online environment			
	14:30 – 15:30	2.6	<b>Presentation:</b> Use of predictive microbiology Part 2	Benefits/ Limitations of predictive microbiology Predictive microbiological software: Combase - Sym'Previus Growth simulation Use of the software - short exercises	Tutor
	15:30– 16:30	2.7	<b>Presentation:</b> Durability Studies for shelf-life verification	Selection of the sample Design of the study Frequency - Number of samples to be tested Laboratory analyses Interpretation of the results	Tutor

## Day 3 - Wednesday








	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	Up to 09:00		Registration of participants to the online environment		
	09:00 – 09:15	3.1	<b>Anchoring game:</b>	Interactive Quiz	Tutor
	09:15– 10:15	3.2	<b>Group work:</b> Implementation of durability study	Groupe exercise	Tutor
	10:15 – 11:15	3.3	<b>Presentation:</b> Challenge tests for shelf-life determination - Use of the growth potential of Lm in RTE food	Challenge test assessing the growth potential Laboratory expertise Standard EN ISO 20976-1 Protocol + EURL Lm TGD Limitations / Benefits Examples	Tutor
	11:15 – 11:30		Coffee break		
			Re-Registration of participants to the online environment		
	11:30 – 12:30	3.4	<b>Group work:</b> Use of growth potential for compliance with the Lm quantitative food safety criteria	<ul style="list-style-type: none"> <li>▪ Groupe exercise.</li> </ul>	Tutor

## Day 3 - Wednesday



	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	12:30 – 13:00	3.5	<b>Presentation:</b> Competence of the laboratories conducting shelf-life studies	Presentation of the EURL Lm Guidance document on how to evaluate the competence of the laboratory implementing shelf-life studies	Tutor
	13:00	Lunch			
	14:00	Registration of participants to the online environment in 6 moderated breakout groups			
	14:00 – 15:00	3.6	<b>Presentation:</b> Challenge tests for shelf-life determination - Use of the maximum growth rate of Lm in RTE food	<ul style="list-style-type: none"> <li>▪ Challenge test assessing the maximum growth rate</li> <li>▪ Standard EN ISO 20976-1 Protocol + EURL Lm TGD</li> <li>▪ Limitations / Benefits</li> <li>▪ Examples</li> </ul>	Tutor
	15:00 – 16:00	3.7	<b>Group work:</b> Use of maximum growth rate for compliance with the quantitative Lm food safety criteria	<ul style="list-style-type: none"> <li>▪ Group exercise</li> </ul>	Tutor



## Day 4 - Thursday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	Up to 09:00		Registration of participants to the online environment		
	09:00 – 09:15	4.1	<b>Group work:</b> Game	<ul style="list-style-type: none"> <li>▪ Crossword on RTE food shelf-life</li> </ul>	Tutor
	09:30 – 10:00	4.2	<b>Presentation:</b> EU legislation flexibility regarding microbiological criteria	<ul style="list-style-type: none"> <li>▪ Implementation of flexibility regarding microbiological criteria</li> </ul>	Tutor
	10:00-11:00	4.3	<b>Case study</b>	Combination of available tools useful to meet the quantitative Lm criterion	Tutor
	11:00 – 11:20		Coffee break		
	11:20 – 11:50	4.4	<b>Presentation</b> Provide resources and tools that trainees can use to disseminate the training programme in their own country	<ul style="list-style-type: none"> <li>▪ One short presentation on” useful material/links”</li> <li>▪ Request that trainees prepare short contributions about how they plan to disseminate information about the course</li> </ul>	Tutor
	11:50 – 12:15	4.5	Post-Course Test and Answers	Repetition of Pre-Course Test using interactive to identify the success of the training course	Training Coordinator

Day 4 - Thursday







	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	12:15 – 12:45	4.6	Evaluation of the Training online		
	12:45 – 13:00	4.7	Closing of the Training	<p>Group photo</p> <p>Final questions and remarks</p> <p>Closing of the training</p>	Training Coordinator

## ANNEX 5: AGENDA







### Program Phase 2 Virtual - Control of Zoonoses (Z)

In the week preceding the training session	Introduction to BTSF Training	Communicate to participants: Introduction to the training programme, establishment of procedures and guidelines for the training, and online tools, problem-solving connection potential connection issues Invitation to participants to submit advance questions/ queries on the upcoming training topics
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#### Day 1 - Monday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	09:00 – 09:30		Registration of participants to the online environment		
	09:30 – 09:50	1.1	Welcome address – GEM01	BTSF Video Welcome address and introduction	Event Manager/ Training Coordinator
	09:50 – 10:20	1.2	Pre-Course Test – GEM02	Interactive tool will be used to assess and collate answers to opening questionnaire- survey style 16 questions asked with interactive tool (4 per topic)	Training Coordinator
	10:20 – 10:50	1.3	Roundtable of trainees	Each participant introduces themselves to the group with name, country, experience with the topic and “interesting fact” to break the ice	Training Coordinator
	10:50 – 11:35	1.4	<b>Presentation:</b> Introduction to zoonoses	<ul style="list-style-type: none"> <li>▪ Impact of zoonoses</li> <li>▪ Food-borne zoonoses</li> <li>▪ EU legislation</li> <li>▪ Outbreaks vs numbers</li> </ul>	Training Coordinator Lesley Larkin/ Eva Olsson Engvall
	11:35 – 11:45		Coffee break and re-registration		







## Day 1 - Monday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	11:45 – 12:30	1.5	<b>Presentation:</b> EU legal framework for the control of zoonoses	<ul style="list-style-type: none"> <li>▪ EU legislation framework</li> <li>▪ EU communication platforms</li> </ul>	Lesley Larkin Gema Lopez
	12:30 – 12:45	1.6	Advance Questions	<ul style="list-style-type: none"> <li>▪ Introduce and review questions sent in advance by participants (see initial questionnaire)</li> </ul>	Training Coordinator
	12:45 – 13:00	1.7	<b>Anchoring game:</b> Zoonoses and EU legal framework	<ul style="list-style-type: none"> <li>▪ Quiz on previous presentations</li> </ul>	Training Coordinator Lesley Larkin/ Eva Olsson Engvall
	13:00 – 14:00		Lunch		
	– 14:00		Re-Registration of participants to the online environment		
	14:00 – 14:45	1.8	<b>Presentation:</b> Overview of Salmonella	<ul style="list-style-type: none"> <li>▪ Overview and laboratory methods for isolating and characterising Salmonella</li> <li>▪ Salmonella infection in poultry, pigs and other livestock</li> </ul>	Gema López Orozco Antonia Ricci/ Lisa Barco
	14:45 – 15:15	1.9	<b>Presentation –</b> Microbiological Criteria	<ul style="list-style-type: none"> <li>▪ General considerations about the microbiological criteria</li> <li>▪ Salmonella and Campylobacter criteria according to EU legislation</li> </ul>	Antonia Ricci/ Lisa Barco









## Day 2 - Tuesday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	Up to 09:00		Registration of participants to the online environment		
	09:00 – 09:15	2.1	<b>Anchoring game:</b> Quiz	Interactive game to revise the previous day's content	Training Coordinator
	09:15 – 10:00	2.2	<b>Presentation:</b> EU legislation on the control of Salmonella in Poultry	<ul style="list-style-type: none"> <li>▪ Relevant EU legislation</li> <li>▪ Setting up and operating the <i>Salmonella</i> Control Programmes and key points of the programmes</li> <li>▪ Sector specific detail</li> </ul>	Lesley Larkin Gema Lopez
	10:00 – 10:05		Comfort break		
	10:05 – 10:50	2.3	<b>Presentation:</b> Salmonella in poultry: risk factors, risk management & control options	<ul style="list-style-type: none"> <li>▪ Salmonella – risk factors in laying hens and broilers</li> <li>▪ Control strategies</li> <li>▪ Vaccination</li> </ul>	Antonia Ricci/ Lisa
	10:50 – 11:30	2.4	<b>Presentation:</b> Sampling of poultry flocks for Salmonella	<ul style="list-style-type: none"> <li>▪ Principles of sampling and best practice</li> <li>▪ Sampling according to EU requirements</li> </ul>	Gema López Orozco Antonia/ Lisa
	11:30 – 11:45		Coffee break		
			Re-Registration of participants to the online environment		






## Day 2 - Tuesday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	11:45 – 12:30	2.5	<b>Case Study</b>	<p>Two different cases studies about the management of Salmonella in:</p> <ul style="list-style-type: none"> <li>▪ a laying hens farm</li> <li>▪ a breeders Gallus gallus farm</li> </ul> <p>will be proposed. The participants will be asked to analyse the studies, reply the questions, draw conclusions and summarize lessons learned</p>	Antonia Ricci/ Lisa Barco
	12:30 – 13:15	2.6	<b>Presentation:</b> Biosecurity measures for the control of Salmonella	<ul style="list-style-type: none"> <li>▪ What is biosecurity?</li> <li>▪ Good and bad examples of biosecurity</li> <li>▪ Cleaning and disinfection procedures</li> <li>▪ Pest controls</li> </ul>	Antonia Ricci/ Lisa Barco
	13:15 to 14:25	Lunch			
		Re-Registration of participants to the online environment			
	14:25 – 14:45	2.7	<b>Group Work:</b> Salmonella vaccine practical aspects (Debate)	<p>The participants will be divided into groups (pros and cons) and will be asked to convince the other groups about:</p> <ul style="list-style-type: none"> <li>▪ advantages</li> <li>▪ disadvantages</li> </ul> <p>of vaccination (live vaccines)</p>	Antonia Ricci/ Lisa Barco
	14:45 – 15:30	2.8	<b>Presentation:</b> Salmonella in pigs: risk factors, risk management	<ul style="list-style-type: none"> <li>▪ Salmonella in fattening pigs and breeding pigs</li> <li>▪ Salmonella infection in pigs and the importance of biosecurity</li> </ul>	Gema López Orozco

## Day 3 - Wednesday








	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	Up to 09:00		Registration of participants to the online environment		
	09:00 – 09:15	3.1	<b>Questions and answers</b>	Review of the previous day	Training Coordinator
	09:15– 10:15	3.2	<b>Group Work:</b> Biosecurity on pig and poultry farms	<p>Participants will have some papers (e.g. reviews) summarising the main points about the biosecurity in pigs and poultry farms. They will be asked to discuss about these points and list the main issues which will be shared with the remaining groups.</p> <p>In this way the participants will consider all the points presented during the talks of the previous day.</p> <p>Material will be provided before the course, so participants will have the possibilities to read and think about.</p>	Antonia Ricci/ Lisa Barco
	10:15 – 10:45	3.3	<b>Presentation:</b> introduction to outbreak investigations on farms and during foodborne outbreaks of Salmonella	<ul style="list-style-type: none"> <li>▪ Veterinary investigations into Salmonella outbreaks on livestock farms</li> <li>▪ Foodborne disease outbreak investigations by public health authorities</li> </ul>	Antonia/ Lisa
	10:45 – 11:15		Coffee Break		
			Re-Registration of participants to the online environment		
	11:15 – 12:15	3.4	<b>Group exercise</b>	Exercise on investigating a Salmonella Enteritidis outbreak	Lesley Larkin
	12:15 – 12:45	3.5	<b>Presentation:</b> Holistic approach to Salmonella control in poultry	<ul style="list-style-type: none"> <li>▪ Salmonella control in Poultry</li> </ul>	Lesley Larkin

## Day 3 - Wednesday







	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	12:45 – 13:50		Lunch		
			Re-Registration of participants to the online environment		
	13:50 – 14:20	3.6	<b>Presentation:</b> Introduction to antimicrobial resistance (AMR)	<ul style="list-style-type: none"> <li>Why bother with AMR?</li> <li>EU legislation on AMR monitoring</li> </ul>	Dariusz Wasyl
	14:20 – 15:00	3.7	<b>Presentation:</b> Antimicrobial resistance in Salmonella, Campylobacter and Escherichia coli	<ul style="list-style-type: none"> <li>AMR in Salmonella – serovar (clone) does matter!</li> <li>Campylobacter – resistant zoonotic pathogen</li> <li>Escherichia coli stories (indicator, ESBL/AmpC/CP producers)</li> </ul>	Dariusz Wasyl
	15:00 – 15:45	3.8	<b>Group work:</b> Debate/discussion on AMR	<ul style="list-style-type: none"> <li>The participants are asked to qualify him/herself into one of the 2 groups:</li> <li>G1 – not involved into AMR monitoring</li> <li>G2 – somehow involved in AMR monitoring.</li> <li>As a homework they should think of the answer for up to 5 Q: G1 – how would you (i.e. organise sampling targeting &gt;60% of annual population); G2 – how do you organise ...</li> <li>During debate we go Q by Q starting from G1 – a volunteer refers the issue, the other G1 add. Then we go to G2, so they say what they like, or dislike, based on their practical experiences</li> </ul>	Dariusz Wasyl



## Day 4 - Thursday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	Up to 09:00		Registration of participants to the online environment		
	09:00 – 09:50	4.1	<b>Presentation:</b> Overview of Campylobacter	<ul style="list-style-type: none"> <li>▪ Overview of Campylobacter and campylobacteriosis</li> <li>▪ Public health significance</li> <li>▪ Sources of infection, transmission routes</li> <li>▪ Laboratory analyses</li> <li>▪ EU Legislation</li> </ul>	Eva Olsson Engvall/ Ingrid Hansson
	09:50– 10:30	4.2	<b>Presentation:</b> Risk factors for Campylobacter – part 1	<ul style="list-style-type: none"> <li>▪ Risk factors at farm level</li> <li>▪ Control strategies</li> <li>▪ Biosecurity measures</li> <li>▪ Management</li> </ul>	Eva Olsson Engvall/ Ingrid Hansson
	10:30– 10:45		Coffee break		
			Re-Registration of participants to the online environment		
	10:45 – 11:30	4.3	<b>Presentation:</b> Risk factors for Campylobacter Part II	<ul style="list-style-type: none"> <li>▪ Other control strategies at farm</li> <li>▪ Risk factors and actions post farm level</li> <li>▪ Monitoring and follow-up</li> <li>▪ Information and education</li> <li>▪ Process Hygiene Criterion for Campylobacter</li> </ul>	Eva Olsson Engvall/ Ingrid Hansson
	11:30 – 11:45	4.4	<b>Anchoring game</b>	Crossword	Eva Olsson Engvall/ Ingrid Hansson

## Day 4 - Thursday

	TIME		TITLE OF SESSION	TRAINING OBJECTIVE/ SUBJECTS COVERED	RESPONSIBLE TUTOR
	11:45-12:45	4.5	Exercise: Campylobacter	<p>Two case studies:</p> <ol style="list-style-type: none"> <li>1. Family outbreak, dairy farm</li> <li>2. Outbreak associated with a wedding reception</li> </ol> <p>The participants will be asked to analyse the studies, draw conclusions and summarize lessons learned</p>	Eva Olsson Engvall/ Ingrid Hansson
	12:45 – 14:00		Lunch		
			Registration of participants to the online environment		
	14:00– 14:20	4.6	Post-Course Test and Answers	Repetition of Pre-Course Test using interactive to identify the success of the training course	Training Coordinator
	14:20– 15:00	4.7	Evaluation of the Training online		
	15:00 – 15:30	4.8	Closing of the Training	<p>Group photo</p> <p>Final questions and remarks</p> <p>Closing of the training</p>	Training Coordinator



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#### ANNEX 4: TECHNICAL REQUIREMENTS

The VC sessions will be organised with the use of the BigBlueButton web conferencing tool accessed via a secure Moodle LMS Platform. The participants will be invited to a brief introductory session on Moodle in the week preceding the training. At this introductory session, participants will be invited to log in and test connectivity, audio and video, with AETS staff available to troubleshoot any issues. It will allow participants to become familiar with the platform and the conferencing tool.

They will also receive some general information on the course and have the opportunity to ask questions and to begin to engage with the discussion forums.

The participants must have *a computer running the latest software and current browsers, with a working camera and audio system (speaker and microphone) as well as a good internet connection.*

Additionally, in the morning of Day 1 of the VC, time will be dedicated to a technical session to refresh participants on the main features of the platform, and ensure connections are working properly.

## **ANNEX 5: TRAINING MATERIAL, OUTCOMES AND DISSEMINATION ACTIVITIES**

### **Training material**

All participants will receive the training material well in advance of the training. The material will include additional pre-recorded material for offline studies and presentations. Preparatory videos will introduce the specific topic and provide background information to participants.

### **Dissemination questionnaire**

Two to three months after the respective training session, participants will receive a standard questionnaire requesting information on the dissemination activities of the participant after the training, and details on differences in the approach adopted in day-to-day work following the training.

### **Self-assessment test**

Furthermore, the programme will include an anonymous knowledge test to be carried out at the beginning and at the end of each training session in order to measure the impact of the training on the understanding of the participants of the subjects taught.

Participants are expected to agree to carry out the above tests and to reply to the surveys and questionnaires. Participants agree to be registered in the BTSF Academy and agree to be recorded during Virtual Classroom Training sessions and to take a group photo of the participants and tutors at the end of the training. Videos and photo will be published in the BTSF Academy in the corresponding Training course section and will be visible only to the registered participants in that Training course.

Please find more information regarding data protection here:  
<https://btsfacademy.eu/training/mod/page/view.php?id=417>

## **ANNEX 6: CONTRACTOR CONTACT DETAILS**

The project is managed by Barbara Hernanz  
Project Manager is Marco Madeddu

Training Coordinators of the 3 Modules will be Mary Howell, Aivars Bērziņš, Eva Olsson Engvall, Lesley Larkin and H  l  ne Bergis.

Separate notifications will be sent to National Contact Points for each course and will contain the names and contact details of the Event Manager and Assistant Event Manager as well as logistical details on the event.

All official communication between National Contact Points and the project will be maintained through the functional e-mail address [20179604.mcz@aets-consultants.com](mailto:20179604.mcz@aets-consultants.com) or by phone to +33 (0)5 59 72 43 23

The project website is [www.foodinfo-europe.com](http://www.foodinfo-europe.com). The website will be regularly updated with details of forthcoming courses.